



2021 Annual Report




RIT

**National Technical
Institute for the Deaf**

2021 Annual Report

National Technical
Institute for the Deaf



Note of Explanation

This Annual Report notes activities and accomplishments throughout Fiscal Year 2021 (October 1, 2020 - September 30, 2021), corresponding primarily to Academic Year 2020-2021. References to Fiscal Year 2022 correspond to characteristics and accomplishments as of fall semester Academic Year 2021-2022.

Throughout the report, RIT and NTID alumni are indicated by their graduation years appearing after their names. We apologize for any omissions.

NTID FY 2021 Annual Report Contents

| | |
|---|-----------|
| Letter to the Secretary of Education | 1 |
| Cover Photo | 2 |
| Mission Statement | 3 |
| NTID by the Numbers | 4 |
| RIT/NTID Response to COVID-19 Pandemic | 5 |
| Annual Highlights | 7 |
| Executive Summary | 8 |
| The Education of the Deaf Act | 13 |
| Reporting Requirements of the Education of the Deaf Act and the Agreement with RIT... | 14 |
| Performance Indicators | 17 |
| Strategic Planning | 33 |
| Strategic Planning | 34 |
| Admissions and Enrollment | 35 |
| Admissions and Enrollment Highlights | 36 |
| Comparative Admissions Data | 37 |
| Summer Vestibule Program | 38 |
| NTID Student Enrollment by Term (Deaf and Hard-of-Hearing Students Only) | 39 |
| Percent of Registered Students with Full-Time Status | 40 |
| International Student Recruitment | 41 |
| Demographic Characteristics of All New Students | 42 |
| Demographic Characteristics of Enrolled International Students Compared to Enrolled U.S. Students | 43 |
| ACT Information on New Students (Deaf and Hard-of-Hearing Students Only) | 44 |
| Academic Skills of New Students | 45 |
| Students with Secondary Disabilities | 46 |
| Origin of Students | 47 |
| Academic Programs | 49 |
| Academic Program Highlights | 50 |
| Enrollment by Degree Programs | 65 |
| Average Class Size by Discipline | 72 |
| Educational Support: Teaching | 73 |
| American Sign Language and Interpreting Education Programs | 75 |
| Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) | 76 |
| Cooperative Work Experiences | 77 |
| Student Support Services | 79 |
| Student Support Services Highlights | 80 |
| Support Services: Tutoring Hours | 83 |
| Student Access Services | 85 |
| Student Access Services Highlights | 86 |
| Access Services: Interpreting, Real-Time Captioning and Notetaking | 87 |
| Access Services: Interpreting Services | 88 |
| Access Services: Real-Time Captioning Services | 89 |

Contents (continued)

| | |
|---|------------|
| Persistence, Graduation & Employment | 91 |
| Persistence, Graduation and Employment Highlights | 92 |
| First-Year Persistence Rates | 93 |
| Persistence and Graduation Rates for Deaf and Hard-of-Hearing Students..... | 94 |
| Degrees Granted: FY 2017 to FY 2021 | 95 |
| Graduates by Program Areas | 97 |
| Graduation and Employment for Recent Graduates | 98 |
| Employment Services for Deaf and Hard-of-Hearing Students and Graduates | 99 |
| Where Recent Graduates Are Working | 100 |
| Employment by Sector of the Economy | 101 |
| Occupations of Recent Graduates: Entry Status by Labor Category | 102 |
| Occupations of Alumni by Labor Categories | 103 |
| Labor Force Status and Earnings of Alumni | 104 |
| Effect of College Graduation on Reduction in SSI and SSDI Payments | 106 |
| Diversity and Inclusion | 109 |
| Diversity and Inclusion Highlights | 110 |
| NTID Office of Diversity and Inclusion | 111 |
| Admissions Activity by Ethnicity | 113 |
| Ethnicity of New Students | 114 |
| Ethnicity of Enrolled Students | 115 |
| First-Year Student Persistence and Graduation Rates by Diversity Categories | 116 |
| Graduates by College and Program Areas: Minority Status | 117 |
| Diversity Report: Faculty and Staff | 118 |
| Diversity Report: Faculty and Staff Applicants | 119 |
| Diversity Report: Faculty and Staff Hiring Results | 120 |
| Diversity Report: Faculty and Staff Termination Results | 121 |
| Research, Innovation & Creativity | 123 |
| Research | 124 |
| Imagine RIT: Innovation and Creativity Festival | 153 |
| Innovation and Creativity at NTID | 154 |
| Intellectual Property: Licensed Educational Materials, Patents and Inventions | 160 |
| Outreach | 163 |
| Outreach Highlights | 164 |
| Pre-College Outreach | 166 |
| NTID Regional STEM Center | 167 |
| Explore Your Future | 168 |
| Explore Your Future – Enrollment by Location | 169 |
| DeafTEC | 170 |
| Project Fast Forward | 172 |
| Employer Outreach | 175 |

Contents (continued)

| | |
|--|------------|
| Faculty and Staff | 177 |
| Faculty and Staff Highlights | 178 |
| Average Salary: Faculty and Staff | 179 |
| Tenure-Track Positions and Faculty Rank | 180 |
| Degree Levels of Tenured and Tenure-Track Faculty | 181 |
| Age, Length of Service and Retirement Status of NTID Faculty and Staff | 182 |
| Faculty and Staff New Hires | 183 |
| Faculty and Staff Terminations | 184 |
| RIT/NTID Leadership | 185 |
| NTID Administrative Council | 186 |
| NTID National Advisory Group | 188 |
| NTID Foundation Board | 190 |
| RIT Administrative Council | 192 |
| RIT Board of Trustees Active Trustees | 193 |
| Results of Financial Operations | 197 |
| Financial Operations Highlights | 198 |
| Financial Operating Results | 199 |
| Tuition, Room, Board and Other Fees | 200 |
| Financial Aid | 201 |
| Financial Aid (Domestic Students) | 202 |
| External Funding Sources | 203 |
| The NTID Foundation | 204 |
| NTID Annual Fundraising Results | 205 |
| NTID Endowment Programs | 206 |
| Scholarships, Endowed Funds and Estate Commitments | 207 |
| Grants and Contracts | 211 |

December 21, 2021

The Honorable Miguel Cardona
Secretary of Education
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202

Dear Secretary Cardona:

We are pleased to submit the following report to fulfill the requirement of the Education of the Deaf Act that the National Technical Institute for the Deaf (NTID), a college of Rochester Institute of Technology (RIT), "... shall prepare and submit an annual report to the Secretary..."

As always, we begin our report as we begin each academic year and each new initiative – with our mission:

To provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong liberal arts and sciences curriculum, that prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning. Secondly, NTID prepares professionals to work in fields related to deafness; undertakes a program of applied research designed to enhance the social, economic and educational accommodation of deaf people; and shares its knowledge and expertise through outreach and other information dissemination programs.

In FY 2021, RIT proved to be one of the safest campuses in the nation throughout the pandemic. Students returned to campus with masking and distancing protocols firmly in place, although hybrid and remote classes continued. During this time, RIT's momentum was undaunted, with an expansion of its Ph.D. program offerings, construction on state-of-the-art facilities, national academic and athletic awards and \$75 million in sponsored research awards.

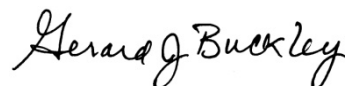
In addition to celebrating a successful and safe academic year, we are pleased to report that NTID students who graduated in 2020 had a 95% employment rate in 2021. NTID students continued to have a higher persistence rate and graduation rate than the national persistence and graduation rates for all students, hearing and otherwise, at two-year and four-year colleges. Tyler Pugeda, an NTID-supported student pursuing a master's degree with concentrations in cell biology and healthcare entrepreneurship, was selected to be a Fulbright Research scholar in Germany. Also, in FY 2021, NTID expanded its offerings. In partnership with RIT's new Global Cybersecurity Institute, NTID hosted its first Cyber Boot Camp, a 15-week program taught in ASL. NTID also received a \$470,000 NSF award to offer a 10-week boot camp to teach IT technical skills to deaf and hard-of-hearing students. New York State Education Department approved NTID for a new bachelor's degree program in community development and inclusive leadership, with enrollment beginning in fall 2022. Finally, both RIT and NTID solidified action plans to create equal access, opportunities and respect for all students, better supporting the 49% of NTID students (excluding the MSSE and interpreting programs) who are from minority groups.

The accomplishments outlined in this report are all the more impactful for the context in which they occurred. Despite the challenges of living, working and learning in another year of a global pandemic, the drive and determination of RIT/NTID students and the entire RIT/NTID community remained steadfast. NTID is reshaping the future for deaf and hard-of-hearing individuals, and that future has never been brighter.

This report is also available in full to the general public at:

rit.edu/ntid/about/media#annual-report

With warm regards,



David C. Munson, Jr.
President

Gerard J. Buckley '78
President, NTID
Vice President and Dean, RIT

Cover Photo

In May 2021, NTID held commencement ceremonies for both 2020 and 2021 graduates. Rodrigo Tavares, above, an international student from Brazil, received an associate degree in 3D Graphics Technology and Jasmine Archer, below, of Bronx, New York, received an associate degree in Business Technology.

Mission Statement

The primary mission of the National Technical Institute for the Deaf is to provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum, that prepare them to live and work in the mainstream of a rapidly changing global community and enhance their lifelong learning.

Secondarily, NTID prepares professionals to work in fields related to deafness; undertakes a program of applied research designed to enhance the social, economic and educational accommodation of deaf people; and shares its knowledge and expertise through outreach and other information dissemination programs.

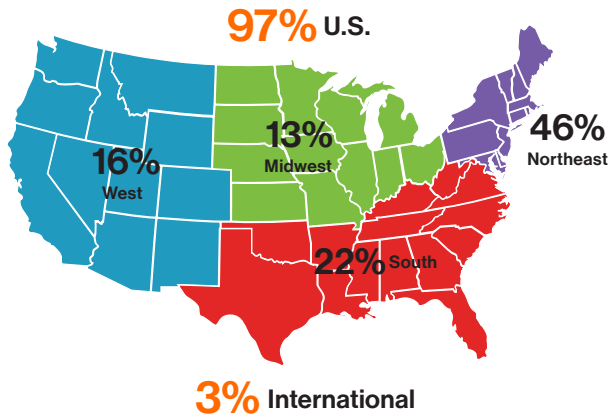
NTID by the Numbers

The National Technical Institute for the Deaf has grown exponentially since enrolling its first class in 1968. Numbers don't tell the whole story, but they do provide a glimpse of what NTID looks like today.

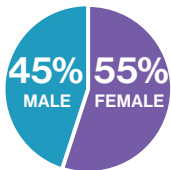
Student Enrollment

1,166 TOTAL ENROLLMENT

BREAKDOWN BY GEOGRAPHIC REGION:



BREAKDOWN BY GENDER:



MORE THAN 9,400 ALUMNI

45% of RIT/NTID students are eligible for Pell Grants

Growing Diversity

49% of RIT/NTID deaf and hard-of-hearing students are from a minority background



Employment/Earnings After College

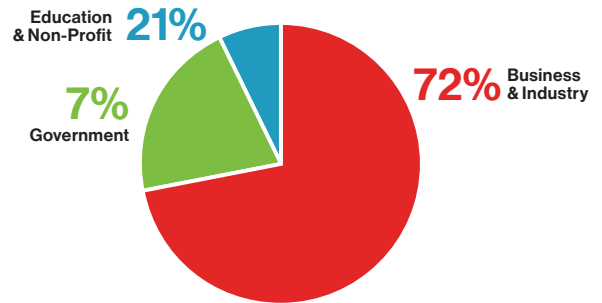
218 STUDENTS COMPLETED A CO-OP LAST YEAR

New RIT/NTID grads are ready to succeed



95% of students who sought jobs after graduation found one within a year

New RIT/NTID alumni thrive in all economic sectors



Employers include:

Bayer Pharmaceuticals, Department of Defense, Fidelity Investments, GE Aviation, L3 Harris Technologies, Lockheed Martin, Microsoft, Ohio Health, PNC Financial Solutions, University of Alabama

RIT/NTID graduates are competitive in the marketplace

RIT/NTID associate degree graduates earn

95%

more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

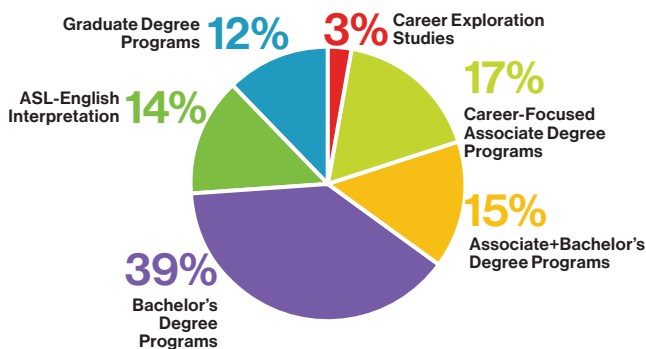
RIT/NTID bachelor's degree graduates earn

178%

more than deaf and hard-of-hearing graduates from other postsecondary institutions*.

*median salary at age 50 compared to average

Academics



Student Access Services

Hours provided

| | In Classroom | Outside Classroom |
|--------------|---------------|-------------------|
| Interpreting | 82,474 | 35,357 |
| Captioning | 25,235 | 2,509 |
| Notetaking | 30,263 | |

RIT/NTID Response to COVID-19 Pandemic

Throughout 2021, the RIT campus continued its efforts to respond to the COVID-19 pandemic, including vaccinations and mitigation of the Delta variant.

The following committees continued their work through the year, with representation from NTID:

- COVID-19 Task Force and Policy
- Academic Preparedness
- Community Readiness and Education
- Infrastructure Readiness

Students returned to campus, although hybrid and remote classes continued. Masking and distancing protocols continued while students, faculty and staff began to return to a different landscape and carve out as normal of a year as possible.

NTID's Communications, Marketing and Multimedia Services and Access Services departments, working closely with RIT's University Communications and Student Health Services, continued producing videotaped sign language translations of COVID-19 and health-related announcements from RIT's administration and health professionals. Completed videos were then posted on RIT and NTID social media channels, COVID-related websites and digital display monitors to help ensure that deaf and hard-of-hearing students received this vital information.

A number of major campus traditions and events were held virtually or modified as a result of the continued pandemic:

- Imagine RIT: Innovation + Creativity Festival, the university's annual exposition of new and unique discoveries by faculty, staff and students, was held virtually for the first time.
- Convocation and Commencement ceremonies for graduating seniors, graduate students and Ph.D. candidates were significantly 'pared down,' without family and friends in attendance.
- NTID Career Fair also operated virtually, creating 'rooms' for potential employers that students could sign up to visit via Zoom.
- Various end-of-year festivities organized by student clubs were limited or canceled.

The main RIT campus continued with a number of systems to ensure the health and safety of all members of the campus community:

- verified COVID-19 testing of all students and employees
- safety training modules for staff and students (with sign language translations)
- Daily Health Screen and supervisor verification (eliminated for fall semester 2021)
- wastewater testing on a smaller scale in fall semester 2021
- proof of seasonal flu vaccines
- color-coded alert levels to keep community informed of daily levels of virus detection on campus (eliminated for fall semester 2021)
- quarantine and isolation protocols
- education plan for preparation and prevention of the spread of the virus
- call center to answer questions from employees, students and families about all aspects of housing, opening, finance and more
- RIT Ready and RIT Safety Plan websites
- RIT weekly digest (eliminated in fall semester 2021)

RIT/NTID Response to COVID-19 Pandemic (continued)

The following steps have been taken to mitigate further spread of COVID-19 for the rest of the semester:

- Mask requirements
 - Masks must be worn indoors at all times when in the presence of others, and outdoors when maintaining at least three feet of distance is not possible.
 - When dining with others, remove masks only to eat or drink and put masks back on immediately whenever talking.
 - Masks must be worn by spectators at sporting events or performing arts productions.
- Residence Halls, guests and visitors
 - Masks must continue to be worn at all times in common areas.
- Dining
 - Seating in indoor dining areas remains reduced and at least three feet of distance must be maintained at all times.
 - Dining is still allowed in designated dining areas in academic buildings, as long as three feet of distance is maintained between individuals.
 - If eating outdoors, larger groups may eat together, but three feet of distance must be maintained between each person.
- Team sports
 - Intercollegiate athletics have resumed in fall semester 2021. Masking is required and vaccinations are required for hockey games held in the Gene Polisseni Center.
- Performing arts clubs
 - Participants may be unmasked during performances. Audience members must remain masked.

As a university that has federal contracts, a plan to mandate COVID-19 vaccinations for students, faculty and staff has been implemented, following guidance from the federal government. As of this writing, more than 90% of all faculty, staff and students follow the university's vaccination mandate that will be fully in effect on December 8, 2021.

Annual Highlights

Noteworthy accomplishments and statistics for the past year include the following:

- NTID's most recent employment rate for deaf and hard-of-hearing graduates in 2020 is 95%. The average employment rate over the past five years is 95%.
- NTID's first-year persistence rates and graduation rates for both sub-baccalaureate students and baccalaureate students were higher than the national rates for two-year and four-year colleges.
- In February 2021, NTID announced a partnership with internationally acclaimed contemporary American dance company, Garth Fagan Dance, entitled "Garth Fagan Dance-RIT/NTID Cooperative-Creative-Connection" to begin August 2021. Based in Rochester, Garth Fagan Dance may be best known for founder Garth Fagan's Tony and Olivier award-winning choreography for *The Lion King*.
- In March 2021, NTID received approval from the New York State Education Department for a bachelor's degree program in community development and inclusive leadership. The program will admit its first students in fall 2022 and is an interdisciplinary degree in which students will gain leadership, interpersonal, research and data management skills to become dynamic leaders.
- On March 29, 2021, NTID's founding director, D. Robert Frisina, passed away at age 96. He was selected by the RIT Board of Trustees as the first director of NTID in January 1967 and served in that role until 1976, after which he served as an RIT senior vice president for 15 years.
- In April 2021, NTID, in partnership with RIT's Global Cybersecurity Institute, offered its first Cyber Bootcamp, a fully remote 15-week program taught in ASL. Students participated in activities to help prepare for industry-standard certifications, including CompTIA Security+ and Cybersecurity First Responder, and enter positions in the field such as cyber technician, cyber investigator and IT auditor.
- In April 2021, NSF awarded \$470,000 to NTID to support the DeafTEC Ready Pilot Program to help deaf and hard-of-hearing students learn IT technical skills during a 10-week boot camp.
- In August 2021, RIT became the first university in Western New York and the fifth in the state to receive the "Peace Corps Prep" designation. This designation, which also aims to recruit more deaf and hard-of-hearing individuals into the Peace Corps, will enable students to take classes that will make them better candidates for the Peace Corps and post-graduate service programs.
- More than half (52%) of NTID's fall 2021 new students, excluding MSSE and interpreting programs, are from minority groups. Excluding MSSE and interpreting programs, 49% of the total enrolled student body is from minority groups.
- In September 2021, NTID began offering an online Certificate in Educational Interpreting designed for currently employed interpreters working in educational settings. The program runs from September through May 2022.
- In September 2021, NSF awarded RIT a grant of nearly \$2 million to create a new NSF research traineeship (NRT) program for graduate students, AWAREness for Sensing Humans Responsibly with Artificial Intelligence (AWARE-AI). A team of faculty across five RIT colleges, including NTID's Dr. Rain Bosworth, will offer RIT students in AI-related Ph.D. and MS programs the opportunity to enhance their education through research and career-promoting activities in one of four research tracks: software, hardware, human computer interaction or cognitive models. Priority for NRT fellowships will be given to women, AALANA (African American, Latin American and Native American) students and deaf and hard-of-hearing students.

Executive Summary

| New Fall Registrations* | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|----------------|----------------|
| Deaf and Hard-of-Hearing Students | 279 | 256 | 246 | 248 | 273 |
| AAS/BS ASL-English Interpretation | 39 | 50 | 51 | 48 | 48 |
| MS in Secondary Education | 5 | 6 | 8 | 22 | 28 |
| Total New Registrations | 323 | 312 | 305 | 318 | 349 |
| Enrollment (Deaf and Hard-of-Hearing Students Only) | | | | | |
| Career Exploration Studies (CES) | 38 | 25 | 31 | 25 | 33 |
| Sub-Baccalaureate Programs | | | | | |
| Career-Focused Programs | 265 | 242 | 218 | 201 | 193 |
| Associate+Bachelor's/Pre-Baccalaureate | 202 | 182 | 171 | 173 | 177 |
| Subtotal CES and Sub-Baccalaureate | 505 | 449 | 420 | 399 | 403 |
| Undergraduate Programs at RIT | 520 | 506 | 470 | 421 | 455 |
| Graduate Programs at RIT | 56 | 50 | 53 | 66 | 71 |
| Subtotal Undergraduate and Graduate at RIT | 576 | 556 | 523 | 487 | 526 |
| Subtotal Deaf and Hard-of-Hearing Students Only | 1,081 | 1,005 | 943 | 886 | 929 |
| Other Enrollments | | | | | |
| ASL-English Interpretation | 147 | 148 | 155 | 170 | 168 |
| MS in Health Care Interpretation | 15 | 12 | 9 | 11 | 13 |
| MS in Secondary Education | 19 | 17 | 22 | 34 | 56 |
| Subtotal Other Enrollments | 181 | 177 | 186 | 215 | 237 |
| Total Deaf and Hard-of-Hearing Enrollment (Includes MSSE) | 1,090 | 1,014 | 953 | 908 | 970 |
| Total Enrollment | 1,262 | 1,182 | 1,129 | 1,101 | 1,166 |

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Executive Summary (continued)

| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|--|---------|---------|---------|---------|---------|
| Withdrawn (All Students) | 17% | 17% | 17% | 15% | 17% |
| Degrees Granted | | | | | |
| Total | 301 | 302 | 292 | 319 | 235 |
| <i>Degree Level</i> | | | | | |
| Certificate | 3 | 3 | 1 | 1 | 1 |
| Associate (AOS) | 37 | 41 | 22 | 28 | 18 |
| Associate (AS/AAS) | 85 | 72 | 78 | 82 | 54 |
| Associate (Interpreting) | 0 | 0 | 0 | 0 | 0 |
| Bachelor's (Interpreting) | 24 | 29 | 35 | 23 | 30 |
| Bachelor's | 123 | 120 | 126 | 152 | 96 |
| Advanced Certificate | | | | | 1 |
| Master's | 18 | 24 | 17 | 15 | 24 |
| Master's (MS Health Care Interpretation) | N/A | N/A | 8 | 8 | 5 |
| Master's (MSSE) | 11 | 13 | 5 | 10 | 6 |
| Post-Graduation Employment | | | | | |
| Post-Graduation Employment | 130 | 134 | 116 | 124 | N/A* |
| Post-Graduation Employment Rate | 96% | 95% | 95% | 95% | N/A* |
| <i>By Sector of the Economy</i> | | | | | |
| Business and Industry | 77% | 65% | 77% | 72% | N/A* |
| Education/Non-Profit | 17% | 15% | 16% | 21% | N/A* |
| Government | 6% | 20% | 7% | 7% | N/A* |
| Cooperative Work Experiences | 313 | 270 | 232 | 181 | 218 |
| Access/Support Services | | | | | |
| Notetaking Hours | 62,015 | 52,945 | 47,181 | 40,475 | 30,263 |
| Tutoring Hours | 12,881 | 11,405 | 8,369 | 12,025 | 10,993 |
| Interpreting Hours | 152,630 | 136,036 | 145,284 | 118,240 | 117,831 |
| Real-Time Captioning Hours | 25,952 | 23,600 | 25,978 | 21,856 | 27,744 |

* Post-graduation employment numbers reflect status as of one year following graduation; employment numbers for September 1, 2020 through August 31, 2021 graduates will be reported next year.

Executive Summary (continued)

| Outreach (Number of External Participants) | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| Computer Science Week | N/A | N/A | 26 | N/A | N/A |
| Create Your Future | N/A | N/A | 23 | N/A | N/A |
| Digital Arts, Film and Animation | 20 | 34 | 18 | 1 | 37 |
| Discovering Agriculture through STEM | N/A | 23 | N/A | N/A | N/A |
| Droids and Drones | 27 | 30 | N/A | N/A | N/A |
| Explore Your Future | 203 | 179 | 212 | 136 | 137 |
| Health Care Careers Exploration Program | 23 | 20 | 21 | N/A | N/A |
| Health Science Week | N/A | N/A | 20 | N/A | N/A |
| Math Competition | 144 | 149 | 168 | N/A | 74 |
| NTID Center on Employment | 498 | 290 | 266 | 163 | 1,462 |
| NTID Regional STEM Center | N/A | N/A | 7,685 | 5,122 | 6,473 |
| Project Fast Forward | 168 | 118 | 158 | 306 | 196 |
| SpiRIT Writing Contest | 33 | 26 | 19 | 16 | 12 |
| Steps to Success | 18 | 17 | 19 | N/A | N/A |
| TechGirlz/TechBoyz Camp | 60 | 49 | 51 | N/A | N/A |
| | | | | | |
| Financial Aid (Domestic Students) | | | | | |
| Grant-in-Aid | \$1,410,243 | \$1,344,300 | \$1,588,692 | \$1,660,043 | \$2,076,082 |
| Vocational Rehabilitation | 9,998,521 | 9,780,492 | 8,951,676 | 8,409,863 | 7,679,659 |
| Pell Grants | 2,399,441 | 2,619,065 | 2,492,605 | 2,353,799 | 2,215,865 |
| State Grants | 435,230 | 488,173 | 483,487 | 511,115 | 522,350 |
| Federal Loans | 3,916,779 | 3,566,895 | 3,246,844 | 2,936,663 | 2,417,667 |
| Scholarships and Other | 4,233,220 | 4,797,273 | 4,898,701 | 4,848,736 | 5,745,909 |
| Total Financial Aid | \$22,384,434 | \$22,596,198 | \$21,630,327 | \$20,720,219 | \$20,657,532 |
| | | | | | |
| Average Aid per Domestic Student (Excluding Loans)* | \$14,715 | \$15,688 | \$17,022 | \$16,330 | \$17,031 |

* Total financial aid, less loans, divided by domestic student enrollment.

Executive Summary (continued)

| Domestic Student Rates* | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Tuition | \$15,730 | \$16,518 | \$17,162 | \$17,814 | \$18,330 |
| Room | 7,376 | 7,596 | 7,902 | 8,140 | 8,392 |
| Board | 5,290 | 5,662 | 5,800 | 5,836 | 6,040 |
| Fees | 562 | 584 | 646 | 676 | 726 |
| Total | \$28,958 | \$30,360 | \$31,510 | \$32,466 | \$33,488 |

Fundraising Activity

| | | | | | |
|--|-----------|-------------|-----------|-------------|----|
| Cash to Endowment and Restricted Funds | \$872,054 | \$1,337,139 | \$907,640 | \$1,165,293 | ** |
| Equipment and Software | \$40,717 | \$100,728 | \$29,243 | \$65,599 | ** |
| Federal Funds Matched*** | \$86,322 | \$362,598 | \$353,855 | \$285,201 | ** |



RIT students followed mask mandates, vaccine requirements and other health protocols to ensure a safe campus environment in FY 2021.

* Per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Their charges for room, board and fees are the same as for domestic students.

** Information not yet available.

*** Any monies matched must be funded through operating funds efficiencies.

The Education of the Deaf Act

The Education of the Deaf Act requires NTID to submit this report annually to the federal government.

Reporting Requirements of the Education of the Deaf Act and the Agreement with RIT

This section includes, verbatim, the section of the Education of the Deaf Act (EDA) that applies to reporting requirements for the National Technical Institute for the Deaf. The material below in brackets provides cross-references, indicating sections of this report that reflect NTID compliance

with these EDA provisions. In addition, reporting on inventions is included below based on a requirement of the Agreement with RIT.

NOTE: Where “...” appear, sections of the EDA that do not apply to NTID have been removed.

Reports for the EDA

... the Board of Trustees or other governing body of the institution of higher education with which the Secretary has an agreement [RIT] under section 4332 of this title shall prepare and submit an annual report to the Secretary, and to the Committee on Education and Labor of the House of Representatives and the Committee on Labor and Human Resources of the Senate, not later than 100 days after the end of each fiscal year, which shall include the following: [This *Annual Report* meets this requirement.]

- (1) The number of students during the preceding academic year who enrolled and whether these were first-time enrollments, who graduated, who found employment, or who left without completing a program of study, reported under each of the programs ... of NTID. [Refer to the Executive Summary section.]
- (2) For the preceding academic year, and to the extent possible, the following data on individuals who are deaf and from minority backgrounds and who are students (at all educational levels) or employees:
 - (A) The number of students enrolled full- and part-time. [Refer to the Academic Programs and Diversity and Inclusion sections.]
 - (B) The number of these students who completed or graduated from each of the educational programs. [Refer to the Persistence, Graduation & Employment and Diversity and Inclusion sections.]
 - (C) The disposition of these students upon graduation/completion on the date that is one year after the date of graduation or completion of programs at NTID ... in comparison to students from non-minority backgrounds. [Refer to the Persistence, Graduation & Employment and Diversity and Inclusion sections.]
 - (D) The number of students needing and receiving support services (such as tutoring and counseling) at all educational levels. [Refer to the Student Support Services section.]
 - (E) The number of recruitment activities by type and location for all educational levels. [Refer to the Outreach section of the Executive Summary.]
 - (F) Employment openings/vacancies and grade level/type of job and number of these individuals that applied and that were hired... [Refer to the Diversity and Inclusion section.]
- (3) (A) A summary of the annual audited financial statements and auditor's report ... as required under section 4353 of this title. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]
 - (B) A summary of the annual audited financial statements and auditor's report of NTID programs and activities of this title, and such supplementary schedules presenting financial information for NTID for the end of the federal fiscal year as determined by the Secretary. [The audit of RIT is provided to the Secretary, as is a separate schedule for NTID.]

Education of the Deaf Act (continued)

- (4) For the preceding fiscal year, a statement showing the receipts of ... NTID and from what federal sources, and a statement showing the expenditures ... by function, activity, and administrative and academic unit. [Refer to the Results of Financial Operations section.]
- (5) A statement showing the use of funds (both corpus and income) provided by the Federal Endowment Program under section 4357 of this title. [Refer to the External Funding Sources section.]
- (6) A statement showing how such Endowment Program funds are invested, what the gains or losses (both realized and unrealized) on such investments were for the most recent fiscal year, and what changes were made in investments during that year. [Refer to the External Funding Sources section.]
- (7) Such additional information as the Secretary may consider necessary. [NTID responds on a regular basis to requests for additional information from staff of the U.S. Department of Education.]

Agreement with RIT: Certification Regarding Inventions

The *Agreement for Establishment and Operation of the National Technical Institute for the Deaf Between the Secretary of Health, Education, and Welfare and Rochester Institute of Technology (RIT) (1966)* requires annual disclosure of any inventions developed during the year or a certification that no inventions were made during the applicable period. NTID hereby certifies that no new inventions were made during the year covered by this Annual Report.

Most recent inventions include:


Intellectual Property 2017-015-01 – Provisional Patent filed with U.S.P.T.O. for “Method for Measuring Sign Recognition Ability in Learners of American Sign Language (ASL) as a Second Language.” Application date: July 18, 2017. IP Inventors named: Joseph Bochner, Vincent Samar, Wayne M. Garrison. Converted to non-provisional patent June, 2018.

Intellectual Property 2019-013-02 – Non-provisional Patent filed with U.S.P.T.O. for “Method and System to Enhance Telecommunication Relay System for People with Disability.” Application date: February 14, 2020. IP Inventors named: Brian Trager '00, '05, Gary Behm '78, '81, Shareef Ali '15, '18, Mark Jeremy '96, '08, '18, Byron Behm.



Becca Dingman '16, '18, '21 graduated this spring with an MS in Human Computer Interaction after receiving an associate degree in Applied Computer Technology and a BS in Human-Centered Computing. She now works for NTID's Center on Access Technology as a UI/UX designer.

Performance Indicators



Performance indicators, required by the Government Performance and Results Act, measure NTID's performance related to enrollment, persistence, graduation and employment.

Performance Indicators

Performance indicators are critical elements of the Congressionally mandated Government Performance and Results Act (GPRA), which requires the Department of Education to

measure the performance of all entities within its oversight receiving federal funds. There are four objectives, each with several measures to track performance.

Objective 1 of 4

Provide deaf, hard-of-hearing and hearing students in undergraduate and professional studies with outstanding state-of-the-art technical and professional education programs, complemented by a strong arts and sciences curriculum and supplemented with appropriate student support services.

Though not related directly to required performance indicators, the table below reports an overview of the total enrollment for the National Technical Institute for the Deaf (NTID), which includes:

- Deaf and hard-of-hearing sub-baccalaureate students;
- Deaf and hard-of-hearing baccalaureate students;
- Baccalaureate students in the ASL-English Interpretation program;
- Deaf and hard-of-hearing graduate students enrolled in colleges of RIT other than NTID;
- Deaf, hard-of-hearing and hearing students in NTID's Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) program; and
- Students in the Master of Science in Health Care Interpretation (MSHCI) program.

| Fiscal Year | Total Enrollment |
|-------------|------------------|
| 2013 | 1,529 |
| 2014 | 1,432 |
| 2015 | 1,387 |
| 2016 | 1,413 |
| 2017 | 1,300 |
| 2018 | 1,262 |
| 2019 | 1,182 |
| 2020 | 1,129 |
| 2021 | 1,101 |
| 2022 | 1,166 |

Performance Indicators (continued)

Measure 1.1 of 3: The number of NTID-supported deaf and hard-of-hearing undergraduates (desired direction: increase)

| Fiscal Year | Target | Number | Status |
|-------------|--------|--------|-------------------------------|
| 2013 | 1,200 | 1,269 | Target Surpassed |
| 2014 | 1,200 | 1,195 | Target Not Met |
| 2015 | 1,200 | 1,153 | Target Not Met |
| 2016 | 1,200 | 1,167 | Made Progress From Prior Year |
| 2017 | 1,200 | 1,078 | Target Not Met |
| 2018 | 1,200 | 1,025 | Target Not Met |
| 2019 | 1,045 | 955 | Target Not Met |
| 2020 | 1,045 | 890 | Target Not Met |
| 2021 | 1,045 | 820 | Target Not Met |
| 2022 | 1,045 | 858 | Made Progress From Prior Year |

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses for completion of their degrees.

Target Context: In September 2011, the target for the number of undergraduates who are deaf and hard of hearing enrolled in NTID was increased from 1,045 students to 1,200 students, as NTID enrolled more than 1,200 undergraduate students in FY 2009, FY 2010 and FY 2011. For FY 2019, the target was decreased back to the original 1,045 to better reflect the recent enrollment contraction.

Explanation: Below is a table showing the number of undergraduate students who are deaf or hard of hearing who were enrolled in sub-baccalaureate programs at NTID and in baccalaureate programs at RIT.

| Fiscal Year | Sub-Baccalaureate | Baccalaureate | Total |
|-------------|-------------------|---------------|-------|
| 2013 | 718 | 551 | 1,269 |
| 2014 | 669 | 526 | 1,195 |
| 2015 | 624 | 529 | 1,153 |
| 2016 | 624 | 543 | 1,167 |
| 2017 | 571 | 507 | 1,078 |
| 2018 | 505 | 520 | 1,025 |
| 2019 | 449 | 506 | 955 |
| 2020 | 420 | 470 | 890 |
| 2021 | 399 | 421 | 820 |
| 2022 | 403 | 455 | 858 |

As seen in the above table, NTID experienced an increase in the undergraduate enrollment of students who are deaf and hard of hearing from 820 students during AY 2020-2021 (FY 2021) to 858 students in AY 2021-2022 (FY 2022).

Performance Indicators (continued)

Measure 1.2 of 3: The number of students enrolled in NTID's ASL-English Interpretation program (desired direction: increase)

| Fiscal Year | Target | Number | Status |
|-------------|--------|--------|-------------------------------|
| 2013 | 140 | 167 | Target Surpassed |
| 2014 | 140 | 147 | Target Surpassed |
| 2015 | 160 | 146 | Target Not Met |
| 2016 | 160 | 151 | Made Progress From Prior Year |
| 2017 | 140 | 140 | Target Met |
| 2018 | 140 | 147 | Target Surpassed |
| 2019 | 140 | 148 | Target Surpassed |
| 2020 | 140 | 155 | Target Surpassed |
| 2021 | 140 | 170 | Target Surpassed |
| 2022 | 140 | 168 | Target Surpassed |

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data for students in the ASL-English Interpretation program does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: NTID has reported that the ASL-English Interpretation program receives more applicants than they are able to accept. NTID allowed this program to expand in FY 2009 to help meet the increasing demand for qualified interpreters. As a result of the expansion, the target increased to 120 students for FY 2011, and again to 140 students for FY 2012, and finally to 160 students for FY 2015. In FY 2017, the target was changed back to an overall enrollment goal of 140 students.

Explanation: The number of students currently enrolled in the program in FY 2022 (AY 2021-2022) is 168. This measure previously included Associate in Applied Science (AAS) degree students in ASL-English Interpretation, a now-closed degree program track. Between FY 2009 and FY 2016, just four AAS degree students were enrolled as they finished their degree requirements.

Performance Indicators (continued)

Measure 1.3 of 3: The number of students enrolled in NTID's Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE), Master of Science program in Health Care Interpretation (MSHCI) and deaf or hard-of-hearing students pursuing graduate degrees in other RIT colleges (desired direction: increase)

| Fiscal Year | Target | Number | Status |
|-------------|--------|--------|-------------------------------|
| 2013 | 95 | 93 | Target Not Met |
| 2014 | 95 | 90 | Target Not Met |
| 2015 | 95 | 88 | Target Not Met |
| 2016 | 95 | 95 | Target Met |
| 2017 | 95 | 82 | Target Not Met |
| 2018 | 95 | 90 | Made Progress From Prior Year |
| 2019 | 95 | 79 | Target Not Met |
| 2020 | 95 | 92 | Made Progress From Prior Year |
| 2021 | 95 | 111 | Target Surpassed |
| 2022 | 95 | 140 | Target Surpassed |

Source: National Technical Institute for the Deaf, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: Enrollment data does not include part-time students or non-degree-seeking students, with the exception of part-time students who are taking their final courses toward completion of their degrees.

Target Context: In the FY 2008 Performance Plan, the target for the number of students enrolled in NTID's MSSE program, as well as students pursuing graduate degrees in the other colleges of RIT, was reduced from 120 students to 105 students. The target was further reduced from 105 students to 95 students for FY 2012 and subsequent years.

Explanation: In FY 2022 (AY 2021-2022), NTID had a total of 56 students in the MSSE program and 71 deaf and hard-of-hearing students in other RIT graduate programs. Enrollment in NTID's MSSE program has increased since FY 2019, having more than tripled. FY 2017 marked the first year where students enrolled in NTID's Master of Science in Health Care Interpretation were included. FY 2022 enrollment in this area is 13 students. Total enrollment for this measure is currently 140.

Objective 2 of 4

Maximize the number of students successfully completing a program of study.

Unlike other data reported in performance indicator objectives, the data in Objective 2 is reported to the Integrated Postsecondary Education Data System (IPEDS) using its April timeline. Therefore, FY 2021 data will be reported in April 2022.

Performance Indicators (continued)

Measure 2.1 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of postsecondary enrollment in the previous year and who are enrolled in the current year (desired direction: increase)

| Fiscal Year | Target | Percentage | Status |
|-------------|--------|------------|-------------------------------|
| 2011 | 70 | 69.8 | Made Progress From Prior Year |
| 2012 | 70 | 66.8 | Target Not Met |
| 2013 | 70 | 68.0 | Made Progress From Prior Year |
| 2014 | 70 | 73.5 | Target Surpassed |
| 2015 | 70 | 75.1 | Target Surpassed |
| 2016 | 70 | 69.5 | Target Not Met |
| 2017 | 70 | 71.3 | Target Surpassed |
| 2018 | 70 | 63.9 | Target Not Met |
| 2019 | 70 | 65.1 | Made Progress From Prior Year |
| 2020 | 70 | 68.3 | Made Progress From Prior Year |

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2021, NTID reported to the Department the FY 2020 persistence rate of its sub-baccalaureate students who returned from AY 2019-2020 to their second academic year in AY 2020-2021.

NTID will report to the Department the FY 2021 persistence rate in April 2022, with a sub-set of disaggregated data on the persistence rates of sub-baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students, if applicable. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's sub-baccalaureate students is 70%. In comparison, IPEDS data indicate that two-year public and two-year non-profit colleges have an average persistence rate of 62.3%.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking sub-baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Performance Indicators (continued)

Measure 2.2 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of postsecondary enrollment in the previous year and are enrolled in the current year (desired direction: increase)

| Fiscal Year | Target | Percentage | Status |
|-------------|--------|------------|------------------|
| 2011 | 85 | 88.2 | Target Surpassed |
| 2012 | 85 | 85.9 | Target Surpassed |
| 2013 | 85 | 90.8 | Target Surpassed |
| 2014 | 85 | 90.0 | Target Surpassed |
| 2015 | 85 | 93.0 | Target Surpassed |
| 2016 | 86 | 83.0 | Target Not Met |
| 2017 | 87 | 88.8 | Target Surpassed |
| 2018 | 88 | 80.7 | Target Not Met |
| 2019 | 88 | 93.3 | Target Surpassed |
| 2020 | 89 | 88.3 | Target Not Met |

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2021, NTID reported to the Department the FY 2020 persistence rate of its baccalaureate students, including ASL-English Interpretation students, who returned from AY 2019-2020 to their second academic year in AY 2020-2021, along with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following persistence rates were submitted to the Department by NTID:

| | <u>All students</u> | <u>Deaf students</u> | <u>ASL-English Interpretation students</u> |
|----------------|---------------------|----------------------|--|
| FY 2011 | 88.2% | 89.8% | 84.2% |
| FY 2012 | 85.9% | 82.6% | 94.4% |
| FY 2013 | 90.8% | 89.3% | 95.7% |
| FY 2014 | 90.0% | 90.6% | 87.5% |
| FY 2015 | 93.0% | 90.8% | 100.0% |
| FY 2016 | 83.0% | 81.3% | 88.0% |
| FY 2017 | 88.8% | 85.0% | 100.0% |
| FY 2018 | 80.7% | 81.5% | 77.8% |
| FY 2019 | 93.3% | 90.5% | 100.0% |
| FY 2020 | 88.3% | 84.4% | 96.7% |

NTID will report to the Department the FY 2021 persistence rate of its baccalaureate students in April 2022, with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's baccalaureate students is 89%. In comparison, IPEDS data indicate that four-year public and private colleges have an average persistence rate of 81.0%.

Performance Indicators (continued)

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs in measuring the persistence of postsecondary students. The persistence rate is the percentage of first-time, full-time, degree-seeking baccalaureate students who were in their first year of enrollment in the previous year and who are enrolled in the current year.

Measure 2.3 of 4: The percentage of first-time, full-time, degree-seeking sub-baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)

| Fiscal Year | Target | Percentage | Status |
|-------------|--------|------------|-------------------------------|
| 2011 | 26 | 46.0 | Target Surpassed |
| 2012 | 27 | 40.5 | Target Surpassed |
| 2013 | 35 | 42.1 | Target Surpassed |
| 2014 | 36 | 37.3 | Target Surpassed |
| 2015 | 37 | 39.2 | Target Surpassed |
| 2016 | 38 | 38.8 | Target Surpassed |
| 2017 | 39 | 36.9 | Target Not Met |
| 2018 | 40 | 37.7 | Made Progress From Prior Year |
| 2019 | 41 | 43.8 | Target Surpassed |
| 2020 | 41 | 60.0 | Target Surpassed |

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2021, NTID reported to the Department the FY 2020 percentage of its sub-baccalaureate students (those who were initially enrolled in AY 2014-2015), including ASL-English Interpretation students, who graduated within 150% of the program-based length of time, along with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

The following graduation rates were submitted to the Department by NTID:

| | <u>All students</u> | <u>Deaf students</u> | <u>ASL-English Interpretation students</u> |
|----------------|---------------------|----------------------|--|
| FY 2011 | 46.0% | 41.3% | 81.0% |
| FY 2012 | 40.5% | 37.3% | 84.6% |
| FY 2013 | 41.8% | 41.1% | 100.0% |
| FY 2014 | 37.3% | 37.3% | N/A |
| FY 2015 | 39.2% | 39.2% | N/A |
| FY 2016 | 39.8% | 39.8% | N/A |
| FY 2017 | 36.9% | 36.9% | N/A |
| FY 2018 | 37.7% | 37.7% | N/A |
| FY 2019 | 43.8% | 43.8% | N/A |
| FY 2020 | 60.0% | 60.0% | N/A |

Performance Indicators (continued)

NTID will report to the Department the FY 2021 graduation rate of its sub-baccalaureate students in April 2022, with a sub-set of disaggregated data on the graduation rates of sub-baccalaureate students who are deaf and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's sub-baccalaureate students is 41%. An IPEDS analysis of public and private non-profit two-year institutions indicated an average graduation rate of 32.6% for first-time, full-time, degree-seeking students within 150% of program-based length of time. Based on the comparison with IPEDS data, the target has increased from 35% in 2013 to 41% in 2019, at an increase of 1% per year.

Explanation: This measure was added to the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of postsecondary students. Program-based length of time refers to whether the stated program length for sub-baccalaureates is two or three years. The measure will allow the Department to obtain data that is comparable with what is being submitted to IPEDS by other institutions on graduation rates.

Measure 2.4 of 4: The percentage of first-time, full-time, degree-seeking baccalaureate students who graduate within 150% of the program-based length of time (desired direction: increase)

| Fiscal Year | Target | Percentage | Status |
|-------------|--------|------------|------------------|
| 2011 | 60 | 65.9 | Target Surpassed |
| 2012 | 61 | 62.2 | Target Surpassed |
| 2013 | 62 | 71.9 | Target Surpassed |
| 2014 | 63 | 69.5 | Target Surpassed |
| 2015 | 64 | 76.2 | Target Surpassed |
| 2016 | 65 | 74.5 | Target Surpassed |
| 2017 | 65 | 65.6 | Target Surpassed |
| 2018 | 65 | 79.6 | Target Surpassed |
| 2019 | 65 | 80.6 | Target Surpassed |
| 2020 | 65 | 72.4 | Target Surpassed |

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2021, NTID reported to the Department the FY 2020 percentage of its baccalaureate students (those who were initially enrolled in AY 2014-2015), including ASL-English Interpretation students, who graduated within 150% of the program-based length of time or within six years, along with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Performance Indicators (continued)

The following graduation rates were submitted to the Department by NTID:

| | <u>All students</u> | <u>Deaf students</u> | <u>ASL-English Interpretation students</u> |
|----------------|---------------------|----------------------|--|
| FY 2013 | 71.9% | 73.2% | 62.5% |
| FY 2014 | 69.5% | 67.1% | 78.9% |
| FY 2015 | 76.2% | 69.2% | 91.7% |
| FY 2016 | 74.5% | 73.5% | 84.2% |
| FY 2017 | 65.6% | 56.5% | 88.9% |
| FY 2018 | 79.6% | 77.3% | 87.0% |
| FY 2019 | 80.6% | 78.7% | 87.0% |
| FY 2020 | 72.4% | 68.3% | 85.0% |

NTID will report to the Department the FY 2021 graduation rate of its baccalaureate students in April 2022, with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's baccalaureate students in 2020 is 65%. An IPEDS analysis of institutions of higher education show that four-year public and private colleges have an average graduation rate of 62.4%. Based on the comparison with IPEDS data, the target has increased from 60% in 2011 to 65% for 2016-2020.

Explanation: This measure was added in the FY 2008 Performance Plan and is consistent with the methodology used by IPEDS and other Department programs to measure the graduation rate of baccalaureate postsecondary students who graduate within six years of entry. The measure will allow the Department to obtain data comparable with what is being submitted to IPEDS by other institutions.

Objective 3 of 4

Improve post-school outcomes.

The source of the data in these measures is a questionnaire NTID gives to its students who are nearing graduation and immediately after graduation. All graduates receive an email contact from NTID during the first semester after graduation, as well as follow-up letters and phone calls, with the goal of acquiring data for every student who has graduated within the previous year. Questions include the graduate's address, whether the graduate has found or is looking for employment and whether the graduate is attending college or another postsecondary institution. If the graduate is employed, NTID requests information regarding the employment experience, including type of work, starting date and salary.

Performance Indicators (continued)

NTID reports the employment rate for deaf and hard-of-hearing sub-baccalaureate and baccalaureate graduates one year after graduation, based on availability of valid data. In 2020, a total of 267 deaf and hard-of-hearing students graduated from NTID. Valid data existed one year later on 245 graduates. Of these 245 graduates, 124 students were employed (51%), 99 students were in higher education or training (40%) and 22 students were not employed or in higher education or training (9%). Of the 22 students not employed or in higher education or training, seven were actively looking for work.

| Category of Graduate | Count |
|---------------------------------|-------|
| Employed | 124 |
| Unemployed (Seeking Employment) | 7 |
| Not Seeking Employment | 15 |
| Education (Within RIT) | 82 |
| Education (Outside RIT) | 17 |
| Unknown | 22 |
| Total | 267 |

Measure 3.1 of 3: The post-school rate of NTID graduates who are employed during their first year after graduation (desired direction: increase)

| Graduation Year | Target | Rate | Status |
|-----------------|--------|------|-------------------------------|
| 2011 | 57 | 45 | Made Progress From Prior Year |
| 2012 | 50 | 46 | Made Progress From Prior Year |
| 2013 | 50 | 58 | Target Surpassed |
| 2014 | 50 | 55 | Target Surpassed |
| 2015 | 50 | 58 | Target Surpassed |
| 2016 | 50 | 49 | Target Not Met |
| 2017 | 50 | 53 | Target Surpassed |
| 2018 | 50 | 57 | Target Surpassed |
| 2019 | 50 | 52 | Target Surpassed |
| 2020 | 50 | 51 | Target Surpassed |

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average employment rate of 2005, 2006 and 2007 graduates who were employed full-time within one year after graduation was 57%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target was revised downward by the Department to 50% for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100% of the alumni being tracked by NTID.

Performance Indicators (continued)

Explanation: Originally employment rates were calculated by NTID as the percentage of graduates who are employed among those who choose to pursue employment, following the Bureau of Labor Statistics methodology. In previous years, NTID reported, in comparison with the target of 95%, the following percentages of students employed who have chosen to pursue employment:

| Graduation Year | Percentage |
|-----------------|------------|
| 2011 | 91 |
| 2012 | 93 |
| 2013 | 94 |
| 2014 | 94 |
| 2015 | 94 |
| 2016 | 94 |
| 2017 | 96 |
| 2018 | 95 |
| 2019 | 95 |
| 2020 | 95 |

In FY 2006, the Department changed the methodology for calculating employment data, from the percentage of graduates who were employed among those seeking employment, to the percentage of graduates who are employed among all those who graduated from NTID.

Measure 3.2 of 3: The post-school rate of NTID graduates who are in advanced education or training during their first year after graduation (desired direction: increase)

| Graduation Year | Target | Rate | Status |
|-----------------|--------|------|-------------------------------|
| 2011 | 35 | 44 | Target Surpassed |
| 2012 | 45 | 46 | Target Surpassed |
| 2013 | 45 | 32 | Target Not Met |
| 2014 | 45 | 35 | Made Progress From Prior Year |
| 2015 | 45 | 31 | Target Not Met |
| 2016 | 45 | 42 | Made Progress From Prior Year |
| 2017 | 45 | 42 | Target Not Met |
| 2018 | 45 | 35 | Target Not Met |
| 2019 | 45 | 41 | Made Progress From Prior Year |
| 2020 | 45 | 40 | Target Not Met |

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average participation rate of 2005, 2006 and 2007 graduates who were in advanced education or training full-time within one year after graduation is 35%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and FY 2011 be equal to this average. The target was revised upward by the Department to 45% for FY 2012 and subsequent years to be more consistent with the data submitted by NTID for FY 2009, 2010 and 2011. In FY 2012, it was also determined that the target percentages across all three categories (Measures 3.1, 3.2 and 3.3) would equal 100% of the alumni being tracked by NTID.

Performance Indicators (continued)

Explanation: This indicator was added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are in advanced education or training during their first year after graduation. Separate measures cover graduates who are in the workforce during their first year after graduation and graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation.

Measure 3.3 of 3: The post-school rate of NTID graduates who are not engaged in either advanced education or training or in the workforce during their first year after graduation (desired direction: decrease)

| Graduation Year | Target | Rate | Status |
|-----------------|--------|------|-------------------------------|
| 2011 | 8 | 11 | Made Progress From Prior Year |
| 2012 | 5 | 8 | Made Progress From Prior Year |
| 2013 | 5 | 10 | Target Not Met |
| 2014 | 5 | 10 | Target Not Met |
| 2015 | 5 | 11 | Target Not Met |
| 2016 | 5 | 9 | Made Progress From Prior Year |
| 2017 | 5 | 5 | Target Met |
| 2018 | 5 | 8 | Target Not Met |
| 2019 | 5 | 7 | Made Progress From Prior Year |
| 2020 | 5 | 9 | Target Not Met |

Source: National Technical Institute for the Deaf, post-graduation employment records

Frequency of Data Collection: Annual

Target Context: The average rate of the 2005, 2006 and 2007 graduates who were neither employed nor in advanced education or training full-time within one year after graduation was 8%. In FY 2010, the Department proposed that the target for this measure in FY 2010 and subsequent years be equal to this average. The target was revised downward by the Department to 5% for FY 2012 and subsequent years to reflect changes made in the two previous indicators on the percentage of students employed and/or in advanced education or training during their first year after graduation and each alumnus being counted only once. This allows the percentage across all three categories (Measures 3.1, 3.2 and 3.3) to equal 100% of the alumni being tracked by NTID.

Explanation: This indicator has been added as part of the post-school outcomes to provide a more complete and accurate picture of outcomes for NTID graduates. The measure focuses on graduates who are not engaged in advanced education or training or in the workforce during their first year after graduation. Other measures cover graduates who are in the workforce during their first year after graduation and graduates who are in either advanced education or training during their first year after graduation.

Performance Indicators (continued)

Objective 4 of 4:

Improve the efficiency of operations at NTID as defined by the cost per successful student outcome, where the successful outcome is graduation.

Measure 4.1 of 2: Federal cost per NTID graduate (desired direction: decrease)

| Fiscal Year | Target | Cost | Status |
|-------------|---------|---------|------------------|
| 2012 | 205,657 | 172,000 | Target Surpassed |
| 2013 | 209,564 | 146,600 | Target Surpassed |
| 2014 | 213,755 | 185,200 | Target Surpassed |
| 2015 | 218,244 | 226,200 | Target Not Met |
| 2016 | 222,827 | 191,200 | Target Surpassed |
| 2017 | 222,827 | 221,200 | Target Surpassed |
| 2018 | 222,827 | 223,600 | Target Not Met |
| 2019 | 222,827 | 234,500 | Target Not Met |
| 2020 | 222,827 | 218,600 | Target Surpassed |
| 2021 | 222,827 | 309,000 | Target Not Met |

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2021 data on the federal cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2016 to FY 2021. The federal cost per graduate includes graduates who complete programs of study at RIT/NTID.

Target Context: In determining the appropriate target each year for the federal cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Federal student financial aid, vocational rehabilitation payments, other federal support for students, federal grants and contracts, the Federal Endowment Grant Program tuition and other private funds received by NTID are not included in this calculation.

Performance Indicators (continued)

Measure 4.2 of 2: Total educational cost per NTID graduate (desired direction: decrease)

| Fiscal Year | Target | Cost | Status |
|-------------|---------|---------|-------------------------------|
| 2012 | 247,203 | 206,100 | Target Surpassed |
| 2013 | 251,800 | 176,900 | Target Surpassed |
| 2014 | 256,836 | 224,000 | Target Surpassed |
| 2015 | 262,230 | 277,100 | Target Not Met |
| 2016 | 267,737 | 237,300 | Target Surpassed |
| 2017 | 267,737 | 272,800 | Target Not Met |
| 2018 | 267,737 | 276,400 | Target Not Met |
| 2019 | 267,737 | 288,400 | Target Not Met |
| 2020 | 267,737 | 268,300 | Made Progress From Prior Year |
| 2021 | 267,737 | 365,800 | Target Not Met |

Source: National Technical Institute for the Deaf, Finance and Budget Office

Frequency of Data Collection: Annual

Data Quality: The FY 2021 data on the total educational cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2016 to FY 2021. The total educational cost per graduate includes graduates who complete programs of study at RIT/NTID.

Target Context: In determining the appropriate target each year for the total educational cost per graduate, future inflation must be taken into account, as well as the variation in the number of students who graduate each year from NTID. The Department has identified and established targets for FY 2010 and subsequent years.

Explanation: This measure is calculated by adding the federal appropriations and non-federal funds (tuition, room, board and fees collected from students) for the current year and the five preceding years, which is then averaged. The average (from six years of federal appropriations and non-federal funds) is divided by the number of graduates in the current year, including sub-baccalaureate, baccalaureate and graduate students. Costs associated with public services, auxiliary enterprises and construction are excluded from this calculation.

Strategic Planning

Strategic Decisions 2020, NTID's strategic planning initiative, was forged with student, staff and faculty involvement.

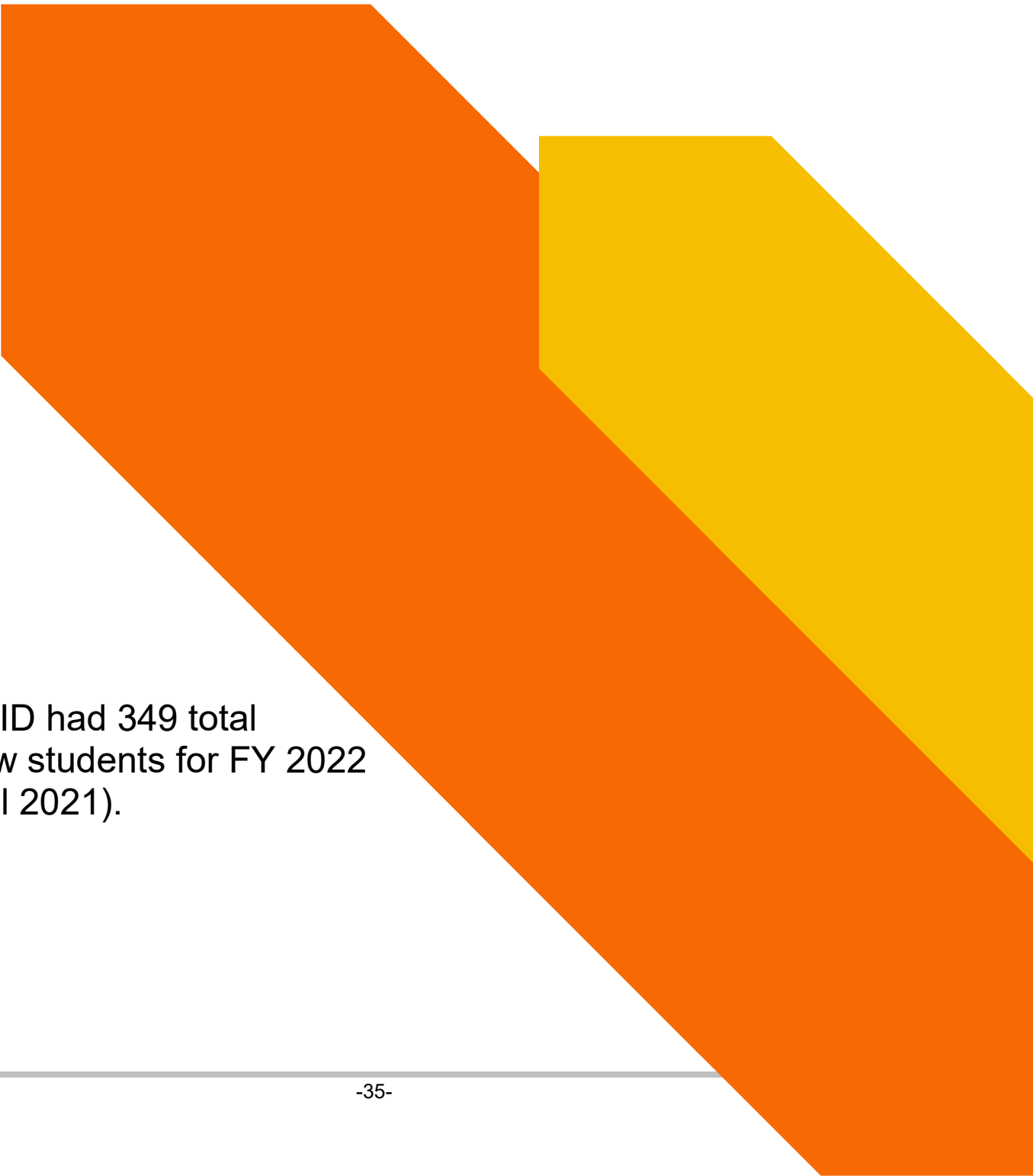
Strategic Planning

In FY 2020 (AY 2019-2020) NTID was in the process of reviewing and finalizing its next strategic plan to follow *Strategic Decisions 2020 (SD 2020)* when the COVID-19 pandemic hit. After pivoting to focus on navigating the pandemic, a small work group was established in early 2021 to resume finalizing NTID's strategic plan. This plan changed when the department learned that RIT is also revising its strategic plan: *Greatness Through Difference* (rit.edu/strategicplan/). Since NTID's next strategic plan needs to align with the timeline and objectives of the larger strategic plan for RIT, NTID will wait until RIT's revisions are completed. NTID will solicit input from the NTID National Advisory Group, RIT and the Department of Education on the new plan before it is finalized. NTID's *Antiracism and Social Justice Plan* (rit.edu/ntid/diversity/social-justice) will be the institute's primary strategic plan until the new strategic plan is adopted.



RIT's Convocation for New Students welcomed all new Tigers to campus, including 349 NTID-supported students.

Admissions and Enrollment



NTID had 349 total new students for FY 2022 (fall 2021).

Admissions and Enrollment Highlights

Because deafness is a low-incidence disability, with deaf and hard-of-hearing students widely dispersed throughout the nation, recruiting qualified students to NTID always is a challenge.

Traditional recruitment visits were not possible due to the pandemic. Admissions counselors made 284 virtual recruitment visits with schools and individuals during the FY 2021 admissions cycle: 228 visits to schools with deaf and hard-of-hearing students, 54 to schools for the deaf and two to colleges. Videos of presentations were sent to parents, schools and students who could not attend the virtual events. Webinars across a variety of admissions topics (e.g., mini-open house, campus/housing tour, admissions presentation, financial aid, student panel, etc.) were offered 98 times. There was also an innumerable amount of counselor-initiated individualized appointments conducted upon realizing the greater need to connect with students and families beyond formal events coordinated by RIT/NTID Admissions.

The number of new* students entering NTID in fall 2021 was 349. The total included 247 deaf and hard-of-hearing freshmen and transfers, 44 deaf and hard-of-hearing graduate students (16 in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing [MSSE] and 28 in other RIT colleges) and 58 hearing students (46 in the ASL-English Interpretation program and 12 in the MSSE program).

Total enrollment was 1,166 compared to 1,101 for last year. The breakdown of the 1,166 students is as follows:

| | Total |
|---|--------------|
| Undergraduate Programs | |
| Career Exploration Studies | 33 |
| Career-Focused Associate Programs | 193 |
| Associate+Bachelor's Programs and Pre-Baccalaureate | 177 |
| Baccalaureate (ASL-English Interpretation) | 168 |
| Programs in Other RIT Colleges | 455 |
| Subtotal NTID Undergraduate Programs | 1,026 |
| Graduate Programs at RIT | 71 |
| MSSE | 56 |
| MS Health Care Interpretation | 13 |
| Total Enrolled Students | 1,166 |

NTID's student population remains strong in both ethnic and geographic diversity. Minority students represent 48% of this year's fall 2021 entering class, compared to 44% of the total NTID student body. Entering domestic students come from all over the country, with 14% from the West, 29% from the South, 12% from the Midwest and 45% from the Northeast.

In addition, NTID enrolled 9 new international students. The total number of international students is 34, or 3.0% of the entire student population. International students have represented approximately 3 to 4% of the entire student population in the past five years.

In summary, NTID registered 349 new* students and is serving a total of 1,166 students.

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Comparative Admissions Data*

Applications, excluding those to the ASL-English Interpretation or MSSE programs, increased from last year.** The acceptance rate was 72.9% of applications. Registrations were 269, achieving a yield rate of 61.4%.

| | FY 2018 | FY 2019*** | FY 2020 | FY 2021 | FY 2022 |
|--|------------|------------|------------|------------|------------|
| Applicants | 638 | 533 | 575 | 632 | 601 |
| % Increase or Decrease from Previous Year | -17.3% | | +7.9% | +9.9% | -4.9% |
| Accepted Applicants | 435 | 396 | 418 | 458 | 438 |
| % Increase or Decrease from Previous Year | +0.7% | | +5.6% | +9.6% | -4.3% |
| Acceptance Rate (% of Total Applicants) | 68.2% | 74.3% | 72.7% | 72.4% | 72.9% |
| Registrations | 289 | 259 | 247 | 262 | 269 |
| Yield Rate (Registrations as a % of Accepted Applicants) | 66.4% | 65.4% | 59.0% | 57.2% | 61.4% |

* Admissions data capture all activity stewarded by the NTID Admissions Office and include students who are readmitted.

** In the figures on this page, "applicants" and the other categories include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs. These figures exclude non-degree-seeking students.

*** Due to data definition changes by RIT Enrollment Management in FY 2019, the application count has been adjusted to reflect only fully submitted applications.

Summer Vestibule Program

The Summer Vestibule Program (SVP) is an experience that allows new students to engage in career exploration and decision-making, adjust to college life and assess their academic competencies. Students get hands-on experience and information about various academic programs and majors.

SVP includes a Student/Parent Orientation Weekend designed to give participants an

overview of the program and familiarize them with NTID and its place on the RIT campus. Informational seminars, awareness workshops and in-depth orientation programs are offered to facilitate student-parent separation and student transition to the college environment.

There were 155 SVP registrants for summer 2021, and 152 continued on to register for fall semester 2021 (FY 2022).

| | Number of Students* | | | | |
|--|---------------------|---------|---------|---------|---------|
| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| SVP Students Accepted | 253 | 259 | 261 | 269 | 241 |
| SVP Students Registered at Start of Program | 174 | 170 | 151 | 149 | 155 |
| SVP Students Registered in Academic Programs for Fall Term | 172 | 168 | 147 | 145 | 152 |



NTID student staff disinfected moving equipment and helped incoming SVP students feel welcome on campus.

* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

NTID Student Enrollment by Term* (Deaf and Hard-of-Hearing Students Only)

The enrollment reported reflects only deaf and hard-of-hearing students in undergraduate programs on the RIT campus or in graduate programs at other RIT colleges. Not included are students enrolled in the ASL-English Interpretation program (168), deaf, hard-of-hearing or hearing students enrolled in the Master of Science program

in Secondary Education (56), or students enrolled in the Master of Science in Health Care Interpretation (13). In addition, large numbers of hearing, deaf and hard-of-hearing students access a variety of part-time and non-credit-bearing coursework at NTID year round.

| PERIOD COVERED | FALL TERM | | WINTER TERM | | | SPRING TERM | | | SUMMER TERM | | SUMMER VESTIBULE PROGRAM | |
|------------------------|-----------|--------|-------------|---------|---------|-------------|---------|---------|-------------|---------|--------------------------|---------|
| | A | B | A | B | C | A | B | C | A | B | A | B |
| FY 02: Oct. 01-Sep. 02 | 1,151 | +3.41% | 1,056 | +1.05% | -8.25% | 1,007 | -0.98% | -4.64% | 224 | -5.08% | 234 | -3.31% |
| FY 03: Oct. 02-Sep. 03 | 1,122 | -2.52% | 1,027 | -2.75% | -8.47% | 994 | -1.29% | -3.21% | 228 | +1.79% | 195 | -16.67% |
| FY 04: Oct. 03-Sep. 04 | 1,109 | -1.16% | 1,047 | +1.95% | -5.59% | 1,005 | +1.11% | -4.01% | 249 | +9.21% | 168 | -13.85% |
| FY 05: Oct. 04-Sep. 05 | 1,097 | -1.08% | 1,029 | -1.72% | -6.20% | 962 | -4.28% | -6.51% | 222 | -10.84% | 190 | +13.10% |
| FY 06: Oct. 05-Sep. 06 | 1,066 | -2.83% | 988 | -3.98% | -7.32% | 926 | -3.74% | -6.28% | 263 | +18.47% | 219 | +15.26% |
| FY 07: Oct. 06-Sep. 07 | 1,064 | -0.19% | 998 | +1.01% | -6.20% | 963 | +4.00% | -3.51% | 339 | +28.90% | 254 | +15.98% |
| FY 08: Oct. 07-Sep. 08 | 1,154 | +8.46% | 1,099 | +10.12% | -4.77% | 1,040 | +8.00% | -5.37% | 396 | +16.81% | 295 | +16.14% |
| FY 09: Oct. 08-Sep. 09 | 1,260 | +9.19% | 1,216 | +10.65% | -3.49% | 1,155 | +11.06% | -5.02% | 428 | +8.08% | 265 | -10.17% |
| FY 10: Oct. 09-Sep. 10 | 1,275 | +1.20% | 1,166 | -4.11% | -8.55% | 1,170 | +1.90% | +0.34% | 411 | -3.97% | 269 | +1.51% |
| FY 11: Oct. 10-Sep. 11 | 1,303 | +2.20% | 1,213 | +4.03% | -6.91% | 1,211 | +3.50% | -0.16% | 442 | +7.54% | 269 | 0.00% |
| FY 12: Oct. 11-Sep. 12 | 1,323 | +1.53% | 1,211 | -0.16% | -8.47% | 1,103 | -8.92% | -8.92% | 314 | -28.96% | 269 | 0.00% |
| FY 13: Oct. 12-Sep. 13 | 1,306 | -1.28% | 1,168 | -3.55% | -10.57% | 1,082 | -1.90% | -7.36% | 323 | +2.87% | 268 | -0.37% |
| FY 14: Oct. 13-Sep. 14 | 1,237 | -5.28% | * | * | * | 1,118 | +3.33% | -9.62% | 259 | -19.81% | 212 | -20.90% |
| FY 15: Oct. 14-Sep. 15 | 1,197 | -3.23% | * | * | * | 1,054 | -5.72% | -11.95% | 308 | +18.92% | 226 | +6.60% |
| FY 16: Oct. 15-Sep. 16 | 1,220 | +1.92% | * | * | * | 1,072 | +1.71% | -12.13% | 270 | -12.34% | 203 | -10.18% |
| FY 17: Oct. 16-Sep. 17 | 1,122 | -8.03% | * | * | * | 1,002 | -6.53% | -10.70% | 309 | +14.44% | 174 | -14.20% |
| FY 18: Oct. 17-Sep. 18 | 1,081 | -3.65% | * | * | * | 944 | -5.79% | -12.67% | 271 | -12.30% | 170 | -2.30% |
| FY 19: Oct. 18-Sep. 19 | 1,005 | -7.03% | * | * | * | 862 | -8.69% | -14.23% | 247 | -8.86% | 151 | -11.20% |
| FY 20: Oct. 19-Sep. 20 | 943 | -6.17% | * | * | * | 812 | -5.81% | -13.9% | 285 | +13.33% | 148 | -1.99% |
| FY 21: Oct. 20-Sep. 21 | 886 | -6.05% | * | * | * | 807 | -0.62% | -8.92% | 335 | +17.54% | 152 | +2.70% |
| FY 22: Oct. 21-Sep. 22 | 929 | +4.85% | * | * | * | | | | | | | |

NOTES: Column A = Number of student enrollments for the period covered
 Column B = Percent change of enrollment from the same term in previous year
 Column C = Percent change of enrollment from the previous term

* Prior to FY 2014, RIT followed a quarter calendar. Beginning in FY 2014, RIT follows a semester calendar.

Percent of Registered Students with Full-Time Status

On average, 92% of NTID-supported students are registered full time. At RIT, full-time status is defined as taking at least 12 credit hours for undergraduate students and at least nine credit hours for graduate students in a semester.

| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | | |
|---|------------|------------|------------|------------|------------|--------------|--------------|
| | | | | | Percent | Number | |
| | | | | | | Full-Time | Total |
| Career Exploration | 100% | 100% | 100% | 100% | 100% | 33 | 33 |
| Career-Focused and Associate+Bachelor's Degrees | 94% | 96% | 94% | 96% | 97% | 335 | 347 |
| Pre-Baccalaureate | 100% | 100% | 100% | 94% | 91% | 21 | 23 |
| Baccalaureate and Graduate | 93% | 95% | 93% | 93% | 90% | 473 | 526 |
| ASL-English Interpretation | 97% | 97% | 97% | 96% | 98% | 165 | 168 |
| Master of Science in Health Care Interpretation | 33% | 0% | 22% | 9% | 0% | 0 | 13 |
| Master of Science in Secondary Education (MSSE) | 95% | 100% | 91% | 100% | 88% | 49 | 56 |
| Overall | 94% | 95% | 94% | 94% | 92% | 1,076 | 1,166 |

International Student Recruitment*

This year, applications from international students numbered 63 and, of those, 22 were accepted and five registered. Canadian students used to represent the largest contingent of international students, but many of them continue to experience a lack of funding resources, which discourages a number of prospective students from applying or prevents many of those accepted from being able to attend NTID. Students from developing countries

also encounter financial difficulties, and NTID has limited scholarship dollars to assist them. However, per the Education of the Deaf Act, international students pay differing tuition rates, depending on whether they are from a developing or developed country. Until the situation in Canada changes, and until NTID obtains additional private scholarship funds, enrollment of international students will continue to be a challenge.

| Applicant Continent of Origin | Number of Students** | | | | |
|---|----------------------|-----------|-----------|-----------|-----------|
| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| Africa | 16 | 16 | 16 | 19 | 24 |
| Asia | 11 | 15 | 24 | 13 | 23 |
| Australia/Oceania | 1 | 0 | 0 | 0 | 0 |
| Europe | 2 | 4 | 2 | 4 | 6 |
| North America | 21 | 14 | 13 | 2 | 9 |
| South America | 0 | 1 | 0 | 1 | 1 |
| Unknown | 0 | 0 | 0 | 0 | 0 |
| Total Applicants | 51 | 50 | 55 | 39 | 63 |
| Accepted Applicants | 13 | 19 | 22 | 9 | 22 |
| Acceptance Rate (Percent of Total Applicants) | 25% | 38% | 40% | 23% | 35% |
| New Registrations | 11 | 15 | 4 | 6 | 5 |
| Yield Rate (New Registrations as a Percent of Accepted Applicants) | 85% | 79% | 18% | 67% | 23% |
| Returning International Students | 32 | 34 | 39 | 25 | 25 |
| Total Enrollment (Returning International Students plus New Registrations) | 43 | 49 | 43 | 31 | 30 |

* Data capture all activity stewarded by the NTID Admissions office and include students who are readmitted.

** Figures reported do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs. These figures exclude non-degree-seeking students.

Demographic Characteristics of All New Students

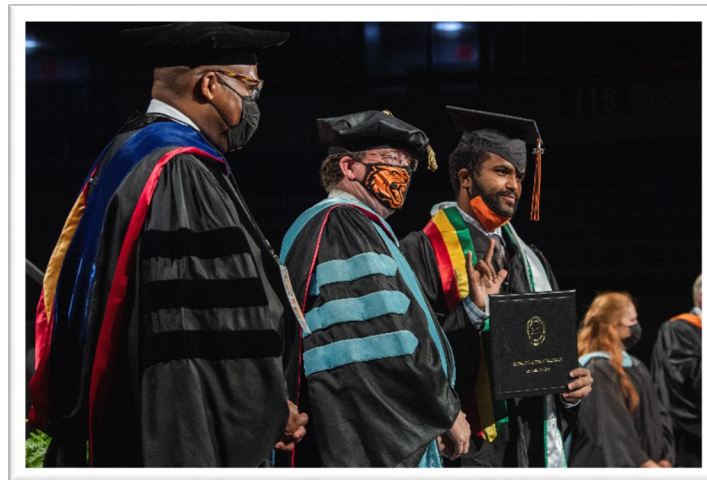
The demographic profile of new students in FY 2022 remains consistent with the previous year's profile.*

| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|---------|---------|
| Characteristics of Entering Students | | | | | |
| Gender | | | | | |
| Male | 63% | 55% | 50% | 51% | 52% |
| Female | 37% | 45% | 50% | 49% | 48% |
| Mean Age at Entry | | | | | |
| | 21 | 20 | 21 | 20 | 21 |
| Origin of Entering Students | | | | | |
| United States by Region: 100% of U.S. students distributed across four regions | | | | | |
| West | 18% | 17% | 17% | 16% | 14% |
| Midwest | 24% | 14% | 12% | 21% | 12% |
| South | 19% | 26% | 27% | 23% | 29% |
| Northeast | 39% | 43% | 44% | 40% | 45% |
| Distribution of United States and International Students | | | | | |
| United States | 96% | 94% | 98% | 98% | 98% |
| International | 4% | 6% | 2% | 2% | 2% |
| School Background of Entering Students | | | | | |
| First Time in College | 77% | 84% | 80% | 80% | 81% |
| Transfer from Other Colleges | 13% | 12% | 13% | 9% | 8% |
| Graduate Students | 10% | 4% | 7% | 11% | 10% |

* Figures reported include deaf and hard-of-hearing international students, but do not include admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs. New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

Demographic Characteristics of Enrolled International Students Compared to Enrolled U.S. Students

| | FY 2022* | | |
|--|---------------|------|---------|
| | International | U.S. | Overall |
| Demographics | | | |
| Gender | | | |
| Male | 86% | 52% | 53% |
| Female | 14% | 48% | 47% |
| Entry Scores | | | |
| ACT Composite Score | 17.8 | 20.7 | 20.6 |
| Program Area | | | |
| Career Exploration | 0% | 13% | 13% |
| Career-Focused Associate Degrees | 14% | 25% | 25% |
| Associate+Bachelor's Degrees | 24% | 27% | 27% |
| Programs in Other RIT Colleges | 62% | 35% | 35% |
| FY 2022 Status of Students Enrolled FY 2021 | | | |
| Still Registered | 74% | 69% | 70% |
| Withdrawn | 16% | 17% | 17% |
| Graduated | 10% | 14% | 13% |



Biruk Gizaw, from Ethiopia, graduated in 2021 with an associate degree in Business Technology.

* Undergraduate students only. Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic Programs.

ACT Information on New Students (Deaf and Hard-of-Hearing Students Only)

Beginning in 1969, the Stanford Achievement Test was used to evaluate educational achievement for admission to NTID. In 1996, the decision was made to replace the Stanford Achievement Test with the American College Test (ACT). In today's college admissions process, the College Board SAT and ACT tests are used equally for decisions based on a concordance chart. Beginning with the fall 2021 admissions term and beyond, RIT is test optional. Presented below are the mean scores for the ACT based on that concordance.

| American College Test (ACT)* | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|------------------------------|---------|---------|---------|---------|---------|
| ACT English | 16.3 | 15.6 | 16.3 | 16.9 | 16.0 |
| ACT Reading | 18.8 | 18.9 | 19.8 | 20.2 | 19.3 |
| ACT Mathematics | 19.1 | 18.6 | 18.9 | 18.7 | 18.1 |
| ACT Science Reasoning | 19.8 | 19.4 | 20.1 | 20.2 | 19.3 |
| ACT Composite | 19.4 | 19.5 | 19.9 | 20.5 | 20.4 |



Dr. Janine Butler, assistant professor of NTID's Department of Liberal Studies, teaches Writing Seminar to students in the classroom and remote students via Zoom.

* Scores reported include deaf and hard-of-hearing undergraduate students, except for students in the ASL-English Interpretation program. Specific data on ASL-English Interpretation, the Master of Science program in Health Care Interpretation and MSSE students is reported in the section on Academic Programs.

Academic Skills of New Students

NTID students directly admitted to one of RIT's other colleges have a mean ACT composite score of 26.5, and represent 36.8% of NTID's entering class of 2021. The mean ACT composite score for students entering associate+bachelor's programs is 18.7, and represents 25.6% of NTID's entering class. The mean ACT composite score for students entering career-focused associate programs is 15.1, and represents 24.8% of NTID's entering class. Lastly, the mean ACT composite score for students entering career-exploration programs is 13.3, and represents 12.8% of NTID's entering

class. The average ACT composite score of 20.3 for all entering students is in the range achieved by students entering four-year schools with open admissions standards and many community colleges. By any measure, the majority of these students would not be admissible to the other colleges of RIT, yet many deaf and hard-of-hearing students graduating from baccalaureate/master's programs throughout RIT came through NTID first, which means they graduated in spite of the fact that their entering ACT scores were in the 15-19 range.

| Degree Level | Percentage of Deaf and Hard-of-Hearing Students by Degree Level | ACT Composite Mean |
|---|--|---------------------------|
| Programs in Other RIT Colleges | 36.8% | 26.5 |
| NTID | | |
| Associate+Bachelor's Programs | 25.6% | 18.7 |
| Career-Focused Associate Programs | 24.8% | 15.1 |
| Career Exploration | 12.8% | 13.3 |
| Total* | 100% | |
| Average Score of All New Students* | | 20.4 |

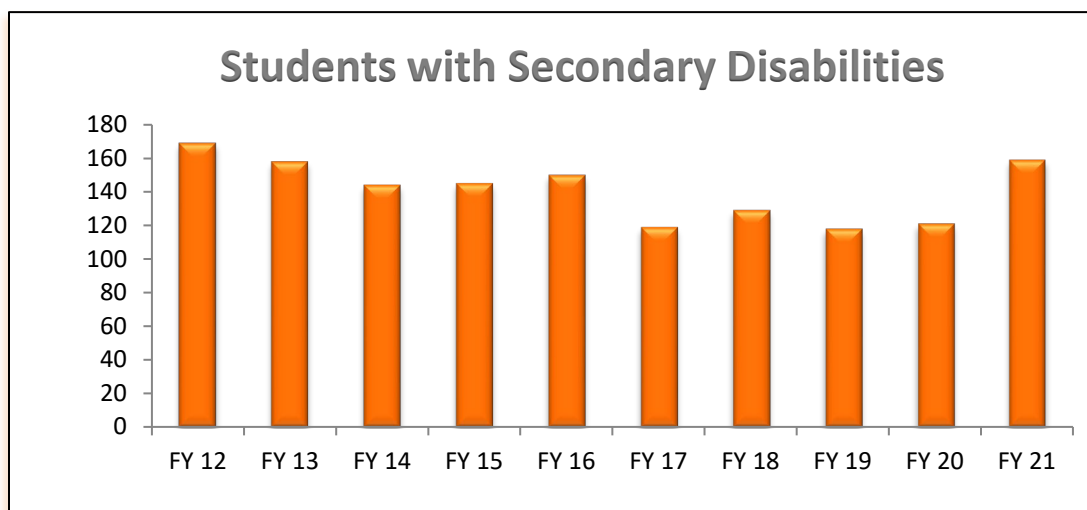
* Includes only undergraduate students. Does not include students enrolled in the ASL-English Interpretation program.

Students with Secondary Disabilities

NTID is working with significantly increased numbers of students with disabilities in addition to deafness. The table shows the number and percent of NTID-supported undergraduate students eligible to receive services from the RIT Disability Services Office, which serves students “with physical or mental impairments that limit one or more major life activities.” FY 2022 totals will be reported next year, as activity regarding the accommodations of students with secondary disabilities is captured over the full academic year. NTID works directly with the RIT Disability Services Office to accommodate

these students through services such as notetaking and extended time to complete assignments. Their services ensure equal access to education based upon legal foundations established by federal law—the Rehabilitation Act of 1973, including Section 504, and the Americans with Disabilities Act of 1990. NTID has a committee of faculty and staff that focuses on the accommodation of deaf and hard-of-hearing students specifically with visual disabilities, a population that is increasing.

| Number and Percent of Students Receiving Secondary Disability Services | | | |
|--|----------------------|--------------------------------------|---------|
| Fiscal Year | Total Deaf Students* | Students with Secondary Disabilities | Percent |
| 2012 | 1,281 | 169 | 13% |
| 2013 | 1,269 | 158 | 12% |
| 2014 | 1,195 | 144 | 12% |
| 2015 | 1,153 | 145 | 13% |
| 2016 | 1,167 | 150 | 13% |
| 2017 | 1,078 | 119 | 11% |
| 2018 | 1,025 | 129 | 13% |
| 2019 | 954 | 118 | 12% |
| 2020 | 883 | 121 | 14% |
| 2021 | 820 | 159 | 19% |



* This figure includes all undergraduate deaf and hard-of-hearing students.

Origin of Students

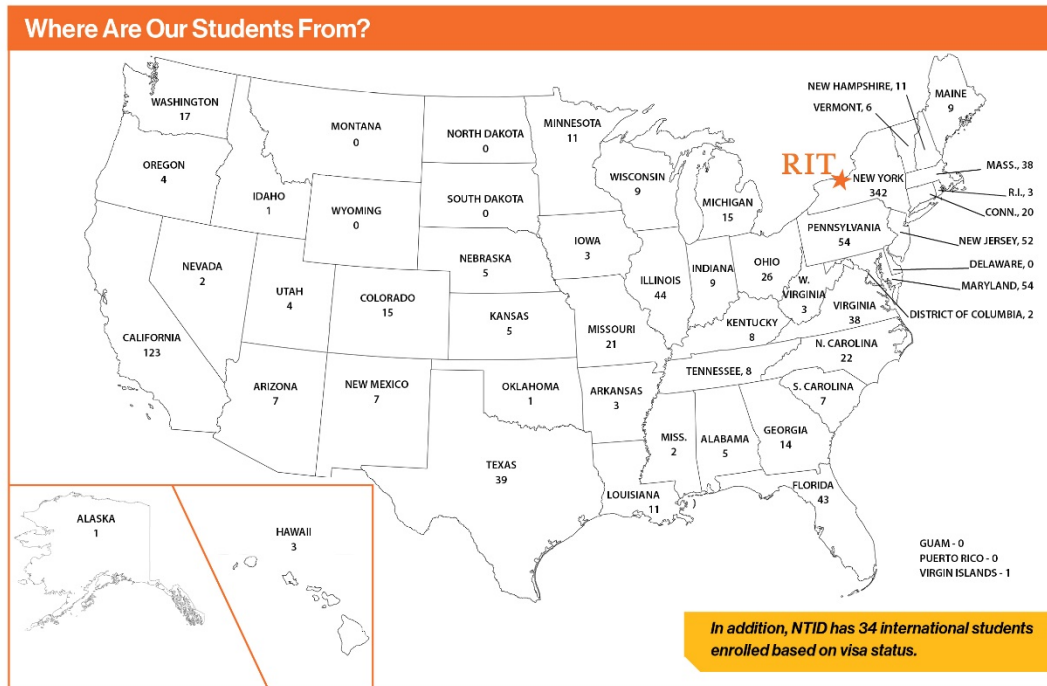
NTID students enrolled as of fall 2021 come from 45 states. A total of 17 countries are represented among current international students.

Since NTID began accepting students, NTID has had students from more than 50 countries and all 50 states.

| Home State or U.S. Territory (Domestic Students) | Number in Student Body FY 2022 |
|--|--------------------------------------|
| Alabama | 5 |
| Alaska | 1 |
| Arizona | 7 |
| Arkansas | 3 |
| California | 123 |
| Colorado | 15 |
| Connecticut | 20 |
| Delaware | 0 |
| District of Columbia | 2 |
| Florida | 43 |
| Georgia | 14 |
| Guam | 0 |
| Hawaii | 3 |
| Idaho | 1 |
| Illinois | 44 |
| Indiana | 9 |
| Iowa | 3 |
| Kansas | 5 |
| Kentucky | 8 |
| Louisiana | 11 |
| Maine | 9 |
| Maryland | 54 |
| Massachusetts | 38 |
| Michigan | 15 |
| Minnesota | 11 |
| Mississippi | 2 |
| Missouri | 21 |
| Montana | 0 |
| Nebraska | 5 |
| Nevada | 2 |
| New Hampshire | 11 |
| New Jersey | 52 |
| New Mexico | 7 |
| New York | 342 |
| North Carolina | 22 |
| North Dakota | 0 |
| Ohio | 26 |
| Oklahoma | 1 |

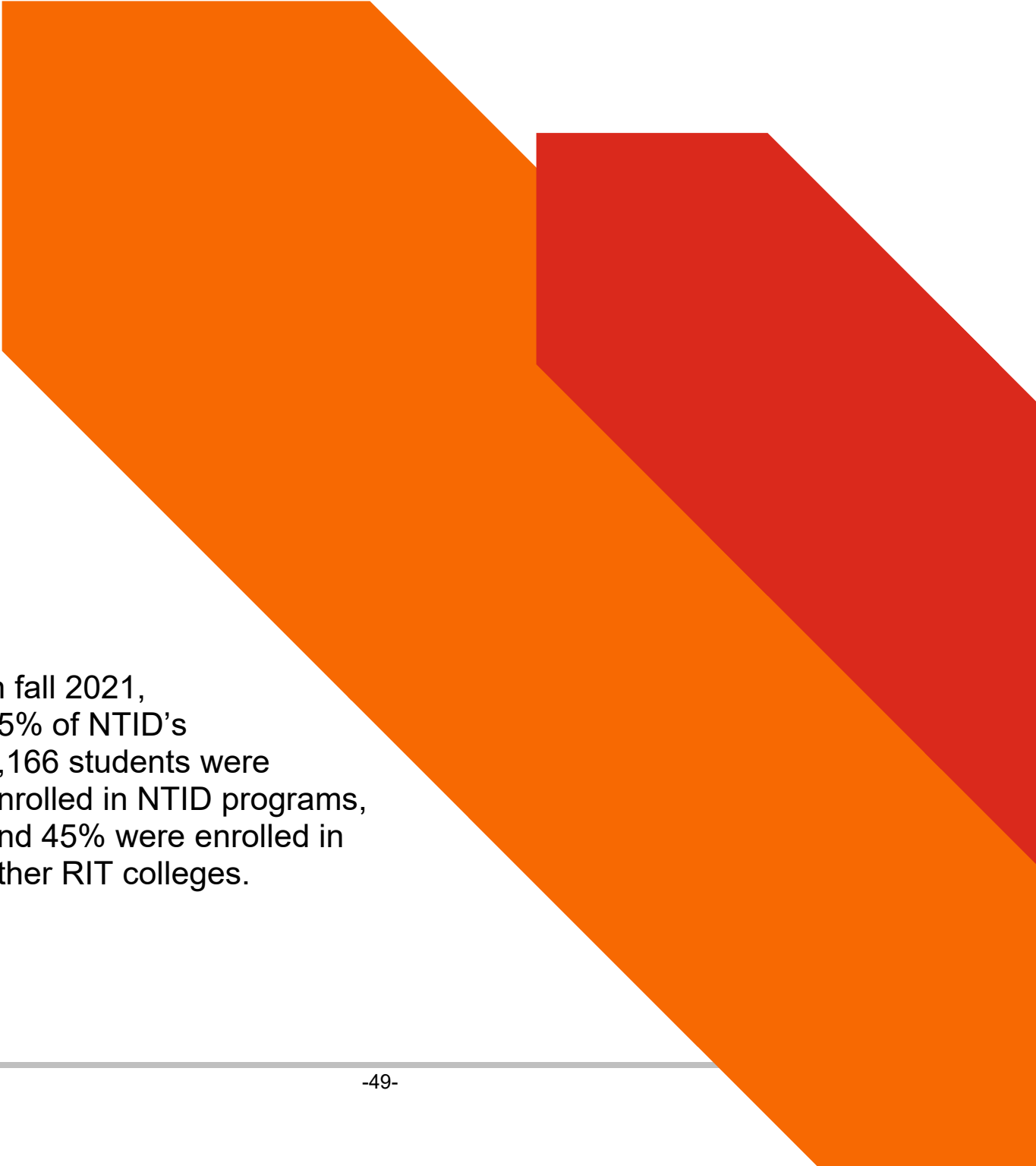
Origin of Students (continued)

| Home State or U.S. Territory (Domestic Students) | Number in Student Body FY 2022 |
|--|--------------------------------|
| Oregon | 4 |
| Pennsylvania | 54 |
| Puerto Rico | 0 |
| Rhode Island | 3 |
| South Carolina | 7 |
| South Dakota | 0 |
| Tennessee | 8 |
| Texas | 39 |
| Utah | 4 |
| Vermont | 6 |
| Virgin Islands | 1 |
| Virginia | 38 |
| Washington | 17 |
| West Virginia | 3 |
| Wisconsin | 9 |
| Wyoming | 0 |
| Other* | 4 |
| Subtotal | 1,132 |
| International | 34 |
| Total | 1,166 |



* U.S. citizens living in other countries.

Academic Programs



In fall 2021,
55% of NTID's
1,166 students were
enrolled in NTID programs,
and 45% were enrolled in
other RIT colleges.

Academic Program Highlights

Efforts to revise, update and add to the NTID curriculum continued during AY 2020-2021. Most notably, the New York State Education Department (NYSED) green-lit the proposal for the Bachelor of Science in Community Development and Inclusive Leadership (LEAD-BS). Students currently are being recruited for this new degree program and will begin their studies in fall 2022. Two RIT general education immersions (Deaf Leadership and Diversity, Inclusion and Dialogue) that are based on LEAD-BS courses have also been approved and will be available for student enrollment beginning in fall 2022. Immersions are three-course general education requirements for students in all RIT bachelor's degree programs, so these NTID-based offerings will allow the LEAD-BS program to reach an even wider audience. Applications to develop full LEAD-based academic minors are currently under development.

NYSED also approved the distance-learning applications for two existing programs, the Associate in Applied Science (AAS) in Business Administration and the Master of Science in Secondary Education of Students who Are Deaf or Hard of Hearing (MSSE). Students will officially be admitted to the online version of the business administration program beginning in spring 2022. Leading his program's efforts to offer online delivery, MSSE program chair Patrick Graham has also reworked the order in which students undertake coursework to earn this master's degree, spreading courses across five academic terms to include the summer between the first and second years of the program. The summer courses will have in-person components so that MSSE students, regardless of whether they are enrolled in person or online, will have an opportunity to meet on the Rochester campus to build their cohort community. All MSSE students will continue to undertake the student-teaching requirement in person wherever they are placed.

NTID's BS in ASL-English Interpretation was also updated during AY 2020-2021. In response to RIT President Munson's expectations that all bachelor degree programs include a total of 12 credits of open electives, the faculty of the NTID Department of American Sign Language and Interpreting Education (ASLIE) took the opportunity to revisit the overall structure of their program. To accommodate the open electives, two courses were removed (with content spread through other courses in the program), one professional elective requirement was eliminated and the practicum and seminar coursework was enhanced and expanded with a close eye to ensuring continued compliance with accreditation requirements. In fact, the program's accreditation review with the Commission on Collegiate Interpreter Education (CCIE) occurred at the same time as the program was being updated, which allowed for a real-time review by CCIE representatives of the proposed modifications.

A number of new degree programs continue to be developed. The BS in Internet of Things System Technologies (originally proposed as the BS in Applied Internet of Things) has undergone favorable university curriculum committee review, but is currently on hold pending the hiring of new faculty per NYSED requirements. Also under development are the AAS in Geospatial Technology, the AAS in Applied Engineering Technology and the AAS in Precision Manufacturing Technology. Each of these AAS degree programs are intended to provide students in the NTID Department of Engineering Studies with pathways into Bachelor of Science programs offered by the Kate Gleason College of Engineering and the College of Engineering Technology.

Strategic Decisions 2020 Enrollment Targets

The enrollment targets set in *Strategic Decisions 2020* were: 35% career-focused programs, 20% associate+bachelor's degree programs and 45% baccalaureate/master's programs. At the beginning of AY 2021-2022, the enrollment percentages for deaf and hard-of-hearing undergraduates were 24% career-focused, 19% associate+bachelor's degree programs and 57% baccalaureate/master's programs. *Strategic Decisions 2020* has established the objective of developing a network of high schools and community colleges to create pathways to postsecondary education. The goal is to strengthen the preparation of deaf and hard-of-hearing students entering college and reduce the amount of developmental education that NTID must offer, resulting in higher enrollment at the baccalaureate level.

First Year Experience/Career Exploration Studies and Summer Vestibule Program

First Year Experience (FYE) programming is designed to maximize first-year student success and persistence. Beginning with NTID's Summer Vestibule Program (SVP)/Orientation experience, FYE

Academic Program Highlights (continued)

provides an array of courses and co-curricular programs, as well as personal/academic counseling designed to help students successfully complete their first year of college. This past summer, 155 students attended SVP and participated in a variety of activities prior to their arrival on campus in August, including placement tests/assessments, Zoom meetings with their department chairperson and assigned Counselor/Academic Advisors (CAA's). Once on campus, students participated in a variety of in-person programming within the larger RIT Orientation framework. The Career Exploration Studies program (CES), which is also housed within FYE, allows students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2020-2021, CES served 25 students in the fall and 17 students in the spring; all students served who applied to a major were accepted within two semesters.

Career-Focused Associate Degrees

At the beginning of AY 2021-2022, there were 223 deaf and hard-of-hearing students enrolled in career-focused programs, including students enrolled in Associate in Occupational Studies (AOS) and non-associate+bachelor's AAS degrees as well as students in Career Exploration Studies.

The Business Studies department continues to maintain steady enrollment in the AOS, AAS and Associate in Science (AS) Business programs. Seven students completed cooperative work experiences in AY 2020-2021. The AAS in Business Administration, which accepted its second cohort this year, is housed within this department.

The Department of Engineering Studies' (DES) career-focused programs, Architecture and Civil Drafting Technology (ACDT) and Precision Manufacturing Technology (PMT), are in their second cohort. The current enrollment of both programs, including those who matriculated in AY 2019-2020, AY 2020-2021 and AY 2021-2022, is 25 (ACDT) and 26 (PMT).

In AY 2020-2021, the Department of Information and Computing Studies saw the third cohort of the Mobile Application Development program apply and be accepted into the Web and Mobile Computing baccalaureate program at RIT. During fall 2020, they worked on capstone projects with external organizations such as Baby Fingers, Hands & Voices and Walking for Rochester. All of those organizations are non-profit organizations in the Washington, DC, Chicago and Rochester areas; students have the opportunity to design, develop and test apps for Android and iOS. As a result, apps for each organization were completed and published in the App Store and Google Play. Additionally, students in the Mobile App Development program recently completed co-op work in summer 2021, accepting positions at LTD Services, DonutWind LLC and SmartPillow.

The Applied Computer Technology AOS and AAS programs are also successful. Students in this program typically are placed in co-op and full-time positions performing functions related to technical support and network security. In spring 2020, the CompTIA A+ certification course was offered to both students and alumni and resulted in seven students passing the first of two core exams for the CompTIA A+ certification. Our efforts will continue with students and alumni to ensure success in acquiring certification by passing the second core exam. The CompTIA A+ certification is the industry standard for establishing a career in IT; this offering will support students' readiness to enter the workforce. Students in the Applied Computer Technology program secured and completed co-op work at companies such as Maven Technologies, Ohio Health, LTD Services, Commonwealth of Pennsylvania and MITRE.

The Department of Liberal Studies (DLS) successfully transitioned most of its online courses back to in-person instruction in September 2021. From our experience with the pandemic, we are now able to provide one online course for courses with multiple sections. DLS was not able to send any students abroad to study the lives and culture of deaf communities overseas because of COVID-19-related travel restrictions. During fall 2021, two developmental English courses also were set aside for a select group of first-year students in a pilot program. This program focused on providing this group with college readiness skills, both academic and personal. This year was the second instance of the program, with 2020 being the first. In July 2021, DLS acquired two faculty from the now-closed Cultural and Creative Studies

Academic Program Highlights (continued)

department and all relevant courses. DLS now has a Deaf Studies Certificate program. In addition, DLS offers Dialogues in Diversity and Deaf Leadership immersions for RIT and NTID students.

Although the COVID-19 pandemic has had a major impact on how the Department of Science and Mathematics' instructors and students interact, the one aspect of the Laboratory Science Technology (LST) program that did not change was the hands-on nature of our laboratory course experiences. In order to ensure that our students gained the meaningful skills and techniques that are expected of them in the professional workplace, we held all laboratory activities in person and did not make any substitutions through the use of virtual experiments. As a result, our students performed well on their summer 2021 co-op activities, most of which were held in person at the location of the internship. Our students completed this degree requirement in summer research programs held at James Madison University, the University of Tennessee at Knoxville, Coastal Carolina University, North Carolina State University and also at RIT. Of the students who undertook their research experience on our own campus, this work was performed within our department's NSF-supported Research Experiences for Undergraduates (REU) program.

Given the need to provide some material online while COVID-related restrictions were in effect for our classrooms, faculty have spent a considerable amount of time developing online instructional resources to use with students immediately and in the future. Libraries of lecture content have been prepared for Laboratory Tools, Principles of Biochemistry and Biotechnology I. These materials demonstrate the pedagogical concepts that were outlined in a peer-reviewed article, co-authored by the department's chemistry faculty, and that appeared in the peer-reviewed journal article "Successes and Challenges in Teaching Chemistry to Deaf and Hard-of-Hearing Students in the Time of COVID-19" that appeared in the *Journal of Chemical Education* in late 2020. These materials were not only beneficial for students while lecture sessions were held remotely during the pandemic, but they will also be useful in the future as materials that students can use outside of class to review course content.

Two visiting faculty members have joined the LST program as part of the NTID Future Faculty (NFF) mentoring program. Both instructors are deaf, fluent in American Sign Language and hold doctoral degrees in their areas of specialty: one in biochemistry from The Ohio State University and the other in pharmacy from the Massachusetts College of Pharmacy and Health Sciences. With a team of NFF and LST program mentors, these faculty members have an opportunity to understand and prepare for all of the responsibilities of a regular faculty work plan through co-teaching and mentored research opportunities. Further, these instructors serve as important role models for our incoming undergraduate students in terms of how successful deaf and hard-of-hearing scientists can be.

The Department of Visual Communications Studies (VCS) offered two- and three-dimensional design and production courses in two programs, Design & Imaging Technology (DIT) and 3D Graphics Technology (3DGT). The department enrolled 22% of the SVP population into its programs. Thirty-three applicants were accepted as first-year VCS students. Nineteen began studies in AAS programs, and 14 began in the AOS program. Three of the AAS students enrolled in the pre-bachelor's two-semester sequence of courses (PBCOMM) designed to prepare them for application to a College of Art & Design (CAD) BFA program.

Seventeen students completed their program requirements. Ten AAS and seven AOS degrees were awarded. VCS faculty are continuing to revise the curriculum. They are continuing to develop a new Media Concentration in DIT and have initiated establishing certificate programs in 3D Printing Production and Specialty Graphics Production, as well as continuing their evaluation of a potential bachelor's degree program.

Associate+Bachelor's Degrees

A key feature of NTID's educational portfolio are the transfer associate, or associate+bachelor's (A+B), degrees that provide a seamless transition to RIT baccalaureate programs. They have been very successful, particularly in terms of growth, graduation at the associate level, transfer to a bachelor's program in one of RIT's other colleges and subsequent graduation at the baccalaureate level.

Academic Program Highlights (continued)

At the beginning of the 2021-2022 academic year, 177 students were enrolled in A+B degree and pre-baccalaureate programs. This number has steadily increased as the number of such programs is expanded, new articulation agreements are added and the programs are marketed as precursors to RIT baccalaureate programs.

In the Business Studies department, the A+B degree programs continue to successfully graduate students who are accepted into RIT's Saunders College of Business. The Administrative Support Technology and Accounting Technology programs continue to experience success with students transferring to and graduating from RIT's School of Individualized Study (SOIS). Four students were accepted to SOIS during AY 2020-2021. Current department numbers show 60% of students are in AS and BS degree programs and 40% are in AOS/AAS degree programs.

The Department of Engineering Studies (DES) has two A+B degree programs: Applied Mechanical Technology (AMT) and Civil Technology. New student enrollments for fall 2020 and 2021 increased significantly for AMT but not for Civil Technology. The AMT articulation agreement with RIT's College of Engineering Technology was modified during AY 2018-2019 by expanding to include Mechanical, Robotics & Manufacturing Engineering Technologies, including the electro-mechanical engineering technology program. The second cohort in the new AMT program is currently underway, and we should see results by the next academic cycle.

In addition to the current programs, the department has proposed several new degree programs that are now undergoing review at the college and university level, which is the next phase in curriculum development set by the RIT Office of the Provost. The first program is the AAS degree program in Precision Manufacturing Technology (PMT), which is modeled on the current PMT-AOS program at NTID and designed to prepare deaf and hard-of-hearing students for employment in precision manufacturing technology industries. This program will comprise 76 total credits, of which 52 are technical credits, including six credits of technical electives and 24 liberal arts and science credits. The curriculum development is about 85% completed, and significant modifications were made during the suspension of the COVID-19 pandemic due to university-wide curriculum modifications and new expectations from PMT faculty members.

The second new program is the AAS in Applied Engineering Technology (AET) program, which is designed to prepare deaf and hard-of-hearing students who are close to, but not fully ready for, entry into a baccalaureate-level program in engineering technology. This pathway includes completing most of the coursework taken during the first two years of a BS program in RIT's College of Engineering Technology (CET). It is a bridge program for qualified students who are accepted based on academic transcripts, scores on admissions tests and other evidence that supports a reasonable expectation of success in baccalaureate coursework. The curriculum development is about 65% completed, and significant modifications were made during the suspension of the COVID-19 pandemic due to university-wide curriculum modifications and new expectations from DES faculty and staff members.

Depending on the intended baccalaureate program, the AAS in Applied Engineering Technology program consists of 63 semester credit hours for packaging science, or 64 for computer engineering technology and electrical engineering technology. Those credit hours are earned over four semesters. Thirty of those credit hours are liberal arts and sciences (LAS), including Critical Reading and Writing, and two NTID mathematics courses taken as LAS electives, Writing Seminar, five LAS perspectives (artistic, ethical, global, social and scientific principles) and calculus. The remaining 33-34 credit hours include three for a fundamentals of engineering course taken at NTID, three for an NTID course on computing tools for engineering technology or four of chemistry (depending on the intended BS), and 26-28 credit hours of coursework chosen from the first two years of the anticipated CET BS program. The latter credit hours will include six mathematics, seven or eight science and 13-14 hours offered by the intended BS program's department.

The delivery of almost all of the DES courses was modified significantly from in-person instruction to hybrid or fully online instruction in response to the COVID-19 pandemic. This process helped illuminate

Academic Program Highlights (continued)

which courses can be easily adapted for online instructional modalities, enabling the department to prepare for alternative methods of delivery.

The Information and Computing Studies (ICS) department offers A+B opportunities in Human-Centered Computing, Computing and Information Technologies and Web and Mobile Computing. In the summer of 2021, students that came from one of these programs and moved into the BS program received co-op opportunities at Microsoft, PNC Financial Services, RIT/NTID Technical and Information Support and Ohio Health. Students continue to take advantage of the opportunities afforded by these programs in order to find full-time employment after graduation.

The Department of Liberal Studies' AS in Applied Liberal Arts (APPLA-AS) remains one of the largest A+B degree programs. In the 12th year of the program, APPLA-AS graduates continue to be accepted into RIT's College of Liberal Arts majors. The initial student cohorts have graduated with baccalaureate degrees and have successfully entered the workforce or continued on to graduate studies.

The Department of Science and Mathematics' AS in General Science program celebrated its largest graduating class yet with five students earning associate degrees across a range of concentration areas. Alumni from this cohort have gone on to enter RIT programs in biomedical sciences, biology, echocardiography and exercise science. Given curriculum modifications made to various RIT baccalaureate programs in the life sciences, the articulation agreements from the AAS in Laboratory Science Technology and AS in General Science programs were updated to ensure a smooth transition for our programs' graduates.

Alumni of degree programs and students supported by our RIT College of Science (COS) and College of Health Sciences and Technology (CHST) support area collaborated on a COS-led investigation on how to provide meaningful ASL signs for concepts in organic chemistry with the goal of reducing the barrier imposed by the scientific jargon found in this gatekept subject. The results of this project are described in detail in the peer-reviewed journal article, "Sign Language Incorporation in Chemistry Education (SLICE): Building a Lexicon to Support the Understanding of Organic Chemistry" that appeared in the *Journal of Chemical Education* in February 2021. The signs that were developed can be found on the RIT/NTID ASLCORE website (aslcore.org/organicchemistry/). A significant finding in this project was a considerable improvement in the final grades of deaf and hard-of-hearing students who rely on ASL only when these signs were used in deaf-only course workshops that included a veteran organic chemistry interpreter.

The Department of Visual Communications Studies' AAS 3D Graphics Technology (3DGT) program includes an articulation agreement with the 3D Digital Design (3DDD) BFA program in RIT's College of Art and Design (CAD). There is also a long history of students successfully making the transition from the NTID VCS Design & Imaging Technology AAS degree program into a CAD BFA or BS program outside of formal A+B degrees.

American Sign Language and Interpreting Education (ASLIE)

American Sign Language and Interpreting Education (ASLIE) offers several programs: BS in ASL-English Interpretation, MS in Health Care Interpreting, Certificate in Healthcare Interpreting, Certificate in Educational Interpreting, NTID ASL and NTID New Signers Program. ASLIE faculty also teach the Modern Languages & Cultures department's ASL courses offered through RIT's College of Liberal Arts, several courses in NTID's MS in Secondary Education program, ASL courses offered through the NTID Department of Liberal Studies and courses offered by NTID's ASL Training and Evaluation department. ASLIE has 18 faculty, four staff, two tutors and at least 10 adjuncts. ASLIE has taught at least 1,028 RIT and NTID students.

BS in ASL-English Interpretation Program

The BS in ASL-English Interpretation (BSI) program enrolled 48 new students in fall 2021, bringing the total number of students from 170 in fall 2020 to 168.

Academic Program Highlights (continued)

Total number of students enrolled in our program in AY 2021-2022:

| AY 2020-2021 | Enrollment |
|--------------|------------|
| Year One | 27 |
| Year Two | 25 |
| Year Three | 40 |
| Year Four | 76 |
| Total | 168 |

Thirty students graduated with a BSI degree in AY 2020-2021. According to senior satisfaction survey results, 95% of the 19 respondents were satisfied with what they learned in the program. The mentor survey was conducted to ascertain these constituents' perceptions of graduates and students. The results of these surveys informed curricular review. Our program received accreditation from the Commission on Collegiate Interpreter Education (CCIE), joining 15 other accredited bachelor's degree programs nationwide. In order to obtain accreditation, we implemented some curricular changes to satisfy CCIE standards. For example, we increased the number of practicum field hours students are required to satisfy before graduation; the increase in field hours necessitated increasing the number of credit hours for Practicum II. The BSI program continues to seek stakeholder input through the ASLIE Advisory Group, which meets with BSI program faculty semiannually.

ASLIE offered the following ASL courses in the BSI program: ASL II, Foundations of ASL, ASL IV and ASL VI during the fall semester; and ASL III, ASL V and ASL VII during the spring semester.

In addition to the program courses that are required for graduation, BSI students can take a variety of specialized elective courses that enhance their skill set and may provide a competitive edge when seeking employment. Some of these courses include Interpreting Frozen & Literary Texts, Introduction to Working with the Deaf Blind Community, Introduction to K-12 Interpreting, Educational Interpreting: Elementary Settings, Educational Interpreting: Middle/Secondary Settings, Educational Interpreting: Post-Secondary Settings, Introduction to Cued American English, Healthcare Interpreting, Mental Health Interpreting, Introduction to Legal Interpreting, Community Interpreting, Introduction to VRS/VRI Interpreting and Interpreting in Research Settings.

The BSI program once again partnered with Sorenson Video Relay Service, an industry leader. Sorenson offers a Synergy program which allows students to observe working interpreters in the Rochester, New York call center. The Synergy program adapted to the COVID-19 pandemic by offering students the opportunity to practice mock VRS phone calls with Deaf and hearing consumers. Sorenson also offered students workshops on a variety of topics: Avoiding English Intrusions, Show vs. Tell, Classifiers, Use of Space, VRS Q & A and Breaking from Form.

Students in the BSI program provided volunteer interpreting services to the Rochester community as a way to satisfy practicum requirements and earn valuable interpreting experience. The practicum coordinator screens such requests for appropriateness.

Summer Enrichment Courses

The unexpected shift from face-to-face instruction to online instruction due to the COVID-19 pandemic has significantly impacted our BS in ASL-English Interpretation student performance. We have seen a significant increase in the number of academic alerts and students taking leaves of absence, as well as an increasing number of faculty reporting concerns about students' performance in their BSI courses.

Academic Program Highlights (continued)

With funding provided by the NTID administration for our COVID-19 Relief Proposal, we offered three 10-week summer enrichment courses: one section of ASL III Enrichment, three sections of ASL V Enrichment and two sections of ASL VII/Interpreting II Enrichment. Both students who took these courses and their instructors agree that the summer enrichment courses improved students' ASL and interpreting skills.

| FY 2020-2021 Summer Enrichment Courses | Enrollment |
|---|-------------------|
| ASL III Enrichment Course (one section) | 11 |
| ASL V Enrichment Course (three sections) | 26 |
| ASL VII & Interpreting Course (two sections) | 11 |
| Total | 48 |

MS In Health Care Interpretation Program

ASLIE's MS in Health Care Interpretation program enrolled six students in the sixth cohort beginning summer 2021. For AY 2021-2022, the total enrollment is 13. The aim of this program is to address the national shortage of sign language interpreters who are prepared to work in healthcare settings. The goals of the program are to prepare graduates to effectively interpret for deaf consumers (patients and family members) in healthcare environments, effectively interpret for deaf health professionals in academic and clinical settings and demonstrate administrative skills enabling them to analyze, conduct and consult on the effective and efficient provision of interpreting services in health care institutions.

Certificate in Healthcare Interpreting Program

The Certificate in Healthcare Interpreting (CHI) program is in its 11th year. Taught exclusively online, the nine-month program accepted 24 students this year. The feedback from program graduates is overwhelmingly favorable and has led to NTID being viewed as a national leader in the field of healthcare interpreting.

Certificate in Educational Interpreting Program

ASLIE is launching the Certificate in Educational Interpreting (CEI) program in fall 2021. The program will be delivered exclusively online. The nine-month program will be accepting up to 15 students in its inaugural year. The program will use pre- and post-certificate surveys to gather feedback.

Modern Languages & Cultures Department's ASL Courses

ASLIE's ASL program offers RIT's College of Liberal Arts (CLA) Modern Languages & Cultures (MLC) Department's ASL courses: Beginning ASL I and II, Intermediate ASL I and II and Advanced ASL I and II for RIT students who want to take ASL as an elective or to fulfill their liberal arts immersion and minor. An ASL immersion comprises any three courses from ASL and Deaf Cultural Studies. In AY 2020-2021, the MLC program had an enrollment of 263 students in the fall semester, and 174 students in the spring semester. During the summer, ASLIE offered Beginning ASL I online; 17 students took this summer course. In fall 2021, 32 students were enrolled in the ASL and Deaf Cultural Studies minor, while in spring 2021, 35 students minored in ASL and Deaf Cultural Studies.

ASLIE ASL Programs

The ASL program also offered an evening course—Introduction to ASL and Deaf Culture I—in the fall and spring semesters. The course is designed for RIT students, faculty, staff and community members

Academic Program Highlights (continued)

interested in a basic introduction to ASL and Deaf Culture. In AY 2020-2021, the Introduction to ASL and Deaf Culture program had an enrollment of 13 students in the fall semester and 17 students in the spring semester. Introduction to ASL and Deaf Culture II had an enrollment of six students in the spring semester.

The ASL program also provided ASL courses for NTID students as part of the ASL/Deaf Studies requirement. In AY 2020-2021, in the fall semester, 22 students were enrolled in ASL I and three students were enrolled in ASL II. Twelve students were enrolled in Beginning Mexican Sign Language in the fall semester. Five students were enrolled in ASL I, 12 students were enrolled in Beginning Russian Sign Language and three students were enrolled in Structure of ASL in the spring semester.

An ASLIE faculty member also provided instruction in the Master of Science program in Secondary Education of Students Who are Deaf or Hard of Hearing (MSSE) for future teachers of deaf and hard-of-hearing students. The Structure of ASL and English course was offered in the fall semester. In AY 2020-2021, ASLIE served two MSSE students.

New Signers Program

In addressing one of the *SD 2020* initiatives, ASLIE offered for the 10th consecutive year a New Signers Program to incoming NTID students who have minimal or no ASL skills. The New Signers Program (NSP) is an innovative and original program designed to encourage the transition of students with no ASL skills through an ASL immersion experience. For the first time, NSP was offered as a three-credit course that is counted toward a student's degree. In summer 2021, 14 incoming first-year and transfer students participated in this three-week program, which was offered virtually once again due to the COVID-19 pandemic. Two online sections were offered. Each section had its own instructor, who taught new material for part of the day. Later in the day, both sections reconvened to practice in guided activities with both instructors. In addition, students participated in online evening activities two times a week to discuss Deaf culture issues in depth and maintained a daily journal about their learning progress. The New Signers Program is positioned to gain momentum and continue as a valued and intrinsic part of NTID's culture.

RIT First Class Academy ASL Course

In response to the COVID-19 pandemic, RIT offered a summer online First Class Academy (FCA) ASL course for incoming RIT freshmen as an incentive for them to attend RIT in the fall semester. Four sections of the FCA course Introduction to ASL and Deaf Culture were offered. Eighty RIT freshmen participated in this course.

Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) graduated six students during AY 2020-2021, its 27th year.

All MSSE graduates are eligible to receive initial certification from New York State (NYS) in an academic content area (grades 7-12) and/or in education of students who are deaf or hard of hearing (grades K-12) if they meet all of the certification requirements, including the NYS teacher certification exams. Those who do not have certification either need to take additional NYS teacher certification exams and complete the Teacher Performance Assessment (edTPA) or choose to pursue certification from the states in which they are teaching. All of the graduates are eligible to receive provisional certification from the Council on Education of the Deaf (CED).

The teacher-candidates are also required to observe veteran teachers in live classroom situations as part of their 100-hour practicum requirement. This provides the opportunity to allow the free flow of ideas and strategies between the seasoned teachers and teacher-candidates.

Academic Program Highlights (continued)

In AY 2021-2022, the MSSE program has an enrollment of 56 students, of whom 66% are deaf or hard of hearing and 25% are members of underrepresented populations. At least 24 students are anticipating graduation from the program during AY 2020-2021. The MSSE program continues to actively recruit students with strong content area backgrounds, especially in science and math through the 4+2 program with RIT's College of Science, College of Liberal Arts and Kate Gleason College of Engineering, as well as RIT's School of Individualized Study. The specifics related to this program can be found at rit.edu/ntid/msse#the-rit-42-teacher-education-program.

The program has the privilege of working with international students. During AY 2020-2021, we did not have any international students due to the COVID-19 pandemic. In fall 2021, we welcomed students from Vietnam, Tanzania and Indonesia.

MSSE is accredited by the Council for the Accreditation of Educator Preparation (CAEP), 2020-2027, and approved by the Council on Education of the Deaf (CED), 2014-2020.

Communication Studies and Services (CSS)

The Communication Studies and Services (CSS) department is composed of faculty and staff with expertise and training in the areas of communication, audiology and speech-language pathology. CSS audiologists and speech-language pathologists offer for-credit courses for students. Faculty and staff provided 86 credit hours of instruction for 311 students in AY 2020-2021.

CSS offers several courses that cover a variety of topics geared toward workplace success: Problem Solving, Interpersonal Relationships, Communication across Cultures, Effective Teams and Organizational Communication & the Deaf Employee. Each course satisfies one or more NTID General Education Perspectives requirement. Additionally, several courses are approved for the RIT General Education Perspectives requirement, allowing students to focus on their post-NTID academic goals.

Other areas where direct instruction is provided are the Master of Science in Secondary Education (MSSE) and the ASL-English Interpretation program. An Educational Audiology and Spoken Language Development required course is provided to students enrolled in the MSSE program. Cued Speech courses are provided as electives to those enrolled in the ASL-English Interpretation program.

In addition to these courses, the CSS department supports student learning in a variety of ways. The CSS department also provides clinical services in the Audiology Center and Speech & Language Center, including appointment-based and walk-in opportunities. Faculty and staff provided 2,204 hours of audiology services to 582 students and other members of the RIT community and 2,784 hours of individual speech-language instruction to 185 students. During AY 2020-2021, the audiology discipline provided walk-in services in the Audiology Center, and the speech-language discipline served students during walk-in services. CSS reinforces students' academic and personal learning and development by hosting communication skill development groups. Topics of interest have included communication apps, executive function, group conversation and gender-affirming communication coaching. Faculty and staff within CSS serve as liaisons and advisors to student-centered initiatives such as the Vision Support Committee and the university's Q Center.

The above listed services are available to students to further support communication, their success in the classroom and their preparation for communicative success in the workplace. The delivery of these services was creatively shifted to a largely virtual experience when the COVID-19 pandemic hit during the spring semester, which resulted in subsequent functional practice for students through the remote utilization of communication and accessibility technologies.

CSS is committed to equipping future professionals with firsthand knowledge and training to provide audiological and speech-language services to deaf and hard-of-hearing adults. CSS annually accepts a full-time extern pursuing their doctoral degree in the field of audiology and internship experiences to master's degree students in Speech-Language Pathology each semester. These professionals-in-training come from various accredited universities and colleges throughout the United States.

Academic Program Highlights (continued)

NTID Learning Consortium

The NTID Learning Consortium is made up of the NTID Learning Center and the NTID Office of Online Learning.

The NTID Learning Center (NLC) provides a variety of academic resources to help students succeed in college. These include computer workstations, spaces for tutoring and individual/group study, a multipurpose video lab, studying tools and printing areas.

The NLC is centrally located in Lyndon Baines Johnson Hall. A full-time student worker is available at the resource desk and maintains an academically focused environment for users, while simultaneously developing work-related skills in a real-world setting.

The NLC has a number of studying and learning resources available for faculty, staff and students to borrow from its resource desk. These include calculators, smartphone chargers, headphones, memory card readers, webcams, PowerPoint clickers and Wacom pen tablets. The NLC also provides a reference area with books provided by faculty for students to use for their courses.

The NLC also houses a multipurpose video lab for video recording and editing for the NTID community. This area is used by interpreting students, deaf and hard-of-hearing students and faculty who want to use state-of-the-art video and editing equipment for classwork and projects. The NLC also provides a multipurpose video studio for instructors involved with developing video instructional materials. This studio is stationed outside of the NLC and is available to instructors anytime the building is open.

For more formal instructional activities, the NLC utilizes the Sprint Relay Experimental Distance Learning/Access Demonstration Lab (Sprint Relay Lab). The Sprint Relay Lab supports various activities, such as conducting experimental classroom technology projects as well as video/lecture-capturing for online, blended and flipped course material development for archiving and subsequent “anytime/anywhere” access by students. The Sprint Relay Lab continues to serve as a beta testing site for adapting and evaluating alternative instructional and access technologies in support of remote learners who are deaf or hard of hearing.

The NTID Office of Online Learning continues to expand the number of online courses taught by NTID instructors. This AY, NTID launched its first fully online AAS degree in Business Administration, a Master of Science in Secondary Education online degree for matriculated students and an online Certificate in Educational Interpreting for working interpreters all over the country. NTID also collaborated with RIT’s Global Cybersecurity Institute (GCI) and offered the first, full-time online GCI Bootcamp for deaf and hard-of-hearing adults impacted by COVID-19 (April – August 2021). The success of this bootcamp resulted in subsequent sessions making this a staple in the GCI portfolio. Future initiatives include collaborating with RIT’s Workforce Center to expand online opportunities to external audiences.

These distance-learning tools and delivery systems allow deaf and hard-of-hearing students opportunities to learn anywhere, anytime. The innovative adaptation of current and emerging technology promises significant contributions in expanding notions of where, how and with whom learning can happen.

Support for Baccalaureate Students

Strategic Decisions 2020 continues the goal of pursuing enrollment targets and admissions and programming strategies that will result in increasing numbers of NTID graduates achieving baccalaureate degrees and higher.

At the beginning of AY 2021-2022, 449 students (46% of the total deaf and hard-of-hearing student enrollment) were enrolled in baccalaureate programs in one of the other colleges of RIT. NTID faculty and staff provide tutoring, direct instruction, academic advising and counseling for these students. In addition, interpreting, notetaking and captioning services are offered through NTID’s Department of Access Services.

Academic Program Highlights (continued)

Outcomes Assessment

NTID conducted student learning Outcomes Assessments (OA) for all academic programs, as well as several general education and academic support areas during AY 2020-2021. In addition, academic degree programs completed RIT Progress Reports based on AY 2019-2020 results. During AY 2020-2021, the COVID-19 pandemic caused RIT/NTID to offer a mix of instruction/teaching platforms including face-to-face in-person classes and online classes via remote learning.

The 11th annual RIT Progress Report, completed in November 2020, utilized a web-based reporting format and asked program chairs and directors to respond to a series of questions and to report on one program-level student learning outcome listed in their AY 2019-2020 Outcomes Assessment Plans. This was the eighth outcomes assessment Progress Report on semester-based programs taught at RIT. Program information was aggregated by college and at the university level, and was shared with the Provost's Office, Board of Trustees, Deans and RIT's Student Learning Outcomes Assessment Committee (SLOAC).

All NTID programs are assessing student learning annually and meeting student achievement benchmarks. NTID's response rate was 100%, with 22/22 programs completing the report. NTID contributed favorably toward the RIT rate of 100% of programs completing assessments. Additionally:

- One hundred percent of NTID programs met or exceeded established benchmarks for at least one student learning achievement, compared to the RIT level of 100%; and
- Each program's Progress Report was rated for continuous improvement by the RIT Educational Effectiveness Assessment Office.
- Ninety-four percent of NTID programs indicated use of assessment results to guide program planning improvements, compared to RIT's 93%. NTID's 94% is an improvement from the previous year's rate of 89%.

NTID program chairs and directors used RIT's online outcomes assessment management system, TaskStream, for the annual assessment reporting that forms the basis of the above-mentioned RIT Progress Reports. Programs continued to use their approved semester-based OA Plans. NTID OA Plans identify program goals, critical student learning and programmatic outcomes, data sources/measures, performance benchmarks and timelines. Key findings and use of results are entered, along with recommendations. Highlights from AY 2020-2021 OA Reports illustrate NTID's outcomes assessment data collection, analysis processes and results. In addition to the individual program findings summarized below, it should be noted that 100% of NTID students received satisfactory overall evaluation ratings from their supervisors related to their cooperative work experience performance. This is considered outstanding given that there was a pandemic and NTID offered some online classes for remote learning during AY 2020-2021.

ASL and Interpreting Education Department (ASLIE)

- **ASL-English Interpretation BS:** Benchmarks were exceeded on nine out of 10 outcomes assessed this year. Ninety-seven percent of students received ratings of satisfactory or better on their overall ASL competency in their Community Presentation Evaluation. One hundred percent of students in the Issues in Interpreting course produced successful poster presentations and successful research papers demonstrating critical thinking and problem-solving skills. Eighty-five percent of students demonstrated successful interpreting competency from ASL to English, which is an improvement from the previous year's rate of 82%. Seventy-one percent of students demonstrated successful English to ASL interpreting competency. Ninety-three percent of the students received a rating of satisfactory or better on the "Ethical Reasoning" rubric. Ninety-seven percent of students were rated by practicum supervisors as demonstrating satisfactory entry-level work habits, which is an improvement from last year's rating of 95%. Ninety-five percent of seniors expressed satisfaction with the programs, which is an improvement compared to last year's 79% rating. One hundred percent of students who sought employment after graduation were working.

Academic Program Highlights (continued)

- **Health Care Interpretation MS:** The MS in Health Care Interpretation program started reporting outcomes three years ago. This year, students exceeded all four course-based outcomes and met the program assessment. One hundred percent of students received a rating of satisfactory or better on their independent investigation on a topic related to their interest specifically in the context of research and science and summarized their findings in both academic ASL and English. On the graduate satisfaction survey, 100% of graduates were satisfied with the program and its impact on advancing their achievement career-wise, which is consistent with last year's rating of 100%.

Business Studies Department

- **Accounting Technology AAS:** Exceeded the benchmark for all seven outcomes this year, which is an improvement from last year's four benchmarks that were exceeded. One hundred percent of students earned an average of 80% or higher on their accounting capstone. One hundred percent of students received an acceptable score of 80% or higher on both interpersonal skills and teamwork in their accounting capstone course. One hundred percent of students received satisfactory overall ratings on co-op employer evaluations and 100% were rated as demonstrating satisfactory job performance related to aptitude, the ability to learn quickly and the ability to apply technical knowledge.
- **Administrative Support Technology AAS:** Students exceeded the benchmark for three direct course-based assessments and did not meet the benchmark for one other course-based outcome. One hundred percent of the students demonstrated the ability to type with speed and accuracy at a satisfactory rating. The department implemented use of a new online typing platform that provides diagnostic data to address the challenges students face in meeting expectations. One hundred percent of the students earned an acceptable rating score on the e-Portfolio Rubric, indicating competence in choosing and applying computer software to create business documents and demonstrating their interpersonal skills. In addition to course-based assessments, 100% of students received a satisfactory overall rating by their supervisors in their co-op placements for their ability to learn quickly, apply technical knowledge on the job and transfer theory to employment situations. Three students seeking employment after graduation were employed.
- **Business AS:** Criteria exceeded for three of the five outcomes and not met for two other outcomes. One hundred percent of students demonstrated appropriate interpersonal business skills and teamwork, which is an improvement compared to the previous year's rating of 91%. Eighty-three percent of students scored at least 80% in the World of Business & Innovation and Globalization courses at the Saunders College of Business. Students met the benchmark for describing the interrelatedness of social, cultural and business factors that shape and impact the global business environment. The benchmark related to identifying and applying creative methods for idea generation and formulating a business model for a new product/service was not met this year. The BS program at the Saunders College of Business accepted all of the four students who graduated and applied for admission to their program.
- **Business Technology AOS:** Students exceeded benchmarks on four outcomes, met three outcomes and were slightly below criteria on two others. For keyboarding speed and accuracy, 80% of students exceeded the keyboarding outcome, which is an improvement from last year's report of 70%. The department implemented a new online typing tool that provides diagnostic data to help students meet expectations. One hundred percent of students earned acceptable ratings on the rubrics for the e-Portfolio. The benchmark of passing the accounting capstone was not met this year. Ninety-four percent of students met the expectations for the interpersonal skills and teamwork outcomes. Eighty-two percent of students passed the Marketing Project, which incorporates a scaffolding approach with six components. One hundred percent of students received a satisfactory overall rating by their supervisors for their co-op placements, and were rated satisfactory on demonstration of ability to learn quickly and apply technical knowledge during their co-op placement. One hundred percent of students seeking employment were employed.

Academic Program Highlights (continued)

Career Exploration Studies Department

- **First Year Experiences:** Benchmark exceeded for students enrolled in the Freshman Seminar with a grade of C or higher. This was the second time the Summer Vestibule Program was offered virtually due to the COVID-19 pandemic. Eighty percent of students were satisfied with the virtual SVP, which did not meet the benchmark of 90%. Criteria were not met for students returning for full-time study the following year. The COVID-19 pandemic had a huge impact on students returning for their second year.
- **Career Exploration Studies:** Ninety-four percent of students exceeded benchmarks by passing the Level A reading/writing and mathematics courses within two semesters, excluding those who withdrew from the university or were suspended from the university. All CES students who applied to a major were accepted within two semesters.

Communication Studies and Services Department

- **Communication Studies:** All students met benchmarks based on co-op supervisors' ratings, including the outcomes for demonstrating competence in face-to-face communication or for email communication during cooperative work experiences. Seventy-six percent of students scored an average of the acceptable 4 on a 5-point scale this year related to email communication, which benchmark was not met this year.
- **Speech-Language and Audiology Services:** All four outcomes were exceeded this year. One hundred percent of students indicated satisfaction with speech-language and audiology services during the fall semester and reported a self-perceived benefit as a result of the services, which is a tremendous improvement from last year's rating of 93%. Ninety-one percent of students agreed that their communication improved after receiving speech-language services and 100% of students showed progress towards their speech-language goals. One hundred percent of students demonstrated improvement and intelligibility in the single word articulation test.

Engineering Studies Department

- **Applied Mechanical Technology AAS:** Benchmarks were exceeded for four outcomes; two outcomes were not met due to the impact of the pandemic. Criteria were exceeded for receiving a grade of C or better on the written test and final project in the Mechanical Design and Fabrication course. A range of 80 to 86% of students earned the appropriate grades in key courses preparing them to apply for enrollment in RIT's Mechanical Engineering Technology (MCET) BS program, which is an improvement compared to last year. Two students graduated with an AAS degree and two graduated with a BS degree in MCET. The student satisfaction survey, which includes focus group interviews, was not conducted this year due to the pandemic.
- **Architectural and Civil Drafting Technology AOS/AAS:** This is the first year this program has used its new title. It used to be called "Computer Aided Drafting Technology AOS/AAS". Criterion levels were exceeded for seven outcomes, met for one assessed outcome and not met for two outcomes. All benchmarks were met for identifying issues related to sustainability in the construction industry. Benchmarks were also exceeded for preparing student portfolios and for outcomes related to engaging productively in a collaborative team project and final project in the Advanced Construction course. A benchmark, however, was not met for the technical drawing practical assignment. One hundred percent of students received satisfactory overall ratings from their supervisors related to their co-op placement performance. All of the students indicated overall satisfaction with the program.
- **Precision Manufacturing Technology AOS:** The program changed its name from "Computer Integrated Machining Technology AOS" to "Precision Manufacturing Technology AOS" two years ago in order to more accurately reflect trends in the industry. Criterion levels were exceeded for two outcomes, met for seven assessed outcomes and not met for four outcomes due to the impact of the pandemic on students. All benchmarks were met for the ability to apply mathematical concepts and engineering graphics skills to solve machining problems, developing skills and knowledge related to safely operating conventional machines and tools and other automatic equipment. The benchmark of passing competency-based final exams in Precision Optics Manufacturing I course was not met this year. One hundred percent of students received favorable evaluations from their co-op supervisors. One hundred percent of students rated satisfaction with the program.

Academic Program Highlights (continued)

- **Civil Technology AAS:** One hundred percent of students exceeded the benchmarks of using CAD to produce 2D technical drawings and solving mathematical problems related to technical drawings. There were no Civil Technology AAS graduates who applied to the RIT Civil Engineering Technology BS program this year. Prior AAS graduates who have gone on to the Civil Engineering BS program have graduated successfully and exemplify the type of students for whom this AAS program was designed. One hundred percent of students indicated that they were satisfied with the program on their satisfaction survey.

Information and Computing Studies Department

- **Applied Computer Technology AS:** Some benchmarks were not met this year due to the COVID-19 impact on this program. Criteria were not met for completing the tasks including installment, configuration, troubleshooting and maintenance in the Windows Operating System, drivers and application programs, demonstrating fundamental programming and web skills. One hundred percent of graduates gained entry-level employment in computer support.
- **Applied Computer Technology AOS/AAS:** The findings showed that benchmarks were exceeded for five of the 14 assessed outcomes, met for three and not met for six. For example, 91% of students were able to restore a PC to working condition compared to last year's rating of 80%, and 75% were able to successfully complete and pass the hands-on projects related to HelpDesk support. One hundred percent of students passed their final technical presentation evaluation. One hundred percent of students successfully demonstrated the ability to select and use the appropriate application to address client needs and/or solve problems faced by IT support specialists. The benchmark related to the ability to connect, configure, manage, secure and troubleshoot a small intranet peer-to-peer or client/server network was not met this year. Action plans include evaluation of the number of tasks, level of assessments, instructional time and students' time on task during assessments.
- **Mobile Application Development AAS:** This is the second year this program participated in the outcomes assessment report since this is a new program that was implemented recently. All seven benchmarks were exceeded this year. One hundred percent of students were able to correctly and efficiently code a solution, successfully creating a UML diagram that accurately represents a given problem; design, refine and finalize a functional and user-friendly cross-platform user interface; create and test mobile applications for two or more platforms and demonstrate effective team interpersonal and communication skills. Criteria for the final capstone project were met this year compared to last year's assessment.

Liberal Studies Department

- **Applied Liberal Arts AS:** Ninety percent of students passed the written English competency in one course, which is an improvement from last year's rating of 86%. Seventy-four percent of students passed the general education Perspectives 1-4 courses. The benchmark was not met for mathematical and scientific perspectives. Ninety-one percent of students exceeded the benchmark related to earning a grade of "C" or better in the Professional Elective courses in each student's field of study, which is an improvement compared to last year's assessment rating of 82%. Ninety-one percent of students were accepted into the College of Liberal Arts or an equivalent bachelor's degree program, which is the primary goal of the AS in Applied Liberal Arts program.

Master of Science in Secondary Education Department

- **Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE):** Nine measures included in the revised assessment plan created this year were assessed, which has been scaled down from 23 benchmarks. Criteria were exceeded for three measures, met for four and not met for two. Ninety-six percent of students met the nine areas of dispositions. Eighty-three percent of teacher candidates passed the Sign Language Proficiency Interview (SLPI) rating of intermediate or higher and/or the American Sign Language Proficiency Interview (ASLPI) rating of 2.5 or higher. One hundred percent of students demonstrated their knowledge of technology during their student teaching activities. Ninety-two percent of students created an assessment plan as part of their final project. One hundred percent of students

Academic Program Highlights (continued)

successfully created their student teaching portfolio and successfully produced a literature review related to Deaf and hard-of-hearing education specialized topics. Overall, one of the program's strengths is micro-teaching activities offered in the program to prepare students for real-world teaching experience.

Science and Mathematics Department

- **Laboratory Science Technology AOS/AAS:** Benchmarks were exceeded for four assessed general skills and technical competency areas, employment and placement; met for three assessed outcomes and not met for four criteria, which is an improvement compared to last year's assessment of five unmet benchmarks. One hundred percent of students had obtained co-op positions to complete their required experiences during the pandemic. Students demonstrated competency in the use of various analytical instrumentation, and demonstrated just below the criteria for biological and biotechnology-related techniques. One hundred percent of graduates who sought employment were employed. The outcome related to performing simple distillation of some chemicals was met this year, which is an improvement compared to last year's assessment. The department will continue to evaluate the series of courses for their impact on this assessment.
- **General Science AS:** This is the second year of outcomes assessment for this program. Five benchmarks were exceeded, two were met and two were not met, which is an improvement compared to last year's assessment. Eighty-one percent of students passed the college-level algebra final exam. Ninety percent of students performed well on the General & Analytical Chemistry I lab activities and final exams. One hundred percent of students passed the final exam in General & Analytical Chemistry II class. Sixty-three percent of students in their second year of the General Science Program successfully graduated. Eighty percent of students who graduated from this program were accepted into RIT's BS programs. Benchmarks were not met for the professional elective science/math courses this year.

Visual Communications Studies Department

- **Design and Imaging Technology AOS/AAS:** Due to the COVID-19 pandemic this year, there were no students in this program or on co-op this year.
- **3D Graphics Technology AAS:** AY 2020-2021 is the third year of outcomes assessment for this program. Due to the COVID-19 pandemic, the program could not assess course-related outcomes this year. There were three students, however, who went on co-op this year. One hundred percent of co-op students received outstanding evaluation on overall performance and satisfaction and demonstrated competitiveness for the job market.

Enrollment by Degree Programs

In fall 2021, 55% of NTID's 1,166 students were enrolled in a broad array of programs within NTID. Forty-five percent were enrolled in other colleges of RIT, including 71 students in graduate programs. Of the 1,166 students, 970 are deaf and hard-of-hearing students, including 37 students in the

MSSE program. In fall 2021, 42% (406/970) of NTID's deaf and hard-of-hearing students were enrolled in NTID programs, and 55% (526/970) were enrolled in the other programs at RIT. Students are categorized by their primary academic college.

| | Number of Students |
|---|-----------------------|
| NTID Career Exploration Studies | |
| Career Exploration (UND) | 6 |
| Career Prep Foundation (UND) | 27 |
| Subtotal | 33 |
| NTID Career-Focused | |
| Non-Degree (NON) | 3 |
| Applied Computer Technology (AAS) | 18 |
| Applied Computer Technology (AOS) | 17 |
| Applied Computer Technology (UND) | 5 |
| Architectural and Civil Drafting Technology (AAS) | 10 |
| Architectural and Civil Drafting Technology (AOS) | 13 |
| Art & Imaging Studies (UND) | 4 |
| Business (UND) | 2 |
| Business Technology (AOS) | 29 |
| Design & Imaging Technology (AAS) | 24 |
| Design & Imaging Technology (AOS) | 40 |
| Engineering Technologies (UND) | 3 |
| Laboratory Science Technology (AOS) | 10 |
| Precision Manufacturing Technology (AOS) | 15 |
| Subtotal | 193 |
| Associate+Bachelor's Degrees | |
| 3D Graphics Technology (AAS) | 8 |
| Accounting Technology (AAS) | 6 |
| Administrative Support Technology (AAS) | 5 |
| Applied Computer Technology (AS) | 20 |
| Applied Liberal Arts (AS) | 18 |
| Applied Mechanical Technology (AAS) | 16 |
| Business (AS) | 20 |
| Business Administration (AAS) | 17 |
| Civil Technology (AAS) | 5 |
| General Science (AS) | 10 |
| Laboratory Science Technology (AAS) | 21 |
| Mobile Application Development (AAS) | 8 |
| Subtotal | 154 |

Enrollment by Degree Programs (continued)

| | Number of Students |
|---|-----------------------|
| NTID ASL-English Interpretation | |
| ASL-English Interpretation (BS) | 168 |
| Health Care Interpretation (MS) | 13 |
| Subtotal | 181 |
| NTID Master of Science in Secondary Education (MSSE) | |
| Secondary Education of Students who are Deaf or Hard of Hearing (MS) | 56 |
| Subtotal | 56 |
| NTID Pre-Baccalaureate Students | |
| Pre-Baccalaureate Engineering (UND) | 6 |
| Pre-Baccalaureate Liberal Arts (UND) | 5 |
| Pre-Baccalaureate Science (UND) | 6 |
| Pre-Baccalaureate Visual Communication (UND) | 6 |
| Subtotal | 23 |
| NTID Subtotal | 640 |
| Undergraduate Students in Other RIT Colleges | |
| College of Engineering Technology | |
| Civil Engineering Technology (BS) | 10 |
| Computer Engineering Technology (BS) | 2 |
| Electrical Engineering Technology (BS) | 2 |
| Electrical/Mechanical Engineering Technology (BS) | 4 |
| Mechanical Engineering Technology (BS) | 19 |
| Mechatronics Engineering Technology (BS) | 1 |
| Packaging Science (BS) | 6 |
| ROBOTICS Manufacturing Engineering Technology (BS) | 2 |
| Subtotal | 46 |

Enrollment by Degree Programs (continued)

| | Number of Students |
|---|-----------------------|
| Saunders College of Business | |
| Business Administration: Accounting (BS) | 12 |
| Business Administration: Finance (BS) | 4 |
| Business Administration: Management (BS) | 4 |
| Business Administration: Marketing (BS) | 3 |
| Business Exploration (UND) | 2 |
| Hospitality and Tourism Management (BS) | 1 |
| International Business (BS) | 2 |
| Management Information Systems (BS) | 8 |
| Supply Chain Management (BS) | 1 |
| Subtotal | 37 |
| College of Science | |
| Applied Mathematics (BS) | 1 |
| Applied Statistics and Actuarial Science (BS) | 2 |
| Biochemistry (BS) | 4 |
| Bioinformatics and Computational Biology (BS) | 1 |
| Biology (BS) | 12 |
| Biotechnology and Molecular Bioscience (BS) | 4 |
| Chemistry (BS) | 4 |
| Computational Mathematics (BS) | 2 |
| Environmental Science (BS) | 7 |
| Imaging Science (BS) | 1 |
| Subtotal | 38 |
| College of Art and Design | |
| 3D Digital Graphics (BFA) | 6 |
| Design Exploration (UND) | 1 |
| Film and Animation (BFA) | 11 |
| Furniture Design (BFA) | 1 |
| Graphic Design (BFA) | 13 |
| Illustration (BFA) | 6 |
| Industrial Design (BFA) | 3 |
| Interior Design (BFA) | 3 |
| Medical Illustration (BFA) | 2 |
| New Media Design (BFA) | 5 |
| Photographic Arts and Sciences (UND) | 3 |
| Photographic and Imaging Arts (BFA) | 6 |
| Photographic Sciences (BS) | 1 |
| Studio Arts (BFA) | 3 |
| Subtotal | 64 |

Enrollment by Degree Programs (continued)

| | Number of Students |
|---|-----------------------|
| College of Liberal Arts | |
| Advertising and Public Relations (BS) | 7 |
| Applied Modern Languages and Culture (BS) | 1 |
| Communication (BS) | 8 |
| Criminal Justice (BS) | 11 |
| Digital Humanities and Social Sciences (BS) | 5 |
| Economics (BS) | 4 |
| English (BS) | 1 |
| International and Global Studies (BS) | 1 |
| Journalism (BS) | 1 |
| Liberal Arts Exploration (UND) | 4 |
| Museum Studies (BS) | 1 |
| Political Science (BS) | 2 |
| Psychology (BS) | 21 |
| Public Policy (BS) | 2 |
| Sociology and Anthropology (BS) | 3 |
| Subtotal | 72 |
| Kate Gleason College of Engineering | |
| Biomedical Engineering (BS) | 4 |
| Chemical Engineering (BS) | 3 |
| Computer Engineering (BS) | 4 |
| Electrical Engineering (BS) | 6 |
| Engineering Exploration (UND) | 1 |
| Industrial Engineering (BS) | 3 |
| Mechanical Engineering (BS) | 17 |
| Subtotal | 38 |
| B. Thomas Golisano College of Computing and Information Sciences | |
| Computer Science (BS) | 26 |
| Computing Exploration (UND) | 2 |
| Computing and Information Technologies (BS) | 18 |
| Computing Security (BS) | 4 |
| Game Design and Development (BS) | 6 |
| Human-Centered Computing (BS) | 6 |
| New Media Interactive Development (BS) | 1 |
| Software Engineering (BS) | 4 |
| Web and Mobile Computing (BS) | 14 |
| Subtotal | 81 |

Enrollment by Degree Programs (continued)

| | Number of Students |
|--|--------------------|
| University Exploration | |
| University Exploration (UND) | 8 |
| Subtotal | 8 |
| School of Individualized Study | |
| Applied Arts and Sciences (AAS) | 1 |
| Applied Arts and Sciences (BS) | 32 |
| Subtotal | 33 |
| Student Affairs | |
| College Restoration Program | 1 |
| Subtotal | 1 |
| College of Health Sciences and Technology | |
| Biomedical Sciences (BS) | 21 |
| Diagnostic Medical Sonography (BS) | 3 |
| Dietetics and Nutrition (BS) | 1 |
| Exercise Science (BS) | 4 |
| Physician Assistant (BS) | 2 |
| Subtotal | 31 |
| Cyber Bootcamp (NON) | 6 |
| Subtotal | 6 |
| Subtotal Undergraduate Students in Other Colleges | 455 |



Department of Engineering Studies lecturer Mark Davis '03, '17 teaches students in his Industrial Materials class.

Enrollment by Degree Programs (continued)

| | Number of Students |
|--|-----------------------|
| Graduate Students in Other RIT Colleges | |
| College of Engineering Technology | |
| Manufacturing and Mechanical Systems Integration (MS) | 4 |
| Subtotal | 4 |
| Saunders College of Business | |
| Business Administration (MBA) | 4 |
| Business Administration Executive (MBA) | 1 |
| Global Supply Chain Management (MS) | 1 |
| Human Resource Development (MS) | 1 |
| Organizational Learning (ACT) | 1 |
| Service Leadership and Innovation (MS) | 3 |
| Technology Innovation Management and Entrepreneurship (MS) | 1 |
| Subtotal | 12 |
| College of Art and Design | |
| Film and Animation (MFA) | 3 |
| Media Arts and Technology (MS) | 2 |
| Visual Arts – All Grades (MST) | 1 |
| Visual Communication Design (MFA) | 3 |
| Subtotal | 9 |
| College of Liberal Arts | |
| Communication (MS) | 1 |
| Criminal Justice (MS) | 1 |
| School Psychology (MS) | 2 |
| Science, Technology and Public Policy (MS) | 1 |
| Subtotal | 5 |
| College of Science | |
| Applied and Computational Math (MS) | 1 |
| Applied Statistics (MS) | 1 |
| Chemistry (MS) | 3 |
| Subtotal | 5 |
| Kate Gleason College of Engineering | |
| Engineering Management (ME) | 1 |
| Mechanical Engineering (ME) | 2 |
| Subtotal | 3 |

Enrollment by Degree Programs (continued)

| | Number of Students |
|---|-----------------------|
| B. Thomas Golisano College of Computing and Information Sciences | |
| Computer Science (MS) | 1 |
| Computing and Information Science (Ph.D.) | 4 |
| Data Science (MS) | 2 |
| Health Informatics (MS) | 2 |
| Human Computer Interaction (MS) | 7 |
| Software Engineering (MS) | 3 |
| Subtotal | 19 |
| College of Health Science and Technology | |
| Health Systems Management (MS) | 2 |
| Subtotal | 2 |
| School of Individualized Study | |
| Professional Studies (MS) | 11 |
| Subtotal | 11 |
| Non-Degree | |
| Non-Degree Student (NONG) | 1 |
| Subtotal | 1 |
| Subtotal Graduate Students in Other Colleges | 71 |
| Total | 1,166 |

| Legend | |
|---------------|-----------------------------------|
| AAS | Associate of Applied Science |
| ACT | Advanced Certificate |
| AOS | Associate of Occupational Science |
| AS | Associate of Science |
| BFA | Bachelor of Fine Arts |
| BS | Bachelor of Science |
| CT | Certificate |
| M.Arch. | Master of Architecture |
| MBA | Master of Business Administration |
| ME | Master of Engineering |
| MFA | Master of Fine Arts |
| MS | Master of Science |
| MST | Master of Teaching |
| NON/NONG | Non-Degree |
| Ph.D. | Doctor of Philosophy |
| UND | Undeclared |

Average Class Size by Discipline

The variability in average class size is influenced by the nature of instruction. For example, many programs are laboratory oriented and use specialized equipment, which limits the number of students who can reasonably be accommodated in a class.

Data do not include cooperative education, independent study or research sections.

| | AY 2020-2021 | |
|--|--------------|------------|
| | Fall | Spring |
| 3D Graphics Technology | 4.8 | 3.5 |
| Accounting Technology | 8.8 | 7.0 |
| Administrative Support Technology | 7.3 | 4.3 |
| Applied Computer Technology | 6.5 | 6.0 |
| Applied Computer Technology – Technical Computing | 4.2 | 4.2 |
| ASL/Deaf Culture | 13.0 | 11.5 |
| ASL-English Interpretation | 12.0 | 9.7 |
| Career Development | 5.4 | 8.5 |
| Communication Development and Inclusive Leadership | N/A | 8.0 |
| Communication Studies | 10.8 | 12.3 |
| Computer-Aided Drafting Technology | 7.5 | 6.3 |
| English | 8.8 | 12.2 |
| General Business | 6.7 | 6.7 |
| General Engineering Studies | 11.0 | 5.8 |
| General Visual Communications | 6.4 | 6.4 |
| Graphic Design | 7.0 | 5.3 |
| Graphic Production | 6.8 | 7.7 |
| Health Care Interpretation | 5.7 | 4.7 |
| Humanities & Social Sciences | 32.0 | N/A |
| Laboratory Science Technology | 4.5 | 4.2 |
| Liberal Studies | 6.0 | 6.0 |
| Master of Science in Secondary Education | 12.7 | 12.9 |
| Mathematics | 10.6 | 9.4 |
| Mobile Application Development | 4.6 | 3.5 |
| Performing Arts | 13.5 | 13.6 |
| Precision Manufacturing | 4.9 | 3.7 |
| Science | 9.2 | 9.2 |
| Sign Languages | 9.3 | 6.7 |
| Overall Average | 8.3 | 8.1 |

Educational Support: Teaching

In addition to providing academic advisement, tutoring and notetaking services for deaf and hard-of-hearing students enrolled in the other colleges of RIT, NTID faculty also teach some RIT courses with deaf students enrolled. By providing direct instruction in these courses, as well as

advisement and tutoring, faculty members help maximize the benefit students receive to ensure their success in RIT's highly competitive academic environment. Below are the statistics for FY 2021 credit-bearing courses.

| | Number of Sections | Number of Students | |
|---|--------------------|-------------------------|-----------|
| | | Deaf or Hard-of-Hearing | Hearing |
| Saunders College of Business | | | |
| Computer-Based Analysis | 4 | 12 | 82 |
| Subtotal | 4 | 12 | 82 |
| College of Art and Design | | | |
| Color Management Technology | 1 | 0 | 6 |
| Digital Bootcamp | 1 | 0 | 7 |
| The Fine Print Workflow | 1 | 0 | 7 |
| History of Western Art: Ancient to Medieval | 2 | 29 | 0 |
| History of Western Art: Renaissance to Modern | 2 | 15 | 0 |
| Subtotal | 7 | 44 | 20 |
| College of Liberal Arts | | | |
| Abnormal Psychology | 2 | 19 | 0 |
| Advanced American Sign Language I | 1 | 5 | 7 |
| Advanced American Sign Language II | 1 | 3 | 2 |
| American Deaf History | 1 | 13 | 17 |
| American Musical Theater | 1 | 3 | 29 |
| Beginning American Sign Language I | 9 | 8 | 170 |
| Beginning American Sign Language II | 5 | 4 | 56 |
| Biopsychology | 1 | 8 | 0 |
| Cognitive Psychology | 1 | 2 | 17 |
| Communication | 1 | 16 | 0 |
| Deaf Art & Cinema | 1 | 7 | 16 |
| Deaf Culture in America | 2 | 21 | 42 |
| Deaf Literature | 1 | 4 | 7 |
| Deafness and Technology | 2 | 27 | 37 |
| Developmental Psychology | 1 | 12 | 0 |
| Foundations of Sociology | 1 | 3 | 0 |
| Independent Study | 1 | 0 | 1 |
| Intermediate American Sign Language I | 2 | 3 | 24 |
| Intermediate American Sign Language II | 2 | 4 | 16 |
| Introduction to Criminal Justice | 2 | 40 | 0 |
| Introduction to Psychology | 2 | 37 | 0 |
| Introduction to Theater | 1 | 1 | 23 |
| Introduction to Visual Arts | 1 | 8 | 0 |

Educational Support: Teaching (continued)

| | Number of Sections | Number of Students | |
|---|--------------------|-------------------------|------------|
| | | Deaf or Hard-of-Hearing | Hearing |
| College of Liberal Arts (continued) | | | |
| Linguistics of American Sign Language | 3 | 12 | 48 |
| Seminar in Psychology | 1 | 2 | 10 |
| U.S. History Since 1945 | 1 | 13 | 0 |
| Women and the Deaf Community | 2 | 9 | 23 |
| Subtotal | 49 | 284 | 545 |
| College of Science | | | |
| Applied Calculus | 2 | 16 | 0 |
| Introduction to Statistics | 2 | 24 | 0 |
| Organic Chemistry Lab I | 3 | 6 | 64 |
| Research and Thesis | 7 | 2 | 8 |
| Solar System Astronomy | 1 | 1 | 32 |
| Undergraduate Research in Mathematical Sciences | 1 | 1 | 0 |
| Subtotal | 16 | 50 | 104 |
| Interdisciplinary Studies | | | |
| Critical Reading and Writing | 5 | 56 | 0 |
| Intro Leadership Theory Practice | 1 | 0 | 7 |
| Multidisciplinary Life | 2 | 10 | 58 |
| Writing Seminar | 6 | 78 | 0 |
| Subtotal | 14 | 144 | 65 |
| Total | 90 | 534 | 816 |

American Sign Language and Interpreting Education Programs

The degree program in ASL-English Interpretation graduated 30 students in AY 2020-2021. Forty-eight new students matriculated into the program in September 2021. Currently, 27% of total enrollment are students from ethnic minority backgrounds.

Since its inception, the Department of ASL and Interpreting Education has graduated 927 students. Of that number, 464 have graduated with an AAS degree, 434 with a BS degree, 21 with an MS degree and eight with a certificate.

| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|---|------------|------------|------------|------------|---------------------------|
| Fall Applicants | 172 | 125 | 137 | 135 | 146 |
| Accepted | 63 | 64 | 67 | 71 | 74 |
| Registrations | 42 | 50 | 51 | 48 | 48 |
| Enrollment | | | | | |
| BS | 147 | 148 | 152 | 170 | 168 |
| MS in Health Care Interpretation | 15 | 12 | 9 | 11 | 13 |
| Non-Matriculated | 0 | 0 | 3 | 0 | 0 |
| Total Enrollment | 162 | 160 | 164 | 181 | 181 |
| Employment Report | | | | | |
| Graduates | 30 | 35 | 23 | 30 | * |
| Employment Rate | 100% | 97% | 100% | * | * |
| In addition to the interpreting program, ASL and Interpreting Education faculty also provided the following: | | | | | FY 2021 Enrollment |
| ASL courses in RIT's College of Liberal Arts | | | | | 454 |
| ASL courses for deaf students, NTID | | | | | 52 |
| ASL course for the MSSE program, NTID | | | | | 2 |
| Introduction to ASL and Deaf Culture, NTID | | | | | 36 |
| New Signers Program, NTID | | | | | 14 |
| Introduction to ASL and Deaf Culture, RIT's First Class Academy | | | | | 80 |
| Total | | | | | 638 |

* As of the writing of this report, the employment information for FY 2021 and FY 2022 and graduation information for FY 2022 is incomplete.

Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE)

The MSSE program is now in its 27th year. To date, 412 students have graduated from the program. One hundred percent of the FY 2020 graduates have accepted teaching jobs throughout the country.

To complete the program, each student must successfully complete 94 credit hours, including two student-teaching assignments and a master's project.

In addition to the coursework and other expectations, all full-time students serve as graduate assistants during the semesters they are not student teaching. They work as teaching assistants, program assistants, research assistants or tutors, primarily at NTID.

To recruit students with strong content area backgrounds, especially in science and math, the program has implemented a 4+2 program with RIT's College of Science, Kate Gleason College of Engineering and College of Liberal Arts as well as RIT's School of Individualized Study. The specifics related to this program can be found at rit.edu/ntid/msse#the-rit-42-teacher-education-program.

Forty applications for admission for fall 2021 were received. Thirty-six were offered admission. Of those, 28 matriculated into the program. For AY 2021-2022, the MSSE program has a total enrollment of 56 students: 28 second-year or returning students and 28 first-year students. Of the 56 matriculated students, 66% are deaf or hard of hearing and 25% are minority.

MSSE Student Data

| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Fall Applications | 24 | 13 | 14 | 31 | 40 |
| Acceptances | 8 | 7 | 12 | 31 | 36 |
| New Registrations | 5 | 7 | 8 | 21 | 28 |
| Deaf and Hard-of-Hearing Enrollment | 9 | 8 | 10 | 20 | 37 |
| Total Enrollment | 19 | 17 | 22 | 34 | 56 |
| Employment Report | | | | | |
| Graduates | 13 | 5 | 10 | 6 | * |
| Employment Rate | 100% | 80% | 100% | * | * |

* As of the writing of this report, the employment information for FY 2021 and FY 2022 and graduation information for FY 2022 is incomplete.

Cooperative Work Experiences

Cooperative work experience is an integral part of academic programming at NTID. Employment specialists assist students in securing 10-week work experiences that augment their studies. Employment specialists or faculty members visit students and their supervisors at their workplaces to assess progress and resolve any workplace issues. Most academic programs require from one to three cooperative assignments, which generally add another year to the program length (totaling

three years for associate degree programs and five years for bachelor's degree programs).

During FY 2021, 218 students were enrolled in cooperative work experiences, and 60 academic programs had students on cooperative work experiences.

| | Number of Students Involved in Cooperative Work Experiences* | | | | |
|--|--|------------|------------|------------|------------|
| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
| Sub-Baccalaureate | | | | | |
| NTID | 108 | 84 | 54 | 47 | 57 |
| Percent of Total Co-op Enrollment | 35% | 31% | 23% | 26% | 26% |
| Baccalaureate/Master's | | | | | |
| College of Engineering Technology | 56 | 50 | 50 | 21 | 38 |
| Saunders College of Business | 38 | 28 | 19 | 27 | 23 |
| B. Thomas Golisano College of Computing and Information Sciences | 50 | 46 | 42 | 32 | 43 |
| Kate Gleason College of Engineering | 23 | 29 | 31 | 22 | 17 |
| College of Health Sciences and Technology | 4 | 3 | 1 | 0 | 3 |
| College of Art and Design | 11 | 11 | 23 | 16 | 9 |
| College of Liberal Arts | 15 | 14 | 9 | 16 | 20 |
| College of Science | 8 | 5 | 3 | 0 | 8 |
| Subtotal | 205 | 186 | 178 | 134 | 161 |
| Percent of Total Co-op Enrollment | 65% | 69% | 77% | 74% | 74% |
| Total Co-op Enrollment | 313 | 270 | 232 | 181 | 218 |

* Totals reported include deaf and hard-of-hearing international students, but do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data on these students is reported elsewhere in this section.

Student Support Services



NTID students have access to audiological services, speech and language services, mental health counseling, career counseling, academic advising, professional academic tutoring, self-advocacy training, wellness activities, substance abuse services and more.

Student Support Services Highlights

NTID provides a variety of services to support the college success of deaf and hard-of-hearing students:

- Audiological services are provided by the Communication Studies and Services (CSS) department. CSS includes six audiologists trained to provide hearing evaluations, consultations, hearing aid trials and programming, cochlear implant mapping and upgrades, assistive technology and accessory fittings and individual listening and speechreading therapies that focus on the development of receptive communication skills. RIT students, faculty and staff; NTID-supported alumni and adults enrolled in RIT's Osher Lifelong Learning Institute have access to these services and can make appointments in The Audiology Center. In addition, audiologists are available to meet to troubleshoot and repair hearing aids and cochlear implants with no appointment required. The facility is equipped with state-of-the-art computer-based technology, training software and a variety of accessories and assistive devices that are available for demonstration. CSS audiologists stay current with ongoing training and close working relationships with representatives from cochlear implant and hearing aid manufacturers to satisfy the ever-evolving needs of a diverse student population. CSS Audiology also offers routine ear, nose, throat and ophthalmology clinics for students on campus to meet with local physicians. CSS providers are prepared to match individuals' communication preferences: sign language, voice or both.
- Speech and language services are provided by the Communication Studies and Services (CSS) department. CSS includes six speech-language pathologists trained to provide clinical services for deaf and hard-of-hearing students who want to enhance their communication competence and confidence. Individual, group and walk-in experiences aim to improve students' communication for face-to-face conversations, remote conversations, group discussions, job interviews and formal presentations. Speech-language services are designed to meet students' personal goals and can focus on a variety of areas such as speech intelligibility (articulation, pronunciation, voice, prosody), spoken language, grammar and technical/professional vocabulary and practice, communication strategies for work-related interactions, speechreading and listening training, presentation skill development and increased self-confidence when communicating. The Speech & Language Center is equipped with computer technology that provides students with visual feedback for speech and language analysis. Students can also explore new methods of communication practice and facilitation through the use of trending mobile apps and virtual reality equipment. CSS providers are prepared to match individuals' communication preferences: sign language, voice or both.
- Mental health counseling and psychotherapy are provided to deaf, hard-of-hearing and hearing students on campus at the RIT Office of Counseling & Psychological Services. Mental health counselors fluent in American Sign Language provide services for deaf and hard-of-hearing students. A staff psychiatrist at the Student Health Center is available for consultation or referral as needed. Mental health crisis intervention is available 24 hours a day. In addition to individual counseling and psychotherapy, students can participate in support groups and skill-building groups with counseling center staff. In AY 2020-2021, 174 deaf and hard-of-hearing students were seen for these services.
- Personal and career counseling and academic advising. NTID Counseling & Academic Advising Services (CAAS) supports the academic, personal and career growth and success of all NTID-supported students. Department services are designed to be student-centered, proactive, developmental and responsive to student needs. Services are integrated within the students' academic and co-curricular experience and support the curriculum. Department services include academic advising, personal counseling and career counseling. Student success is also promoted through collaboration and consultation with advisors, tutors, instructors, administrators and other support service providers, as well as students' families and community professionals.

CAAS provided more than 12,000 hours of academic advising, personal counseling and career counseling for students in AY 2020-2021. Academic advising includes, but is not limited to, student outreach, developing plans of study and monitoring degree audits to support student success and on-time graduation. Personal counseling addresses a variety of issues including transitional, familial, relational or identity concerns. All counselors and academic advisors (CAAs) serve as confidential resources under Title IX. Career counseling services are also provided for students seeking

Student Support Services Highlights (continued)

assistance in exploring interests, skills, change of majors or identifying career goals. CAAS manages the Career Resource and Testing Center (CRTC), which provides career skills assessments and resources. Career assessment results are reviewed with students and integrated into their academic plan. To ensure quality of services for our students, CAAS also maintains currency in the areas of academic advising and personal and career counseling through professional development.

In addition to advising and counseling roles and due to their expertise, CAAs work with incoming new students and also serve as Freshman Seminar instructors. Both roles are designed to support the transition into college life for first-year students. Members of the department also serve as guest lecturers in other courses to support skills needed for academic and personal success.

Collaboration and consultation with key individuals, campus partners and community services are key to helping maximize students' academic, personal and career growth. CAAS collaborates with, among other groups, RIT's University Advising Office, Office of Financial Aid and Scholarships, NTID Student Financial Services, academic departments, vocational rehabilitation counselors and the students' families.

- The Student Life Team (SLT) continued its tradition in FY 2021 of both challenging and educating students by providing resources and support for students' successful transitions throughout college and after graduation. SLT's collaborations with NTID's Counseling and Academic Advising Services, the NTID Co-op and Career Center, NTID Student and Academic Services, Department of Public Safety and several offices across RIT's Division of Student Affairs ensured that students were provided diverse opportunities to optimize their collegiate experience.

SLT's avenues of outreach and connection with students include: co-curricular and late-night educational programming, spiritual/religious and civility exploration workshops, self-advocacy and community accountability mentoring programs, social and cultural programs, fraternity and sorority event collaborations and club/organization advising.

In addition to the wide variety of programming that SLT offers, the team serves as a source of information for the NTID student community through its strong social media presence, which is used to communicate important events and activities. SLT hires student staff during the summer who provide significant support to the summer outreach programs and Summer Vestibule Program (SVP) as well as offers year-round positions to students during the academic year who work with SLT to provide activities, events and mentoring programs that support students. SLT strives to build a sense of community that allows students to feel at home and that they are part of something great.

- Student Wellness/NTID Student and Academic Services provides instruction and services that support wellness education. Deaf and hard-of-hearing students are ensured opportunities for exploring, developing and implementing wellness concepts, principles and behaviors in their lives. It is important to ensure deaf and hard-of-hearing students receive a holistic education with a focus on career, academic, emotional, social, physical, spiritual, financial and environmental dimensions of wellness. Wellness initiatives occur through collaboration within many different areas of NTID and RIT. Students participated in wellness instructional classes, wellness presentations in freshman seminar classes, weekly "Wellness Wednesday" programs that address different topics, presentations in residence halls, Red Barn activities, intramural programs, institute workshops and personal mentoring.
- The NTID Athlete Development Program is a holistic support program geared to deaf and hard-of-hearing student-athletes at the varsity level, those participating in club and intramural sports and those interested in overall wellness. Services include academic support, mentoring, oversight, educational workshops, team-building and leadership training. Deaf and hard-of-hearing varsity student-athletes continue their success in the classroom, registering an average GPA of 3.0+ each semester since the establishment of the NTID Athlete Development Program. The NTID community

Student Support Services Highlights (continued)

continues to thrive through athletic competition, with the Deaf Basketball Association, Deaf Volleyball Association and TigerFest keeping the student body active throughout the year. All student-athletes are heavily involved in the RIT/NTID community, particularly through multiple student organizations on campus that include Hillel, MOCHA/WOCHA (Men/Women of Color, Honor and Ambition), Student Athlete Advisory Committee and Deaf International Students Association. The growth in deaf and hard-of-hearing student-athlete participation in NCAA sports and intramural sports at RIT/NTID is anticipated to continue next year.

- Financial aid for domestic students was provided in FY 2021 to NTID students in the form of Vocational Rehabilitation awards, grants-in-aid, federal and state grants, scholarships and federal loans through RIT's Financial Aid and Scholarships Office. In all, 565 students received NTID scholarships, 160 received RIT scholarships, 657 received NTID-endowed scholarships and 78 received scholarships from external funding sources. In addition, the NTID Financial Services Office provided privately funded short-term loans to students who encountered emergency situations.
- Summer Vestibule Program (SVP) is an orientation program for students entering NTID that is designed to transition them to college life. In 2021, 155 students went through the orientation program. Assessment tests are given to further evaluate a student's academic placement for English and mathematics classes. Students were given an opportunity during the summer months, prior to their arrival on campus, to chat with their accepted program's department chairperson to confirm their program/major of interest. If after discussion the student realized that another program is a better fit for them, they are introduced to that program's department chairperson to change their major/program. Due to the ongoing risk of COVID-19, components of the SVP program were conducted online via Zoom with interpersonal interaction via SMS, e-mail, videophone, Facebook and online meetings, prior to their arrival on campus. Once on campus, deaf and hard-of-hearing students were given intensive workshops on Deaf community/culture, diversity/inclusion, drug/alcohol programming, dating/relationships and social events. After this, they were integrated within the larger RIT Orientation framework with their hearing peers. There is also ample opportunity for peer interaction and fun. SVP is always a memorable experience because the students bond and make friends, while also beginning their collegiate career.
- First Year Experience incorporates a freshman seminar required for incoming first-year students and is designed to further assist them in their transition to RIT/NTID. Fifteen sections were offered with an average class size of 11 students in fall 2021. A variety of topics are covered, such as navigating the campus, library resources, Student Information System (SIS), conflict resolution, time management, clubs/organizations, study skills, stress management, goal setting, healthy relationships and more. This is another opportunity for students to connect with their instructor if they have personal/academic struggles and use their instructor as a resource.
- Career Exploration Studies (CES) is a program that gives career-undecided students the opportunity to explore technical programs while satisfying necessary core and/or prerequisite coursework. During AY 2020-2021, CES served 25 students in the fall and 17 students in the spring. All of CES students who applied to a major were accepted into a major within two semesters.
- Substance and Addiction Intervention Services for the Deaf (SAISD) provides culturally sensitive and linguistically accessible information on alcohol, tobacco and other drugs. In addition, it offers intervention and prevention services to the deaf and hard-of-hearing community at RIT, and throughout Rochester and the Monroe County area. SAISD also advocates for and promotes development of a full range of accessible treatment programs for alcohol and other drugs for deaf and hard-of-hearing consumers through the provision of cross-disability short-term technical assistance, consultation and training for professionals. Because of its success, SAISD consults on replicating its model across New York State whenever possible.

Support Services: Tutoring Hours

NTID faculty provide academic assistance in the form of tutoring for all NTID-supported deaf and hard-of-hearing students registered in the other colleges of RIT.

| | AY 2020-2021 | | |
|--|----------------|-----------------------|-----------------------------|
| | Tutoring Hours | Class Sections Served | Total Student Registrations |
| College of Engineering Technology (CET) | * | 314 | 510 |
| College of Art and Design (CAD) | 1,520 | 410 | 703 |
| Saunders College of Business (SCB) | 1,031* | 243 | 461 |
| Kate Gleason College of Engineering (KGCOE) | 370* | 213 | 253 |
| College of Liberal Arts (CLA) | 2,063 | 680 | 1,625 |
| College of Health Sciences and Technology (CHST) | 741 | 99 | 258 |
| College of Science (COS) | 4,403* | 551 | 1,263 |
| B. Thomas Golisano College of Computing and Information Sciences (GCCIS) | 865* | 357 | 710 |
| School of Individualized Study (SOIS) | ** | 63 | 116 |
| University Writing | ** | 52 | 235 |
| Total | 10,993 | 2,982 | 6,134 |

* Hours for CET are reported under SCB, KGCOE, COS and GCCIS.

** Hours for SOIS and University Writing are reported under the other colleges depending on the course type.

Student Access Services

NTID's
Department of
Access Services
provides access both in
and out of the classroom,
including for events such as
student government meetings,
extracurricular programs,
entertainers and guest lecturers.

Student Access Services Highlights

NTID provides access services to meet the needs of a large number of deaf and hard-of-hearing students enrolled in baccalaureate and graduate degree programs in RIT's other colleges, as well as students enrolled in NTID programs who take courses in the other colleges of RIT. Access services also are provided in NTID-instructed classes when needed. Services are provided for non-academic events and activities throughout the RIT community, making RIT the world's most accessible university. Educational access services that NTID offers for deaf and hard-of-hearing students at RIT include:

- **Sign language interpreting** provided by 135 staff members—the largest staff of professional interpreters of any college program in the world—as well as freelance, apprentice and student interpreters. Students also may request interpreters for non-academic activities such as athletic events, religious services, student government meetings, student clubs and guest presentations.
- **Real-time captioning** provided as a real-time access service for students who benefit from English text more than sign language interpreting. A staff of 55 real-time captionists is trained in a computer-assisted system developed for transcribing in real time what teachers and students say in class. Increasing use of remotely provided captioning helps us meet growing demand. Real-time captioning is also provided for special events and out-of-class needs.
- **Classroom notetaking services** provided by more than 350 trained student notetakers whose notes are uploaded onto a website for easy access by deaf and hard-of-hearing students.
- **Captioned classroom video materials.** NTID, in conjunction with RIT, provides captioned video materials for use in classrooms and on video streams of RIT events.
- **Assistive Listening Systems.** NTID loans FM systems to students in classrooms.

NTID works with each of RIT's colleges to provide support for implementing strategies that maximize access to services for deaf and hard-of-hearing students in full compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for educational accommodation. The institutional position on accessibility for deaf and hard-of-hearing people includes the following strategies, for which NTID provides support:

- Sharing responsibility for providing workshops, training and information to assist faculty in the other RIT colleges in effectively teaching deaf and hard-of-hearing students.
- Providing training and ensuring that academic and administrative service areas that interact with students have staff with a range of communication skills and strategies (sign language, computer terminal or other written interaction) to communicate effectively with deaf students.
- Ensuring that all audio and visual media produced or used at RIT are effectively captioned, and that existing materials used in classrooms are captioned whenever possible.
- Encouraging RIT to advocate for the captioning of audio and visual materials, teleconferences and other educational media produced externally to RIT.

NTID was an early innovator in access services, initiating training programs for educational interpreters in the 1970s. Staff interpreters have built careers with specialized expertise across the diverse technologies of RIT's curriculum. This resource, paired with similar expertise with newer real-time captioning services, offers NTID students unparalleled access to the full array of educational opportunities RIT provides.

Capitalizing on its staff's expertise, Access Services strengthened the onsite development of staff interpreters with expanded professional development efforts. The growth of a formalized apprentice program has already benefited 146 developing interpreters from 29 discrete training programs in transitioning from school to effective professional interpreting.

The Randleman Program, which hires five novice interpreters of color into a two-year mentorship program, is the only program of its kind in postsecondary education. The expertise of NTID interpreters as specialists in post-secondary education is increasingly being shared through national outreach, including via the NTID Regional STEM Center, by improving skills of interpreters in STEM disciplines. With increasing retirements of veteran staff, Access Services hired approximately 40% of its current staff in recent years.

Access Services: Interpreting, Real-Time Captioning and Notetaking

Interpreting, notetaking and real-time captioning services are provided to allow deaf and hard-of-hearing students equal access to information in classes at other RIT colleges and NTID, when necessary.

| RIT College | Interpreting Hours | Real-Time Captioning Hours | Notetaking Hours | Class Sections Served |
|--|--------------------|----------------------------|------------------|-----------------------|
| College of Engineering Technology | 5,629 | 1,975 | 2,963 | 224 |
| Saunders College of Business | 7,810 | 1,676 | 3,561 | 209 |
| B. Thomas Golisano College of Computing and Information Sciences | 11,094 | 2,532 | 3,561 | 318 |
| Kate Gleason College of Engineering | 852 | 1,726 | 1,538 | 96 |
| College of Health Sciences and Technology | 1,917 | 950 | 1,057 | 65 |
| College of Art and Design | 17,864 | 4,060 | 3,863 | 306 |
| School of Individualized Study | 1,474 | 286 | 75 | 53 |
| College of Liberal Arts | 11,082 | 4,621 | 6,722 | 404 |
| College of Science | 13,457 | 6,279 | 6,758 | 422 |
| Student Affairs Division | 1,454 | 115 | 105 | 64 |
| Golisano Institute for Sustainability | 114 | 0 | 27 | 4 |
| NTID | 9,727 | 1,015 | 33 | 190 |
| FY 2021 Total Hours | 82,474 | 25,235 | 30,263 | 2,355 |

Access Services: Interpreting Services

In-class services include interpreting support in all colleges of RIT as well as student/professor meetings, field trips and other activities when required for credit-bearing courses. Non-class services include student use of interpreting services in student government, other student organizations,

study abroad, judicial proceedings, emergency situations and extra-curricular programs. Administrative use includes support for RIT faculty/staff activities, such as visiting presenters, conferences and presentations for faculty, staff and audiences.

| FY 2021 | In-Class | | | Non-Class Activity | | Administrative Activity | | Overall Total | |
|----------------------|---------------|------------|--------------|--------------------|------------|-------------------------|------------|----------------|-------------|
| | Hours | %* | Sections | | | | | | |
| Fall | 38,118 | 74% | 781 | 7,933 | 16% | 5,350 | 10% | 51,401 | 100% |
| Spring | 42,965 | 76% | 731 | 9,055 | 16% | 4,573 | 8% | 56,593 | 100% |
| Summer | 1,391 | 14% | 51 | 6,025 | 61% | 2,421 | 25% | 9,837 | 100% |
| FY 2021 Total | 82,474 | 70% | 1,563 | 23,013 | 20% | 12,344 | 10% | 117,831 | 100% |
| FY 2011 Total | 98,032 | 75% | 2,006 | 25,592 | 19% | 7,441 | 6% | 131,065 | 100% |
| FY 2012 Total | 97,232 | 75% | 2,032 | 25,766 | 19% | 6,902 | 6% | 129,900 | 100% |
| FY 2013 Total | 111,757 | 77% | 2,262 | 26,878 | 19% | 6,368 | 4% | 145,003 | 100% |
| FY 2014 Total** | 99,173 | 75% | 1,660 | 26,223 | 20% | 6,659 | 5% | 132,055 | 100% |
| FY 2015 Total | 105,983 | 76% | 1,739 | 27,196 | 19% | 7,051 | 5% | 140,230 | 100% |
| FY 2016 Total | 112,110 | 75% | 1,797 | 29,105 | 20% | 7,831 | 5% | 149,046 | 100% |
| FY 2017 Total | 108,243 | 71% | 1,644 | 33,854 | 22% | 10,533 | 7% | 152,630 | 100% |
| FY 2018 Total*** | 96,463 | 71% | 1,634 | 30,051 | 22% | 9,572 | 7% | 136,036 | 100% |
| FY 2019 Total | 100,270 | 69% | 1,608 | 31,850 | 22% | 13,164 | 9% | 145,284 | 100% |
| FY 2020 Total | 82,576 | 70% | 1,555 | 23,034 | 19% | 12,630 | 11% | 118,240 | 100% |

* Percentages are rounded to the nearest whole number.

** Reduced number of sections and hours required in FY 2014 resulted from RIT's move to a semester-based academic calendar.

*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 returned to NTID's previous standard method of counting hours.

Access Services: Real-Time Captioning Services

In keeping with NTID's *Strategic Vision 2010* and *Strategic Decisions 2020*, an increasing supply of real-time captioning is being made available for those students taking courses in the other RIT colleges. Students who believe they would benefit more from a text-based service may request it instead of sign language interpreting as their means of real-time access.

Real-time captioning is provided via specialized software that allows short-hand typing of classroom instruction; these services are provided on occasion for out-of-class activities such as orientations and meetings.

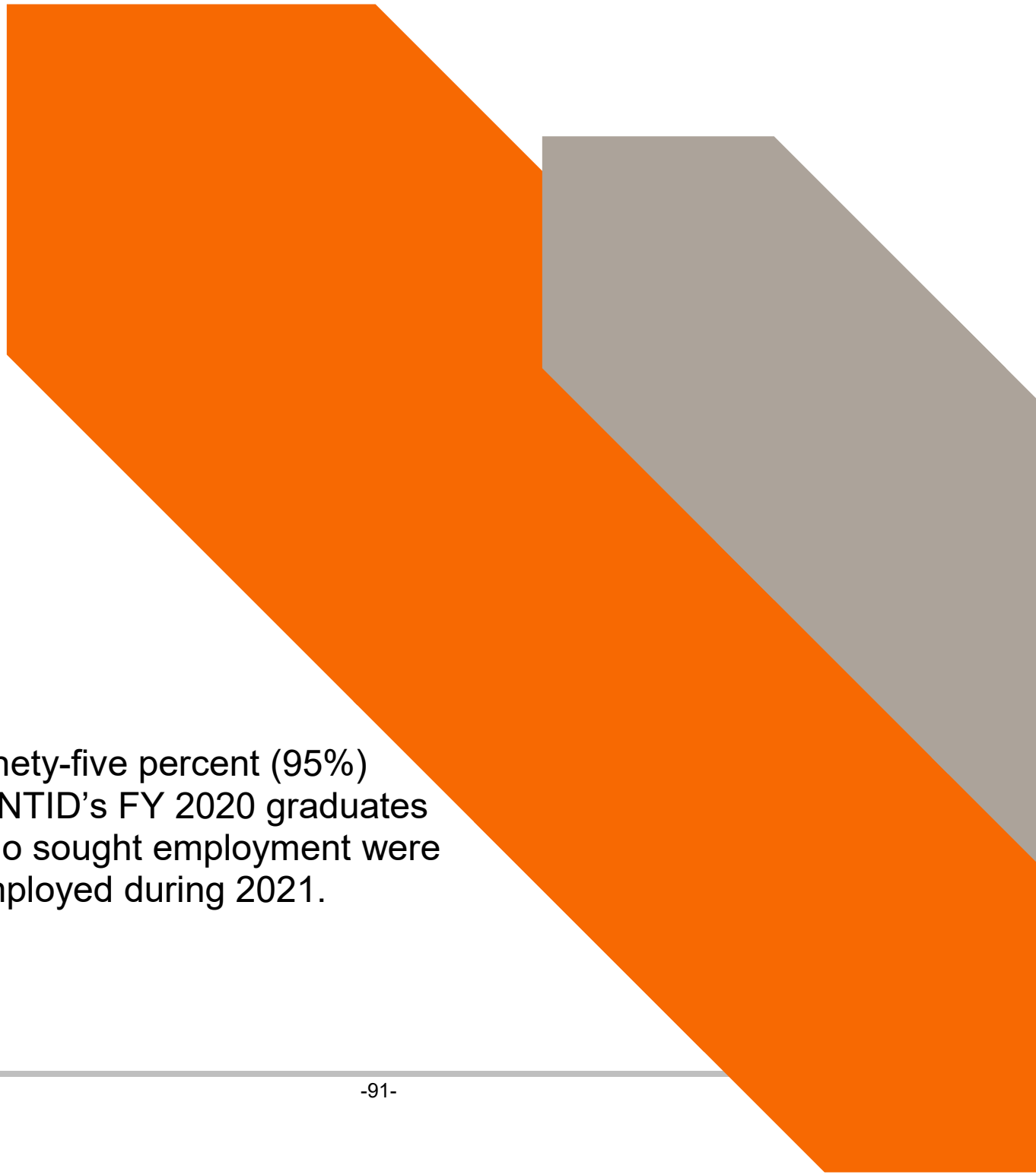
| FY 2021 | In-Class | | | Non-Class Activity | | Administrative Activity | | Overall Total | |
|----------------------|---------------|------------|------------|--------------------|-----------|-------------------------|-----------|---------------|-------------|
| | Hours | %* | Sections | | | | | | |
| Fall | 11,348 | 95% | 441 | 453 | 4% | 183 | 1% | 11,984 | 100% |
| Spring | 13,605 | 93% | 431 | 835 | 6% | 201 | 1% | 14,641 | 100% |
| Summer | 282 | 25% | 11 | 658 | 59% | 179 | 16% | 1,119 | 100% |
| FY 2021 Total | 25,235 | 91% | 883 | 1,946 | 7% | 563 | 2% | 27,744 | 100% |
| FY 2011 Total | 21,068 | 98% | 696 | 223 | 1% | 202 | 1% | 21,493 | 100% |
| FY 2012 Total | 19,092 | 98% | 592 | 254 | 1% | 171 | 1% | 19,516 | 100% |
| FY 2013 Total | 17,782 | 98% | 577 | 265 | 1% | 216 | 1% | 18,263 | 100% |
| FY 2014 Total** | 21,140 | 98% | 489 | 351 | 2% | 110 | 1% | 21,601 | 100% |
| FY 2015 Total | 21,459 | 96% | 509 | 630 | 3% | 122 | 1% | 22,211 | 100% |
| FY 2016 Total | 23,081 | 96% | 625 | 939 | 3% | 315 | 1% | 24,335 | 100% |
| FY 2017 Total | 24,608 | 95% | 642 | 800 | 3% | 544 | 1% | 25,952 | 100% |
| FY 2018 Total*** | 22,532 | 95% | 642 | 846 | 4% | 222 | 1% | 23,600 | 100% |
| FY 2019 Total | 23,154 | 89% | 669 | 2,401 | 9% | 423 | 2% | 25,978 | 100% |
| FY 2020 Total | 20,501 | 94% | 729 | 961 | 4% | 394 | 2% | 21,856 | 100% |

* Percentages are rounded to the nearest whole number.

** Reduced number of sections and hours required in FY 2014 resulted from RIT's move to a semester-based academic calendar.

*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 returned to NTID's previous standard method of counting hours.

Persistence, Graduation & Employment



Ninety-five percent (95%) of NTID's FY 2020 graduates who sought employment were employed during 2021.

Persistence, Graduation and Employment Highlights

Preparing deaf and hard-of-hearing students to live and work in the mainstream of society is the primary reason NTID was established in 1965. Prior to 1965, there were few postsecondary educational opportunities for deaf and hard-of-hearing students and virtually none in technical studies. As a result, nearly 85% of deaf adults in the early 1960s found themselves in unskilled or semi-skilled jobs.

Today, NTID's highly successful academic programs and services are leading graduates to successful careers in a broad range of fields. Over the past five years, 95% of graduates who chose to enter the labor force found employment that is commensurate with the level of their education and training. Figures for 2020 graduates show that 95%, or 124 of the 131 students who chose to enter the workforce, found employment.

These statistics reflect the quality of an NTID education and its value. According to a study conducted by NTID with the Social Security Administration (SSA) in 2013, deaf and hard-of-hearing graduates from NTID far out earn those graduating from other institutions of higher education. Specifically, at age 50, \$58,000 is the median salary for deaf and hard-of-hearing individuals graduating from NTID with a bachelor's degree, which is \$17,000 more than those graduating from NTID with an associate degree, and \$37,000 more than those graduating from other institutions of higher education. NTID deaf and hard-of-hearing graduates also experience higher rates of employment over their lifetimes than those graduating from other institutions of higher education.

Quality employment and higher earnings have been shown to correlate with graduation from college. Generally, students who withdraw before graduation fare no better earnings-wise than their peers who never went to college. With this in mind, NTID employs a variety of innovative strategies to improve persistence. All first-year students take Freshman Seminar, which undergoes continuing curriculum revisions to better address the challenges that these students experience. Students who appear to have a higher risk of attrition during their first year are identified and work closely with their Freshman Seminar instructor, counselor/academic advisor and academic chairperson. NTID requires all first-year students to meet with their counselor/academic advisor to review their program requirements, identify courses for the following semester and review their individual plan of employment that was developed with their vocational rehabilitation (VR) counselor, if receiving VR support, and plan of study for degree completion.

NTID is committed to addressing retention issues that impact students' persistence from first-year transition through graduation. Staff from different divisions within NTID's Student and Academic Services continue to focus on students' academic and social success through different strategies. These strategies include annually offering the Deaf ALANA Promise (DAP) program for first-year African, Latino and Native American (ALANA) students, providing support for students through the financial aid and vocational rehabilitation process, facilitating students' well-being and mental health needs through NTID Counseling and Psychological Services (NCaPS), analyzing exit interview results from NTID's Counseling and Academic Advising Services, examining other institutional systems that promote student retention and identifying strategies to increase the retention of NTID transfer students.

Persistence is a continuing concern for NTID. However, NTID's first-year retention and overall graduate rates continue to exceed national averages when compared to hearing students in associate and bachelor's degree programs in other colleges and universities. Notwithstanding these positive comparisons, NTID continues to work at improving its persistence to graduation rate.

For AY 2020-2021, 235 degrees were awarded. Of those, 31% were sub-baccalaureate degrees, 54% were bachelor's degrees and 15% were graduate degrees. Thirty-five percent of degrees were granted to minority students.

First-Year Persistence Rates

Since there is variability from year to year in terms of persistence rates for entering cohorts of students, NTID monitors and reports annually on persistence using a three-year moving average. The table below presents information about three-year moving averages for first-time, full-time, degree-seeking NTID-supported undergraduate students since 2009. Thus, the most recent

three-year average is reported for the 597 students who were first-time, full-time, degree-seeking in the years 2018, 2019 and 2020. Data in the table below indicate that for the most recent three-year period, 74% of new students persisted to the second year. Disaggregated rates can be found on the following page.

| First-Year Persistence Rates* | | | |
|-------------------------------|------------------|--------------------------------|--------------------------|
| Three-Year Entry Cohort | Number in Cohort | Number Registering Second Year | Overall Persistence Rate |
| 2009, 2010, 2011 | 780 | 577 | 74% |
| 2010, 2011, 2012 | 827 | 597 | 72% |
| 2011, 2012, 2013 | 855 | 658 | 77% |
| 2012, 2013, 2014 | 814 | 623 | 77% |
| 2013, 2014, 2015 | 779 | 596 | 77% |
| 2014, 2015, 2016 | 731 | 553 | 76% |
| 2015, 2016, 2017 | 702 | 509 | 73% |
| 2016, 2017, 2018 | 649 | 504 | 78% |
| 2017, 2018, 2019 | 609 | 438 | 72% |
| 2018, 2019, 2020 | 597 | 439 | 74% |

* Three-year averages for first-time, full-time, degree-seeking students registering for fall term. Students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation and the Master of Science program in Secondary Education are not included.

Persistence and Graduation Rates for Deaf and Hard-of-Hearing Students

Nationally, four-year public and private colleges have a first-year persistence rate of 81%. This compares to an 86% persistence rate for first-year NTID students across four-year degree programs. Students admitted to NTID have ACT composite scores that are comparable to students in two-year colleges with open admissions policies; yet, first-year persistence rates at NTID are comparable

with those of institutions admitting students who are far better prepared academically. The table below also indicates that NTID's graduation rates (44% for students admitted into sub-baccalaureate programs and 66% for those in bachelor-level programs) are much higher than public colleges with traditional or selective admission standards.

| National and NTID Persistence and Graduation Rates | | |
|--|------------------------------|------------------|
| Colleges | First-Year Persistence Rate* | Graduation Rate* |
| Two-Year Institutions | 62% | 33% |
| NTID Sub-Baccalaureate** | 68% | 44% |
| Four-Year Institutions | 81% | 62% |
| Other RIT Colleges (NTID Baccalaureate)** | 86% | 66% |

Andrew Smith, of Chesterfield, Missouri, graduated in fall 2020 with a BFA in 3D Digital Design.



* Source of national estimates: nces.ed.gov

** NTID calculates first-year persistence and graduation rates using a three-year moving average.

Degrees Granted: FY 2017 to FY 2021

During the past five years, NTID has awarded an average of 290 degrees annually. The number for FY 2021 was 235. In FY 2021, 72 of the 235 graduate and undergraduate degrees and certificates (35%) were granted to students from minority backgrounds.*

Seven different degree levels are eligible to be awarded to NTID-supported students at RIT.

Sub-Baccalaureate Certification

1. An *Associate in Occupational Studies* (AOS) degree requires 45-52 semester credit hours of technical instruction and permits students to enter their careers directly upon graduation. In addition to completing technical courses satisfactorily, students must complete 15 semester credit hours in the NTID general education curriculum, as well as other required semester credit hours determined by their program of study.
2. An *Associate in Applied Science* (AAS) degree permits students to enter their careers directly upon graduation, or in many cases, to transfer to a baccalaureate program in the other colleges of RIT. Completion of this degree requires 48-52 semester credit hours of technical instruction. In addition to the technical courses, students must complete 24 semester credit hours in general education courses, primarily offered through RIT's College of Liberal Arts as well as other required credit hours as determined by their program of study.
3. The *Associate in Science* (AS) degree is an associate+bachelor's degree for students seeking admission to bachelor-level studies. This degree requires completion of 60-63 semester credit hours, half of which must be from liberal arts and sciences; the rest are from technical and professional areas.

Bachelor's/Master's Degrees and Advanced Certificates

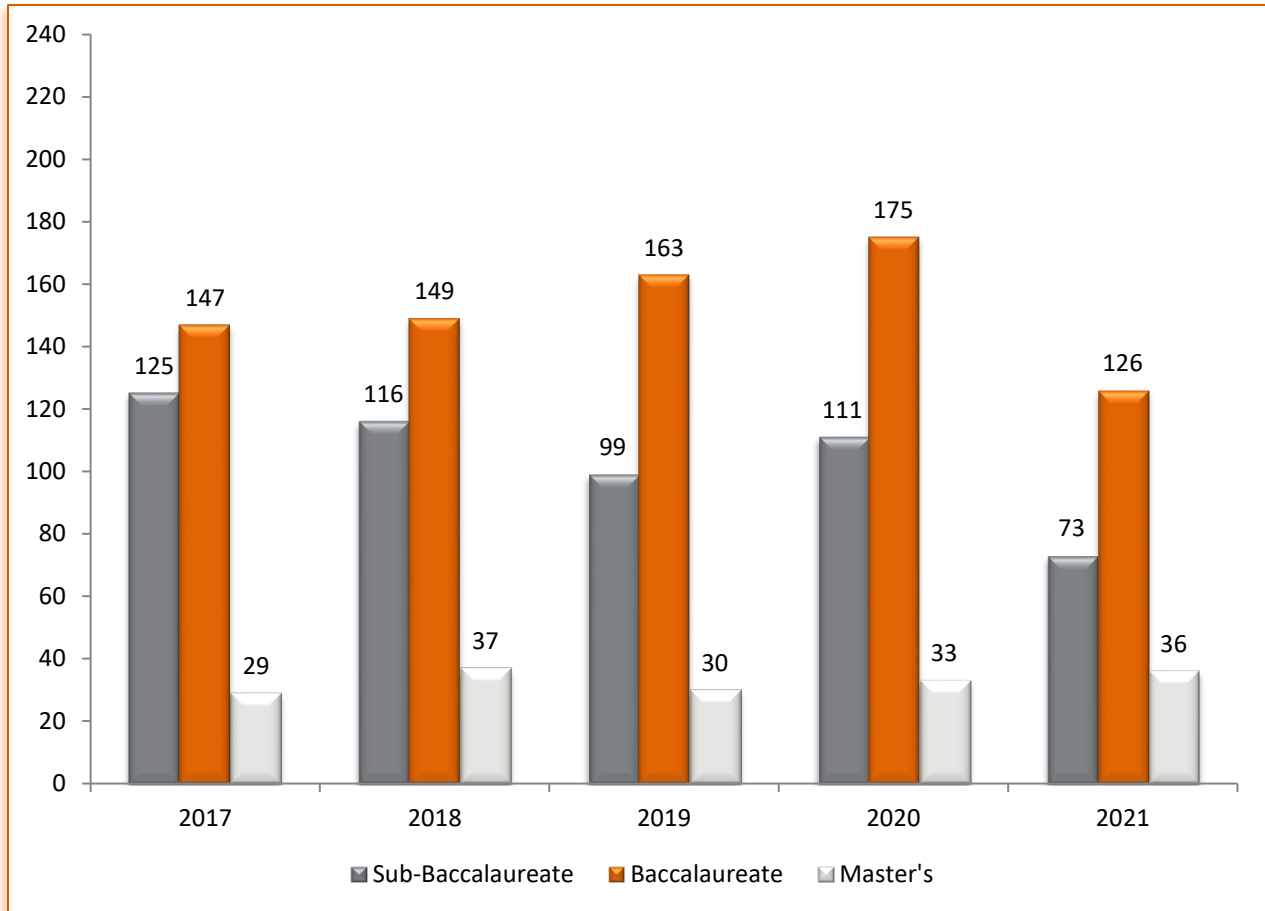
4. A *Bachelor's* degree is awarded to students who complete all required courses to graduate from a four- or five-year program in one of RIT's nine colleges. A bachelor's degree requires completion of 120-128 semester credit hours.
5. An *Advanced Certificate* is awarded to students who complete all required graduate courses within an applicable program. NYSED does not stipulate a minimum number of credit hours for an Advanced Certificate; however, RIT programs typically consist of at least 12 semester credit hours.
6. A *Master's* degree is awarded to students who complete all required courses to graduate from a two- or three-year graduate program in one of RIT's nine colleges. The credit requirements vary among programs, but a minimum of 30 semester credit hours at the graduate level is required.

Doctoral Degrees

7. A *Doctorate in Philosophy* (Ph.D.) degree is awarded to students who complete all courses, research, examinations, defense of dissertation and submission of a final accepted dissertation to graduate from a program within one of RIT's other eight colleges. The credit requirements vary among programs, but a minimum of three years of full-time study and 60 semester credit hours at the graduate level, with at least 18 credit hours of research, are required.

* Minority status is either unknown for 28 of these 235 graduates or the graduate has international visa status.

Degrees Granted: FY 2017 to FY 2021 (continued)



| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|-------------------|---------|---------|---------|---------|---------|
| Sub-Baccalaureate | 41.5% | 38.4% | 33.9% | 34.8% | 31.1% |
| Baccalaureate* | 48.9% | 49.3% | 55.8% | 54.9% | 53.6% |
| Graduate** | 9.6% | 12.3% | 10.3% | 10.3% | 15.3% |

* This number includes hearing graduates from the ASL-English Interpretation programs.

** This number includes deaf and hard-of-hearing graduates from RIT, as well as deaf, hard-of-hearing and hearing graduates from the Master of Science program in Secondary Education and hearing graduates from the Master of Science program in Health Care Interpretation.

Graduates by Program Areas

Of all the degrees awarded to NTID students on the RIT campus in FY 2021, 49% were through programs offered by NTID and 51% through the other colleges of RIT. Historically, 62% of the degrees have been awarded from NTID and 38% from the other RIT colleges. This change is the result of increased demand by students for

entry into bachelor-level programs, better articulation between NTID and RIT curricula and improved and expanded access/support services.

Data on minority status of these graduates appear in the Diversity and Inclusion section.

| | FY 2021 | | CUMULATIVE* (FY 1970 – FY 2021) | |
|--|---------------------|-------------------------|------------------------------------|-------------------------|
| | Number of Graduates | Percentage of Graduates | Number of Graduates | Percentage of Graduates |
| NTID | | | | |
| Career-Focused and Associate+Bachelor's Degrees | 73 | 31% | 4,569 | 48% |
| ASL-English Interpretation Bachelor's | 30 | 13% | 434 | 5% |
| ASL-English Interpretation Associate | 0 | 0% | 464 | 5% |
| ASL-English Interpretation Certificate | 0 | 0% | 8 | 0% |
| Master of Science in Health Care Interpretation | 5 | 2% | 21 | 0% |
| Master of Science in Secondary Education | 6 | 3% | 412 | 4% |
| Subtotal NTID | 114 | 49% | 5,908 | 62% |
| Other Colleges of RIT** | | | | |
| College of Engineering Technology | 12 | 5% | 681 | 7% |
| Saunders College of Business | 18 | 8% | 532 | 6% |
| B. Thomas Golisano College of Computing and Information Sciences | 17 | 7% | 394 | 4% |
| Golisano Institute for Sustainability | 2 | 1% | 7 | 0% |
| Kate Gleason College of Engineering | 10 | 4% | 129 | 1% |
| College of Health Sciences and Technology | 4 | 2% | 68 | 1% |
| College of Art and Design | 18 | 8% | 716 | 8% |
| College of Liberal Arts | 23 | 10% | 610 | 6% |
| College of Science | 6 | 2% | 208 | 2% |
| School of Individualized Study | 11 | 4% | 238 | 3% |
| Subtotal Other Colleges | 121 | 51% | 3,568 | 38% |
| Total | 235 | 100% | 9,476 | 100% |

* Graduates are summarized uniquely according to their most recent, highest level of degree completion.

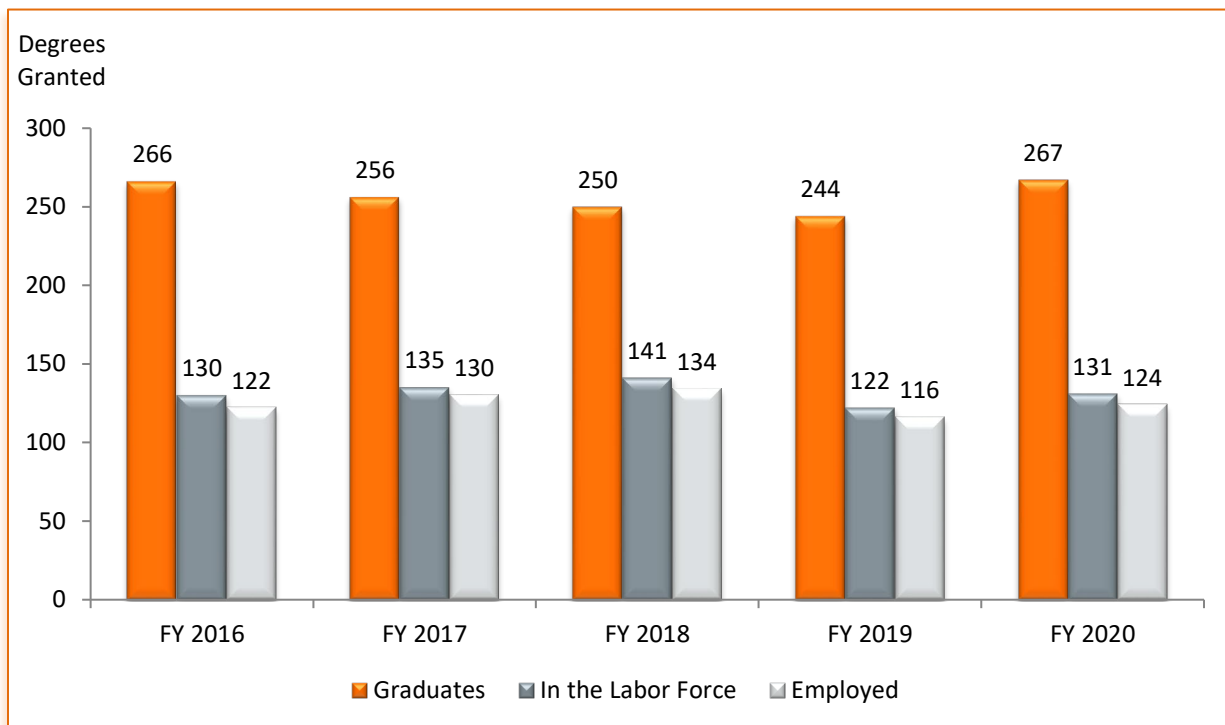
** Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as some associate degrees.

Graduation and Employment for Recent Graduates

Employment rates are calculated using the methodology of the Bureau of Labor Statistics (BLS) in its Current Population Survey (household survey), which provides information on the labor force, employment and unemployment. As the BLS defines it, "The civilian labor force is the sum of employed and unemployed persons. Those not classified as employed or unemployed are not in the labor force. The unemployment rate is the number unemployed as a percent of the labor force. The labor force participation rate is the labor force as a percent of the population..."

NTID's labor force is the sum of those graduates who are employed and those who want to be employed. Those who do not want to be employed because they choose to continue to pursue

bachelor's and master's degrees at RIT or at some other institution of higher education, or choose to become homemakers, or to be idle temporarily while traveling, etc., are not in the labor force. During FY 2020*, 267** deaf and hard-of-hearing students graduated, and 131 chose to enter the labor force. One hundred and twenty-four were employed, while seven were unable to find employment. Therefore, 94.66% (124/131) found employment. NTID's employment rate over the past five years as calculated above is 95%. Of the 136 remaining graduates from 2020, 99 are continuing their education toward advanced degrees either at RIT or elsewhere, 15 are not looking for employment and 22 have an unknown status.



* As of the writing of this report, the employment information for 2021 is incomplete; therefore, NTID reports employment rates of 2020 graduates.

** Students are only counted once in the case of multiple degrees, and the total number of graduates does not include degrees in the ASL-English Interpretation program, the Master of Science program in Secondary Education, the Master of Science program in Health Care Interpretation or any certificates awarded.

Employment Services for Deaf and Hard-of-Hearing Students and Graduates

Prior to students' cooperative work experiences, NTID Co-op and Career Center (NCCC), formerly NTID Center on Employment, meets with students to support student learning about how to organize and conduct job search activities. Students utilize extensive NCCC website and print resources to research prospective employers, identify

appropriate employment opportunities and obtain information about applying for a job and working. During the academic year, employment advisors provide job-seeking advice to students and graduates through zoom, email, text and videophone.

During FY 2021:

- NCCC personnel appeared as guest presenters to discuss the job search process in nine sections of various technical and academic programs.
- Seventy-two participants attended a webinar called "How to Handle Yourself in a Workplace With and Without a Sign Language Interpreter" in October 2020. The presenter was from P&G and the program was well received by the students.
- As part of NTID Career Weeks in October 2020, 279 students met with representatives from 17 Fortune 500 companies, federal agencies and non-profit organizations to obtain an overview of their company/agency and learn the various types of training and skills they seek.
- Twenty-one STEM students met with representatives from Dow, Merck, Ortho Clinical Diagnostics, DFAS, Fidelity, Atos, LenelS2, Paychex, P&G, GE and Mack Trucks to participate in the Practice Interview Week during October 2020. This was a great opportunity for our students to improve their interviewing skills.
- Three engineering students participated in a virtual Solar Turbines Training Academy/Shadow Day in October 2020.
- Fifty-nine participants attended a virtual workshop called "The Perfect Pitch: Selling Yourself on LinkedIn" in November 2020. The presenter was from PNC.
- Twelve students participated in the first-ever deaf-and-hard-of-hearing-only storyboarding network event, DreamWorks/Signing Animation, in January 2021. This provided an opportunity for storyboarding candidates to meet with DreamWorks creative talent for networking and critique.
- Fifteen non-STEM students met with interviewers from Signing Animation, NTID Morpheyes Studio, Peace Corps, Disability Solutions Talent, Dow and the Jewish Community Center as part of Practice Interview Week in March 2021.
- NCCC consulted with 80 alumni for job search assistance and providing employment opportunities for our students and recent graduates.

Where Recent Graduates Are Working

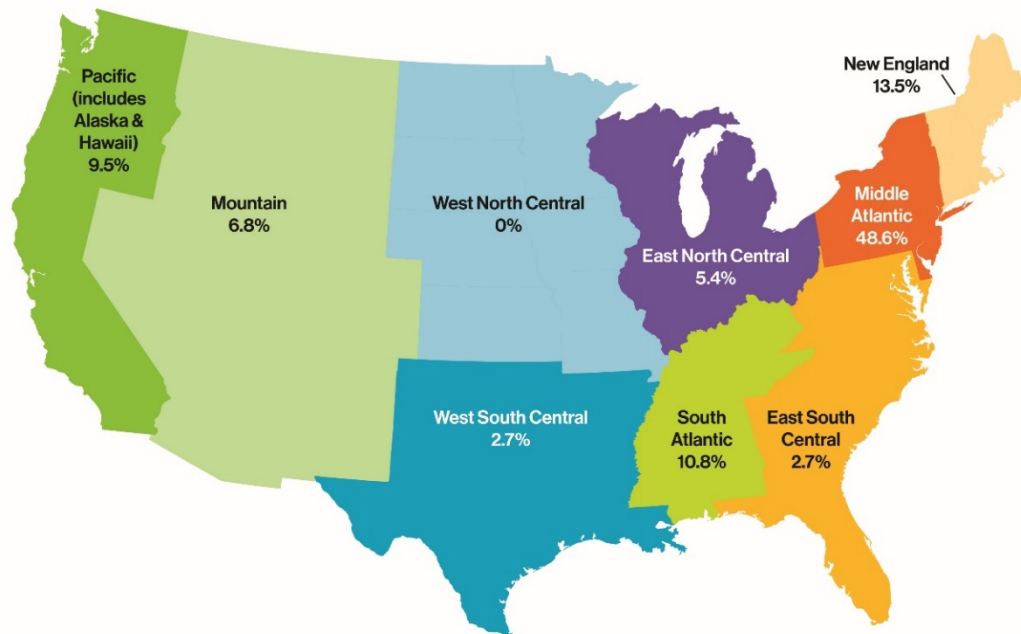
In FY 2020, 56% of U.S. NTID graduates accepted jobs in their home states as their first jobs after graduation, while 15% found employment in the Rochester area and 29% in other areas of

the country. The majority of graduates are employed in the eastern parts of the country, areas that have been strong sources of applicants for NTID.

| Area | Percent of Employed Graduates | | | | |
|--------------|-------------------------------|-------------|-------------|-------------|-------------|
| | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020* |
| Rochester | 13% | 25% | 29% | 28% | 15% |
| Home State | 53% | 42% | 39% | 36% | 56% |
| Other | 34% | 33% | 32% | 36% | 29% |
| Total | 100% | 100% | 100% | 100% | 100% |

| | | | | | |
|-------------------------------------|------------|------------|------------|------------|------------|
| Number of Graduates Employed | 122 | 130 | 134 | 116 | 124 |
|-------------------------------------|------------|------------|------------|------------|------------|

FY 2020 Graduate Employment by Region**



* Employment numbers for FY 2021 graduates are incomplete and will be reported next year.

** International and unknown locations are excluded.

Employment by Sector of the Economy

Of the last cohort of graduates tracked for employment, 72% have acquired jobs in business and industry, 21% in education/non-profit and 7% in government.

| Sector | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020* |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Business/Industry | 70% | 77% | 65% | 77% | 72% |
| Education/Non-Profit | 20% | 17% | 15% | 16% | 21% |
| Government | 10% | 6% | 20% | 7% | 7% |
| Total | 100% | 100% | 100% | 100% | 100% |



Tyler Puga, of Placentia, California, graduated in 2021 with an MS in Professional Studies concentrating on cell biology and healthcare entrepreneurship. Before he resumes his path to becoming a physician-scientist through a doctorate program, he is headed to Germany on a Fulbright Research award. There, he will study treatments that slow the progression of neurodegenerative diseases, like Alzheimer's and Parkinson's.

* Employment numbers for FY 2021 graduates are incomplete and will be reported next year.

Occupations of Recent Graduates: Entry Status by Labor Category

The following table reports on the occupations of employed alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into

14 categories. Percentages among the various categories are different than seen in the *FY 2020 Annual Report*. This year shows moderate changes over many occupational categories.

| Occupations of Working 2020 Graduates* | % | Sample Job Titles Held by 2020 Graduates within Category |
|--|-------------|---|
| Arts, Design, Entertainment, Sports and Media | 16.1% | Social Media Coordinator, Creative Director, Multimedia Designer, Video Editor, Visual Designer |
| Computer and Mathematics | 15.3% | Software Engineer, Technical Support Specialist, Web Designer, Digital Designer, Data Engineer |
| Transportation and Material Moving | 12.7% | Fulfillment Coordinator, Delivery Driver, Package Handler, Fulfillment Center Associate |
| Architecture and Engineering | 11.0% | Quality Engineer, Patent Classifier, Hardware Quality Engineer, Engineering Technician |
| Business and Financial Operations | 10.2% | Operations Support Specialist, Marketing Consultant, Junior Brand Strategist, Financial Assistant |
| Education, Training and Library | 5.9% | Researcher, Teacher Assistant, Virtual Business Research Assistant, Education Assistant |
| Life, Physical and Social Science | 5.9% | Lab Technician, Quality Assurance Laboratory Technician, Clinical Lab Technician |
| Production | 5.9% | CNC Machinist, Industrial Worker, Shop Technician, Wireman |
| Office and Administrative Support | 4.2% | Customer Service Agent, Procurement Associate, Accounting Assistant |
| Management | 4.2% | Founder, Shift Supervisor, Project Manager |
| Healthcare Practitioners & Technical Occupations | 2.5% | Research Technician, Physician Assistant, Wellness Coach |
| Sales and Related | 2.5% | Retail Associate, Cashier |
| Personal Care & Service | 2.5% | Residential Counselor, Residential Mentor, Residential Support Coach |
| Food Preparation and Serving | .9% | Sales & Service |
| Total | 100% | |

* Three of the FY 2020 employed graduates had unknown job titles.

Occupations of Alumni by Labor Categories

All NTID alumni graduating through summer 2018 were surveyed in 2019.

The following table reports on the occupations of employed NTID alumni using the Standard Occupational Coding system (SOC) used by the U.S. Department of Labor. Occupations are grouped into 15 major categories.

In 2019, the top four labor categories remain consistent with the 2014 alumni survey. However the percentage of alumni working in Education, Training and Library increased by nearly 10% since the previous survey. Also, Healthcare Support is a newly included category for 2019, becoming one of the top 10 categories represented.

The next alumni survey will be completed in 2024.

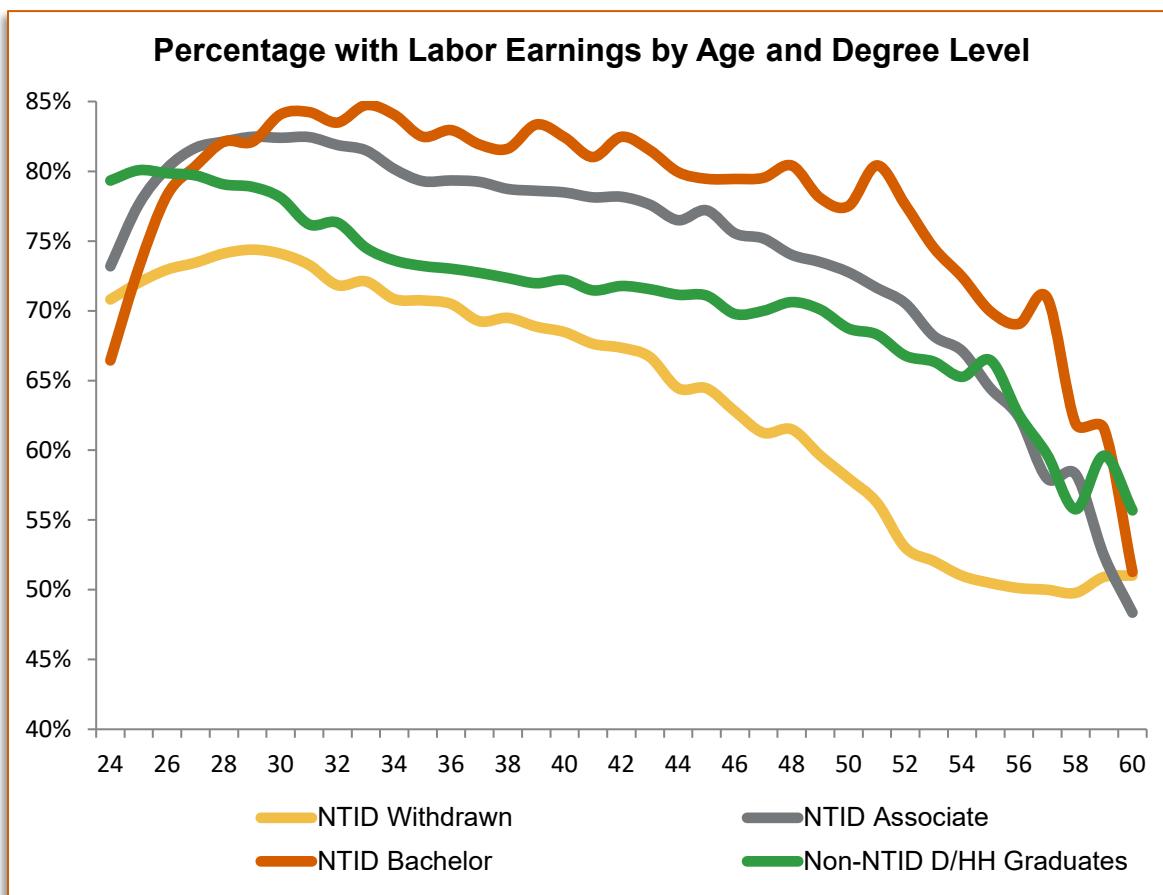
| Occupations of Working Alumni* | % | Sample Job Titles Held by Alumni within Category |
|---|-------|---|
| Education, Training and Library | 20.8% | Assistant Professor, Life Skills and Literacy Instructor, Paraprofessional, Special Education Teacher |
| Community and Social Services | 15.5% | Family Service Program Coordinator, Lead Employment Specialist, Senior Vocational Rehabilitation Counselor |
| Business and Financial Operations | 14.2% | Accountant, Conference Director, Financial Analyst, Human Resources Specialist |
| Computer and Mathematics | 8.9% | Chief Technology Officer, Database Developer, Software Developer |
| Architecture and Engineering | 8.9% | CNC Machinist, Principal Packaging Engineer, Senior Electrical Engineer |
| Office and Administrative Support | 8.4% | Administrative Assistant, Operations Coordinator, Testing Coordinator |
| Arts, Design, Entertainment, Sports and Media | 4.1% | Graphic Designer, Senior Art Director, Visual Information Specialist |
| Life, Physical and Social Sciences | 2.7% | Clinical Evaluator, Environmental Protection Specialist, Microbiology Laboratory Technician |
| Healthcare Support | 2.7% | Clinical Trials Laboratory Assistant, Community Resources Professional, Optical Lab Technician, Specimen Technician |
| Production | 2.3% | Manufacturing Technician, Tool and Dye Maker |
| Food Preparation and Serving | 2.1% | Food Service Worker, Prep Cook |
| Sales | 2.1% | District Manager, Retail Associate, Senior Client Director |
| Personal Care and Services | 1.4% | Personal Care Assistant, Residential Care Worker |
| Transportation and Material Moving | 1.4% | Handling and Shipping Staff, Postal Worker, Sort Associate |
| Healthcare Practitioner | 1.1% | Deaf Health Specialist, Pathology Staff |

* There were several job categories not represented by any of the graduates.

Labor Force Status and Earnings of Alumni

The figures below represent the changing employment conditions of deaf and hard-of-hearing alumni from age 24 to 60. Data represented in these figures are from a 2012 study with the Social Security Administration and Cornell University. Findings indicate that individual graduates benefit significantly from the curricula offered through NTID, regardless of graduating.

However, within the NTID alumni population, the magnitude of the benefit does depend on educational attainment. Deaf and hard-of-hearing graduates from RIT show the highest percentage generating income across the majority of working years, as compared with those deaf and hard-of-hearing graduates from other institutions of higher education.

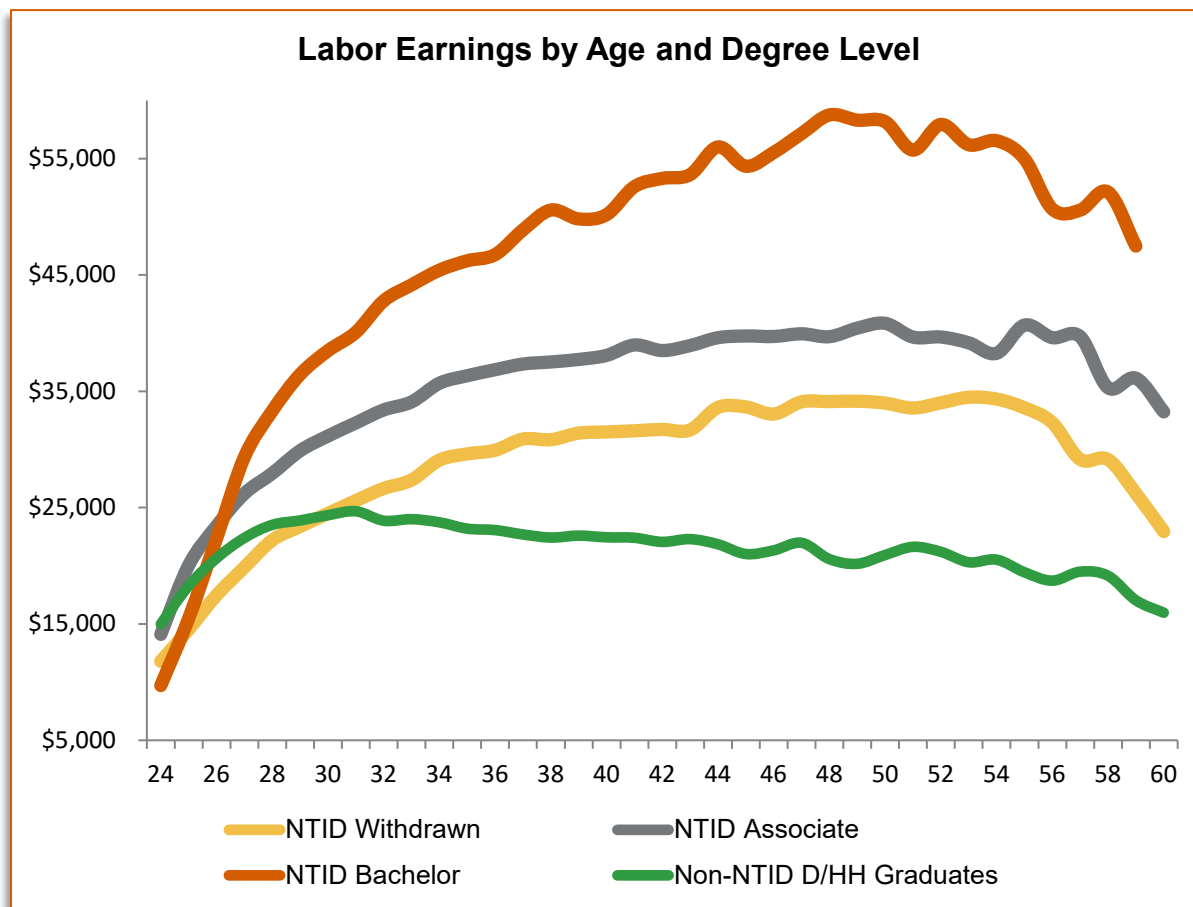


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Labor Force Status and Earnings of Alumni (continued)

Research in collaboration with the Social Security Administration and Cornell University demonstrates the impact that an RIT/NTID education has on producing income for various categories of individuals. At age 50, NTID deaf and hard-of-hearing bachelor's degree graduates earn on average \$17,000 more than those with

sub-bachelor's degrees, who in turn earn \$7,000 more than those who withdrew prior to degree completion from NTID, who earn \$13,000 more than deaf and hard-of-hearing graduates from other institutions of higher education. Increased earnings result in greater federal tax contributions.

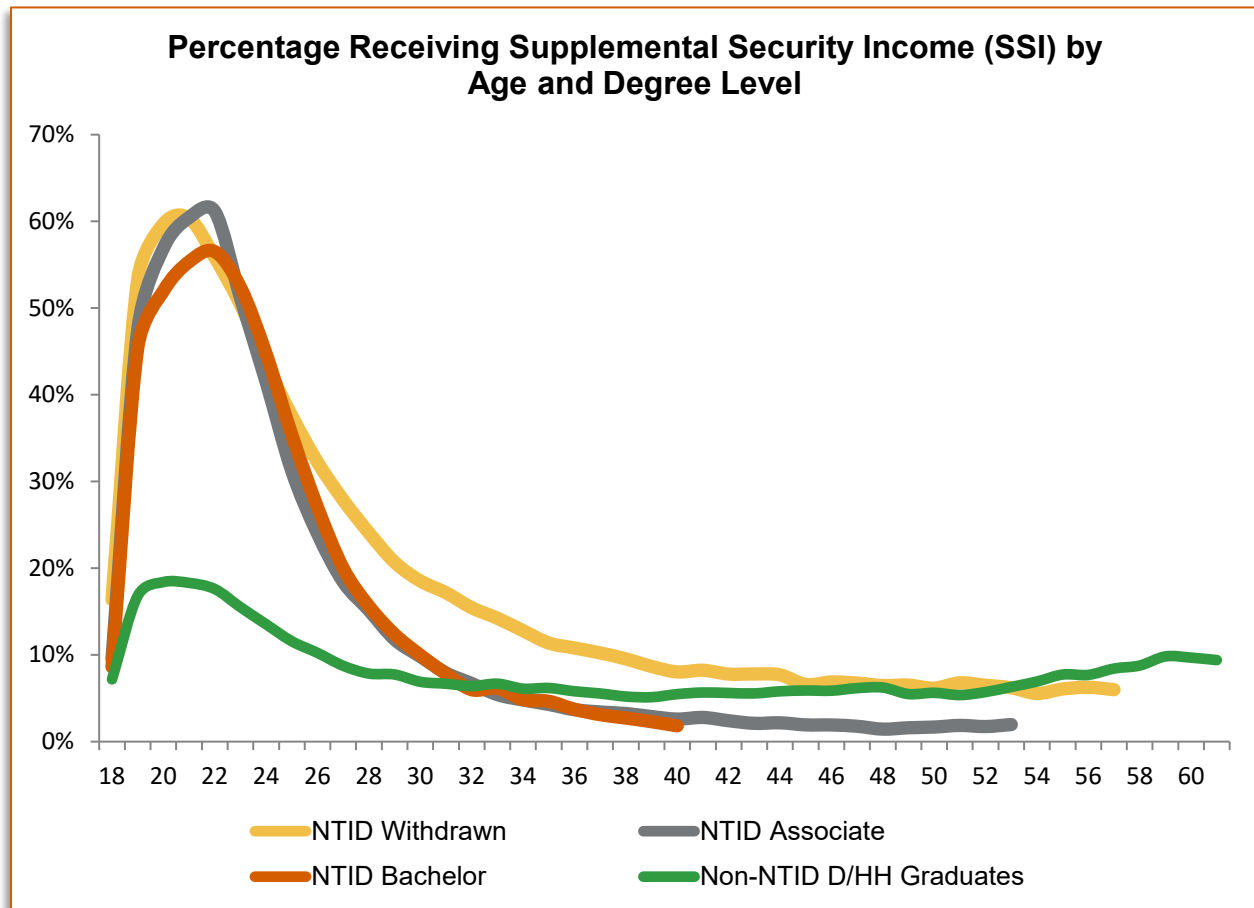


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Effect of College Graduation on Reduction in SSI and SSDI Payments

Research in collaboration with the Social Security Administration and Cornell University shows the role that the completion of a college degree plays in reducing dependence on continuing federal support. These differences exist for both the Supplemental Security Income (SSI) and the

Social Security Disability Insurance (SSDI) programs. At age 40, NTID deaf and hard-of-hearing graduates collect SSI at a rate of less than 2%, as compared to 8% for deaf and hard-of-hearing graduates from other institutions of higher education.

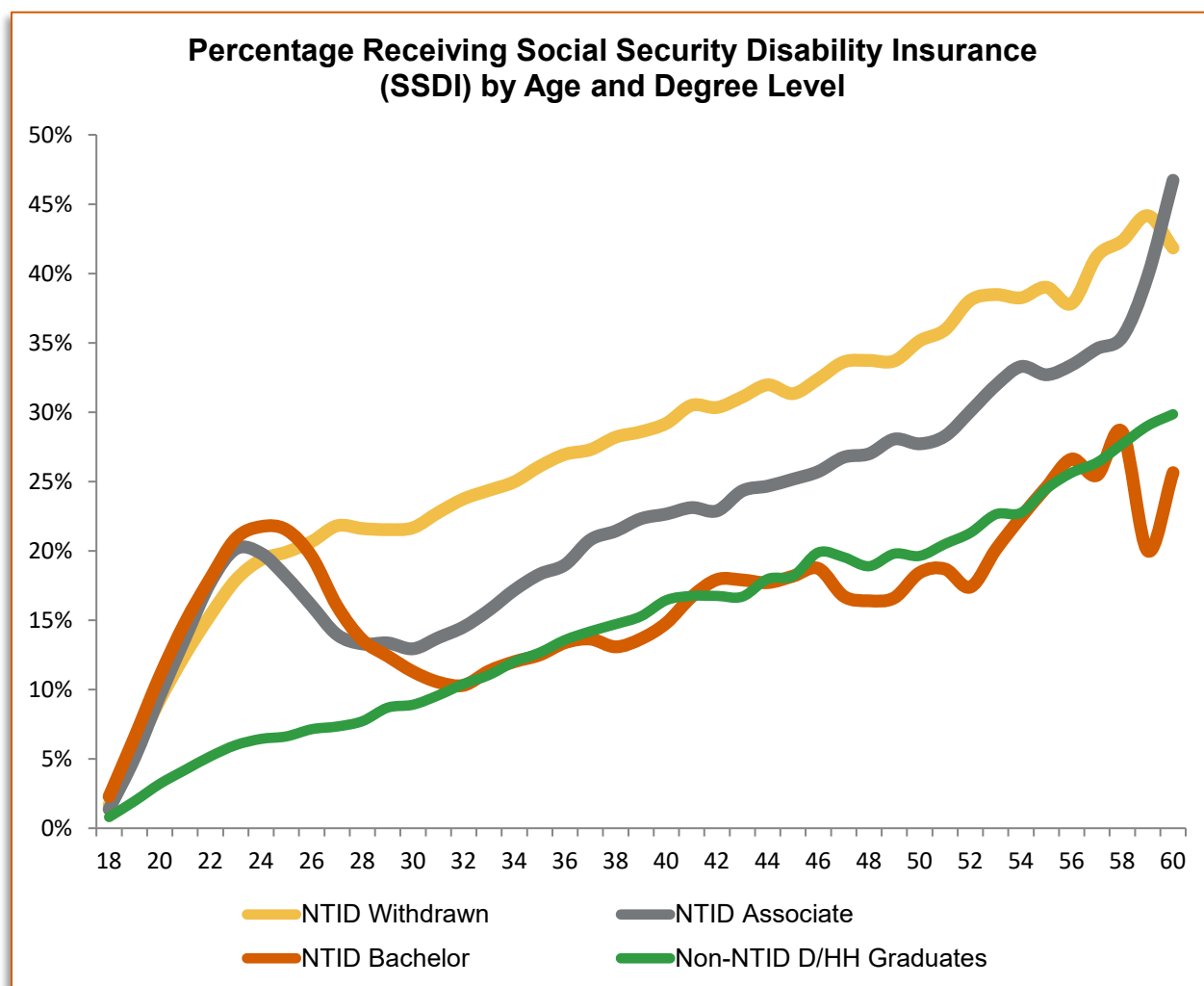


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Effect of College Graduation on Reduction in SSI and SSDI Payments (continued)

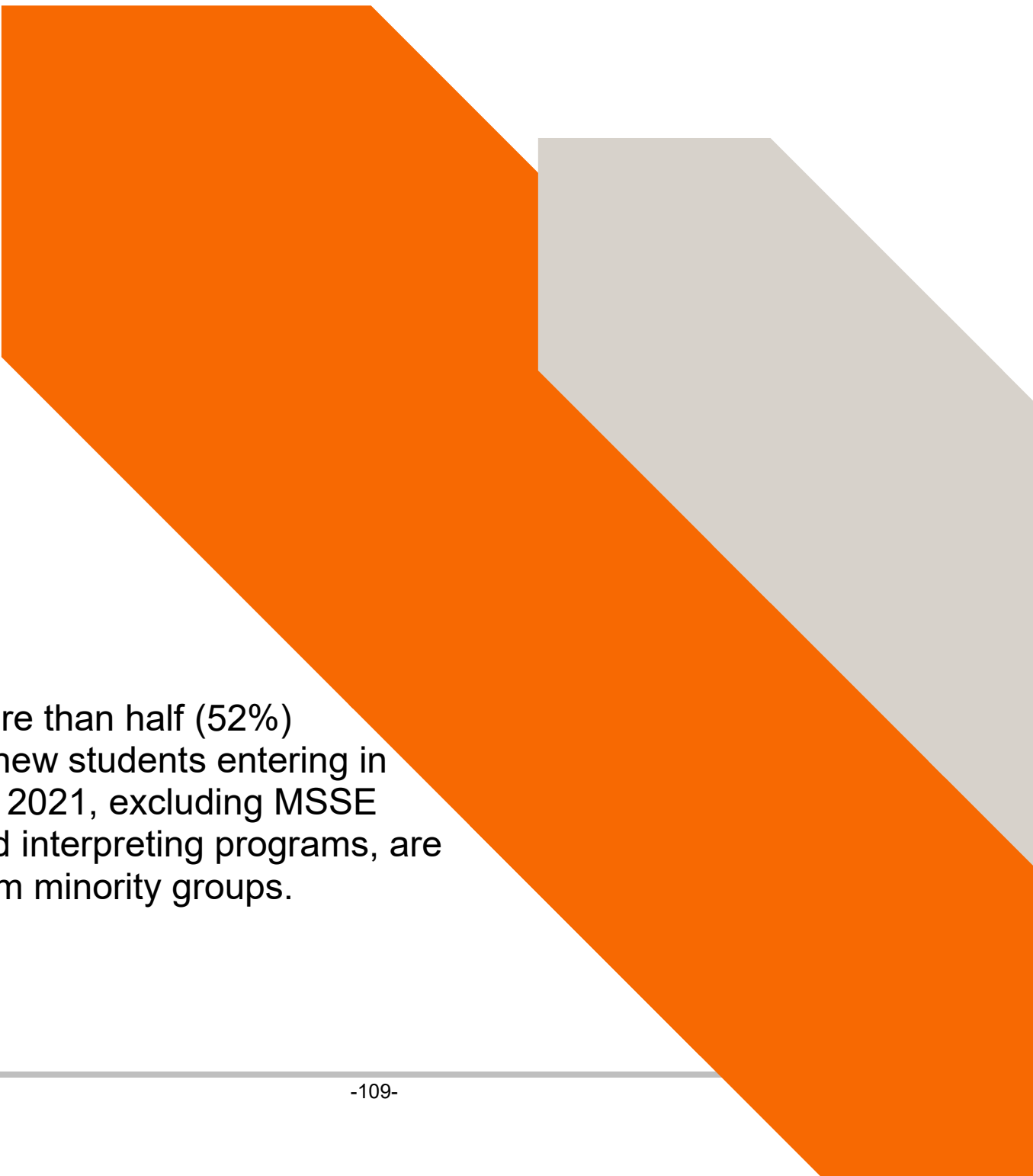
While a smaller percentage of deaf and hard-of-hearing students collect SSDI in their collegiate years, by age 50, 18% of NTID deaf and hard-of-hearing bachelor's degree graduates collect SSDI, as compared with 20% of deaf and hard-of-hearing

graduates from other institutions of higher education. As made evident by the chart below, the impact that a degree has on SSDI payment collection is substantial.



Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and hard-of-hearing graduates who completed a bachelor's degree from RIT (NTID Bachelor); 2) Deaf and hard-of-hearing associate degree earners from NTID (NTID Associate); 3) Deaf and hard-of-hearing individuals who attended RIT/NTID, but withdrew prior to degree completion (NTID Withdrawn); and 4) Deaf and hard-of-hearing graduates from other institutions of higher education (Non-NTID D/HH Graduates).

Diversity and Inclusion



More than half (52%) of new students entering in fall 2021, excluding MSSE and interpreting programs, are from minority groups.

Diversity and Inclusion Highlights

Students

As of fall 2021, deaf and hard-of-hearing students at NTID totaled 929.* Diversity highlights for this population follow:

- Fifty-two percent (52.1%) of the entering class is from minority groups. The percentage of the total enrolled student body is 49%, which is more than triple what it was 20 years ago.

Of all NTID-supported students, both deaf, hard-of-hearing and hearing, and across all programs, 44% are from minority groups.

Faculty and Staff

In addition to seeking faculty and staff members who are experts in their field and well versed in teaching techniques for deaf and hard-of-hearing students, NTID has undertaken recruitment and persistence strategies to attract and keep qualified minority and deaf and hard-of-hearing employees and employees with disabilities.

Of 95 employees from ethnic minority populations, 40 are Black or African American, 32 are Hispanic/Latino and 23 are other minorities.

Of 548** total number of employees, 141 are deaf or hard of hearing.

Of the 212 employees who are deaf or hard of hearing or are members of a minority group, 140 are in executive, faculty or exempt positions. Note that some individuals count in more than one category.

NTID's commitment to diversity and inclusion has become an integral component of the college's plan of work. Department heads and faculty and staff members are making concerted efforts to recruit, hire and retain individuals from diverse categories. In the past year, 60% of all hires were either minority individuals or individuals who are deaf or hard of hearing.

* Does not include students enrolled in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science in Secondary Education program.

** Of the 548 employees, 515 are covered by operating funds.

NTID Office of Diversity and Inclusion

NTID provides educational programs that prepare graduates to live and work in a changing global community and to enhance their lifelong learning. To succeed in the global workplace, students need to develop a solid understanding of the diversity of

the workplace and possess the knowledge, skills and attributes to thrive in such an environment. The composition of the student body and of the faculty and staff who encounter students needs to reflect that diversity.

NTID recognizes the importance of valuing diversity as it prepares deaf and hard-of-hearing students to enter a global community. Diversity and inclusion stimulate intellectual engagement, critical thinking and problem-solving skills. Learning and socializing in culturally diverse environments with individuals from all backgrounds can lead to increased innovation and collaboration. Exposure to varying leadership styles from faculty, staff, administrators and the community—particularly when someone is from a historically underrepresented community—provides lasting benefits.

With continuing shifts in national and international demographics, students need to be prepared to enter a progressively more diverse society and workplace. Students need to develop the willingness, the knowledge and the skills to live and work in such an environment. This is critical if they are to gain the understanding necessary to participate actively in society and contribute in meaningful ways to their own success and that of the community in which they live.

In addition to preparing students to enter society and the workplace, NTID's academic environment must respond to the needs of people who are both deaf or hard of hearing and from minority backgrounds. NTID's commitment to recognize, celebrate and value cultural diversity and individual differences is grounded in the continuing efforts of this country to forge a pluralistic society. It does not arise merely from political pressure or rest solely on public law; instead, it is based on a composite of NTID's mission, a changing student body and the changing nature of the world. An educational institution has a responsibility not only to reflect society, but also to lead in promoting positive change within that society.

Even during this unprecedented time, diversity continues to be a priority in higher education. Recent events, amid a global pandemic, highlighted intersecting societal challenges that include disparities in healthcare, systemic racial inequality and racial injustice. These challenges were further exacerbated for deaf and hard-of-hearing individuals—including RIT/NTID students—by impacts stemming from not having full access to information. The mandate to wear masks while helping to prevent the spread also came with sacrifices in access to communication. In addition to information overload in general regarding COVID-19, the rapidly-shifting course of events sometimes overwhelmed planning. As we continue to monitor the impact the COVID-19 pandemic has on the NTID community, NTID is dedicated and committed to ensuring a sense of belonging and inclusion. Working continuously on concepts that promote inclusion is critical for our community during these challenging times.

- NTID Office of Diversity and Inclusion, under the leadership of Dr. Alesia Allen '04, assistant vice president for diversity and inclusion; Dr. Joseph Hill, assistant dean for ALANA faculty recruitment and retention; Thomastine Sarchet-Maher '03, '09, assistant dean of ALANA outreach, access and success; and Dr. Peter Hauser, assistant dean of research mentoring, received additional support for ALANA staff recruitment and retention efforts as well as communications efforts in 2021.
- In early 2021, NTID released its *Antiracism and Social Justice Plan* (rit.edu/ntid/diversity/social-justice) focused on three primary areas: supporting ALANA faculty and staff success through increasing ALANA representation of faculty, staff and administration to 20%; supporting ALANA student success through increasing persistence and graduation rates; and NTID community education and training to support the ALANA community.
- In March, NTID announced that a \$75,000 Antiracism Scholarship Fund had been established as part of NTID's *Antiracism and Social Justice Plan*. The fund is a joint effort between the NTID Office of Diversity and Inclusion and the NTID Office of the President. The fund will support up to five projects focused on antiracism research/scholarship or antiracism-related instruction.

NTID Office of Diversity and Inclusion (continued)

- In March, NTID hosted a presentation on “minority tax” and, as a result, is exploring ways to minimize the burden on ALANA faculty and staff serving on search committees.
- NTID is reviewing hiring processes and practices to ensure that progress towards the 2025 ALANA faculty, staff and administration hiring goals is being made.
- Antiracism-focused material was added to the curriculum for the fall 2021 Freshman Seminar, in addition to diversity and inclusion curriculum-related efforts already in progress. All Freshman Seminar instructors took antiracism workshops over the summer to ensure they were adequately trained to host relevant dialogues and activities during class.
- NTID Office of Diversity and Inclusion expanded NTID’s dual-enrollment program, Project Fast Forward, in partnership with high schools that serve ALANA communities. NTID has established a Project Fast Forward grant to support high schools that serve predominantly BIPOC (Black, Indigenous, People of Color) students. The funds from this grant can be used for textbooks, software and hardware directly related to the dual-credit courses offered by NTID.
- Scholarships were established for BIPOC ASLIE students and MSSE students.
- NTID piloted a mentoring program with NTID BIPOC alumni and current NTID students.
- NTID announced a partnership with Garth Fagan Dance for a “cooperative-creative-connection” that began August 1, 2021. The partnership will allow collaboration for mutual projects, including social justice outreach—exploring the use of dance and the performing arts as tools in examining issues surrounding social justice—and community outreach—increasing access to dance and the performing arts for students in the Rochester City School District.
- NTID Faculty Program for Academia (NFPA), which changed its name to NTID Faculty Fellowship (NFF), is a program that provides underrepresented prospective faculty members with the opportunity to develop skills to pursue faculty careers. The NFF program expanded from three to six positions, with a minimum of three of the positions reserved for ALANA faculty members.
- Diversity training is offered regularly through the RIT Center for Professional Development as well as within the college in advance of each faculty search, supported by RIT’s Office of Faculty Recruitment and Retention.
- The NTID Diversity Group promotes the best possible learning, living and working experience for Black or African American, Hispanic/Latino and American Indian or Alaska Native members of the RIT/NTID community. The group’s areas of focus include: RIT/NTID community involvement, professional development and serving as a resource for NTID’s assistant vice president of diversity & inclusion. The group includes approximately 40 members.
- The Randleman Program is a two-year preceptorship that focuses on intersectionality and inclusion. It aims to equip interpreters of color that recently have entered the field for the demands of interpreting in a postsecondary environment, while simultaneously increasing diversity representation. Protégés are assigned a preceptor and an individually designed curriculum. Protégés work 40 hours a week, which includes hours of interpreting, language development, professional development with an emphasis on diversity and inclusion and leadership development activities. NTID’s Randleman Program kicked off the Randleman Summer Intensive Program for Interpreters of Color. The program is designed for interpreting students in their senior year of an interpreter training program and for interpreters with up to five years of experience.

Admissions Activity by Ethnicity*

Fifty-five percent (296) of this year's 601 deaf and hard-of-hearing applicants were students from minority backgrounds. The FY 2022 entering class of deaf and hard-of-hearing students included 138 minority students, who represent 53% of the newly admitted deaf and hard-of-hearing students.

| | FY 2018* | % | FY 2019* | % | FY 2020* | % | FY 2021* | % | FY 2022* | % |
|-------------------------|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|
| Total Applicants | 638 | | 533 | | 520 | | 593 | | 601 | |
| Non-Minority | 238 | 51% | 213 | 45% | 241 | 47% | 252 | 43% | 239 | 45% |
| Minority | 229 | 49% | 256 | 55% | 271 | 53% | 336 | 57% | 296 | 55% |
| Acceptances | 435 | | 396 | | 396 | | 449 | | 438 | |
| Non-Minority | 226 | 56% | 177 | 48% | 201 | 52% | 206 | 46% | 197 | 48% |
| Minority | 181 | 44% | 192 | 52% | 188 | 48% | 240 | 54% | 217 | 52% |
| Registrations | 289 | | 259 | | 247 | | 262 | | 269 | |
| Non-Minority | 153 | 57% | 126 | 52% | 131 | 54% | 124 | 48% | 123 | 47% |
| Minority | 117 | 43% | 114 | 48% | 111 | 46% | 133 | 52% | 138 | 53% |

Students pose for pictures at RIT's Convocation for New Students.



* Admissions data capture activity stewarded by the NTID Admissions Office and include students who are readmitted. Figures do not include non-degree-seeking students as well as admissions activity in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Percentages are of individuals for whom NTID has data, less those with international visa status.

Ethnicity of New Students*

The FY 2022 entering class included 162 minority students, who represent 49% of the entire incoming class. The FY 2022 entering class of deaf and

hard-of-hearing students included 138 minority students, who represent 53% of the newly admitted deaf and hard-of-hearing students.**

| | FY 2018 | % | FY 2019 | % | FY 2020 | % | FY 2021 | % | FY 2022 | % |
|---|------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|
| Deaf and Hard-of-Hearing Undergrad and Grad Students | | | | | | | | | | |
| American Indian or Alaska Native | 1 | 0.4% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Asian | 23 | 8.8% | 27 | 11.5% | 31 | 13.6% | 31 | 12.7% | 37 | 14.2% |
| Black or African American | 27 | 10.4% | 30 | 12.8% | 21 | 9.2% | 34 | 13.9% | 29 | 10.9% |
| Hispanic/Latino | 49 | 18.8% | 46 | 19.7% | 43 | 18.9% | 48 | 19.7% | 53 | 20.3% |
| Native Hawaiian or Other Pacific Islander | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 1 | 0.4% | 0 | 0.0% |
| White | 146 | 56.2% | 121 | 51.7% | 122 | 53.5% | 117 | 48.0% | 125 | 47.9% |
| Two or More Races | 14 | 5.4% | 10 | 4.3% | 11 | 4.8% | 13 | 5.3% | 17 | 6.5% |
| Non-Resident Alien (International) | 11 | | 15 | | 4 | | 4 | | 5 | |
| Unknown Race/Ethnicity | 8 | | 7 | | 14 | | 0 | | 7 | |
| Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students | 114 | 43.8% | 113 | 48.3% | 106 | 46.5% | 126 | 51.6% | 136 | 52.1% |
| Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students | 279 | | 256 | | 246 | | 248 | | 273 | |
| Other Enrollments | | | | | | | | | | |
| ASL-English Interpretation | 39 | 24.3% | 50 | 16.3% | 51 | 15.7% | 48 | 29.2% | 48 | 39.6% |
| Master of Science in Secondary Education | 5 | 0% | 6 | 40.0% | 8 | 0% | 22 | 36.4% | 28 | 21.7% |
| Total Minority Enrollments | 126 | | 124 | | 120 | | 154 | | 162 | |
| Total Enrollments | 323 | | 312 | | 305 | | 318 | | 349 | |
| Overall Percent Minority | | 41.0% | | 42.7% | | 39.9% | | 47.5% | | 48.2% |

* New students are those who have not previously attended RIT or are attending as a graduate student for the first time.

** These figures exclude non-degree-seeking students.

Ethnicity of Enrolled Students

Minority enrollment at NTID has steadily increased from 8% in FY 1988 to 44.2% in FY 2022, more than five times what it was more than 30 years ago.

Until FY 2000, the number of international students was limited to 10% by a federally mandated cap. As a result of the reauthorization of the Education of the Deaf Act

in 1998, the cap on international students was increased to 15%. However, a significant decrease in support from Vocational Rehabilitation in Canada and limited resources of students from other countries have had a negative impact on international enrollment.

| | FY 2018 | % | FY 2019 | % | FY 2020 | % | FY 2021 | % | FY 2022 | % |
|---|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|
| Deaf and Hard-of-Hearing Undergrad and Grad Students | | | | | | | | | | |
| American Indian or Alaska Native | 7 | 0.7% | 4 | 0.4% | 3 | 0.3% | 2 | 0.2% | 1 | 0.1% |
| Asian | 114 | 11.5% | 117 | 12.6% | 109 | 12.4% | 115 | 13.6% | 135 | 15.3% |
| Black or African American | 99 | 10.0% | 91 | 9.8% | 84 | 9.6% | 88 | 10.4% | 95 | 10.8% |
| Hispanic/Latino | 144 | 14.5% | 142 | 15.4% | 143 | 16.3% | 143 | 16.9% | 155 | 17.6% |
| Native Hawaiian or Other Pacific Islander | 2 | 0.2% | 1 | 0.1% | 1 | 0.1% | 2 | 0.2% | 1 | 0.1% |
| White | 589 | 59.4% | 539 | 58.3% | 508 | 57.9% | 458 | 54.2% | 452 | 51.2% |
| Two or More Races | 37 | 3.7% | 31 | 3.4% | 30 | 3.4% | 37 | 4.4% | 44 | 5.0% |
| Non-Resident Alien (International) | 43 | | 49 | | 38 | | 31 | | 30 | |
| Unknown Race/Ethnicity | 46 | | 31 | | 27 | | 10 | | 16 | |
| Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students | 403 | 40.6% | 386 | 41.7% | 370 | 42.1% | 387 | 45.8% | 432 | 48.9% |
| Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students | 1,081 | | 1,005 | | 943 | | 886 | | 929 | |
| | FY 2018 | Percent Minority | FY 2019 | Percent Minority | FY 2020 | Percent Minority | FY 2021 | Percent Minority | FY 2022 | Percent Minority |
| Other Enrollments | | | | | | | | | | |
| ASL-English Interpretation | 147 | 15.5% | 148 | 17.9% | 155 | 18.1% | 170 | 22.5% | 168 | 26.8% |
| Master of Science in Secondary Education | 19 | 23.1% | 17 | 11.8% | 22 | 10.0% | 34 | 23.5% | 56 | 25.5% |
| Master of Science in Health Care Interpretation | 15 | 21.4% | 12 | 20.0% | 9 | 22.9% | 11 | 27.3% | 13 | 25.0% |
| Total Minority Enrollments | 431 | | 416 | | 401 | | 436 | | 492 | |
| Total Enrollments | 1,262 | | 1,182 | | 1,129 | | 1,101 | | 1,166 | |
| Overall Percent Minority | | 37.1% | | 38.2% | | 38.0% | | 41.2% | | 44.2% |

First-Year Student Persistence and Graduation Rates by Diversity Categories

NTID enrolls students with diverse backgrounds. This diversity has increased significantly during the past decade. However, there are noticeable differences among the various groups in terms of persistence and graduation rates. In FY 2008, the

Department of Education requested that NTID's performance indicators in the areas of persistence and graduation be consistent with IPEDS methodology. The information below follows this methodology.

First-Year Persistence Rates for First-Time Full-Time Freshmen* Three-Year Moving Averages

| Fall 2018-2020 Cohort | Black or African American | Asian | Hispanic/Latino | Non-Resident Alien (International) | White |
|--|---------------------------|------------|-----------------|------------------------------------|------------|
| Cohort Count | 73 | 73 | 116 | 11 | 280 |
| Persisted to Second Year | 55 | 59 | 80 | 8 | 205 |
| First to Second Year Persistence Rate | 75% | 81% | 68% | 73% | 73% |

Six-Year Graduation Rates for First-Time Full-Time Freshmen* Three-Year Moving Averages

| Fall 2013-2015 Cohort | Black or African American | Asian | Hispanic/Latino | Non-Resident Alien (International) | White |
|---------------------------------|---------------------------|------------|-----------------|------------------------------------|------------|
| Cohort Count | 80 | 75 | 105 | 12 | 431 |
| Graduated Within Six Years | 34 | 57 | 36 | 7 | 218 |
| Six-Year Graduation Rate | 43% | 76% | 34% | 58% | 51% |

* Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation or the Master of Science program in Secondary Education. Specific data for those programs are included on separate pages for those programs.

Graduates by College and Program Areas: Minority Status

This table shows minority student graduates in the academic program areas.

| | FY 2021 Number of Graduates | | |
|--|--------------------------------|--------------|------------|
| | Minority | Non-Minority | Total** |
| NTID | | | |
| Career-Focused and Associate+Bachelor's Degrees | 30 | 39 | 73 |
| ASL-English Interpretation | 8 | 20 | 30 |
| Master of Science in Secondary Education | 0 | 6 | 6 |
| Master in Health Care Interpretation | 1 | 4 | 5 |
| Other Colleges of RIT* | | | |
| College of Engineering Technology | 3 | 9 | 12 |
| Saunders College of Business | 6 | 11 | 18 |
| B. Thomas Golisano College of Computing and Information Sciences | 7 | 9 | 17 |
| Golisano Institute for Sustainability | 0 | 2 | 2 |
| Kate Gleason College of Engineering | 3 | 6 | 10 |
| College of Health Sciences and Technology | 2 | 2 | 4 |
| College of Art and Design | 6 | 11 | 18 |
| College of Liberal Arts | 5 | 14 | 23 |
| College of Science | 1 | 5 | 6 |
| School of Individualized Study | 5 | 5 | 11 |
| Total | 77 | 143 | 235 |

* Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as sub-baccalaureate degrees.

** Totals include individuals with unknown race/ethnicity and international visa status. Neither are considered minority or non-minority.

Diversity Report: Faculty and Staff

NTID continues to emphasize and encourage the hiring, promotion and persistence of women, minorities and individuals who are deaf and hard of hearing. Appropriate representation in each

category remains a priority for NTID, given the ever-increasing ethnic diversity in the student body. In the chart below, individuals may appear in more than one category.

| FY 2021 | | | | | | |
|-------------------------------------|-----------------|------------|---------------------------|------------------|----------------------------------|--------------------------|
| | Total Employees | Female | Black or African American | Hispanic /Latino | Other Racial/ Ethnic Categories* | Deaf and Hard-of-Hearing |
| Faculty** | 144 | 72 | 10 | 7 | 6 | 71 |
| Percent | | 50% | 7% | 5% | 4% | 49% |
| Exempt Staff** | 117 | 70 | 11 | 5 | 3 | 41 |
| Percent | | 60% | 9% | 4% | 3% | 35% |
| Executive/ Administrative Manager** | 50 | 24 | 6 | 0 | 1 | 22 |
| Percent | | 48% | 12% | 0% | 2% | 44% |
| Non-Exempt Staff | | | | | | |
| Real-Time Captionist | 60 | 46 | 0 | 4 | 1 | 0 |
| Percent | | 77% | 0% | 7% | 2% | 0% |
| Interpreter | 137 | 118 | 10 | 12 | 7 | 1 |
| Percent | | 86% | 7% | 9% | 5% | 0.7% |
| Technical/ Clerical | 90 | 68 | 9 | 4 | 6 | 28 |
| Percent | | 76% | 10% | 4% | 7% | 31% |
| Total*** | 548 | 374 | 40 | 32 | 23 | 141 |
| Percent | | 68% | 7% | 6% | 4% | 26% |

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Of the 51 executive/administrative managers, 20 are included on the faculty line, 30 are included on the exempt staff line and 1 is included on the interpreter line. Therefore the numbers in the Executive/Administrative Manager row are not included in the column totals, since they already are included in the faculty or exempt staff lines.

*** Of the 548 employees, 515 are covered by operating funds.

Diversity Report: Faculty and Staff Applicants

RIT/NTID tracks minority status and gender of applicants via voluntary self-identification. A summary of those data are provided below. Individuals may be counted in more than one category.

FY 2021

| | Number of NTID Positions Posted | Total Applicants | Number of Applicants by Category | | | | | |
|--------------------|---------------------------------|------------------|----------------------------------|---------------------------|-----------------|---------------------------------|------------|-----------|
| | | | Female | Black or African American | Hispanic/Latino | Other Racial/Ethnic Categories* | White Male | Unknown |
| Faculty | 22 | 143 | 55 | 14 | 11 | 19 | 51 | 5 |
| Exempt Staff | 41 | 720 | 373 | 65 | 46 | 99 | 226 | 29 |
| Non-Exempt Staff** | 59 | 910 | 588 | 105 | 94 | 70 | 221 | 24 |
| Total | 122 | 1,773 | 1,016 | 184 | 151 | 188 | 498 | 58 |

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Includes real-time captionists, interpreters and technical and clerical positions.

Diversity Report: Faculty and Staff Hiring Results

During FY 2021, individuals from an ethnic minority or who were deaf or hard of hearing totaled 44% of all new hires and women totaled 74% of all new hires. Individuals may appear in more than one category.

FY 2021

| | Total New Employees | Female | Black or African American | Hispanic /Latino | Other Racial /Ethnic Categories* | Deaf and Hard-of-Hearing |
|----------------------|---------------------|------------------|---------------------------|------------------|----------------------------------|--------------------------|
| Faculty | 5 | 4 80% | 0 0% | 1 20% | 1 20% | 2 40% |
| Exempt Staff | 9 | 5 56% | 0 0% | 0 0% | 1 11% | 2 22% |
| Non-Exempt Staff | | | | | | |
| Real-Time Captionist | 14 | 9 64% | 0 0% | 2 14% | 1 7% | 0 0% |
| Interpreter | 13 | 12 92% | 5 38% | 2 15% | 1 8% | 0 0% |
| Technical/Clerical | 9 | 7 78% | 3 43% | 0 0% | 1 14% | 5 56% |
| Total | 50 | 37 74% | 8 17% | 5 10% | 5 10% | 9 18% |

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

Diversity Report: Faculty and Staff Termination Results

During FY 2021, 15% of terminations were individuals from ethnic minorities and 75% were women. In the chart below, individuals may appear in more than one category.

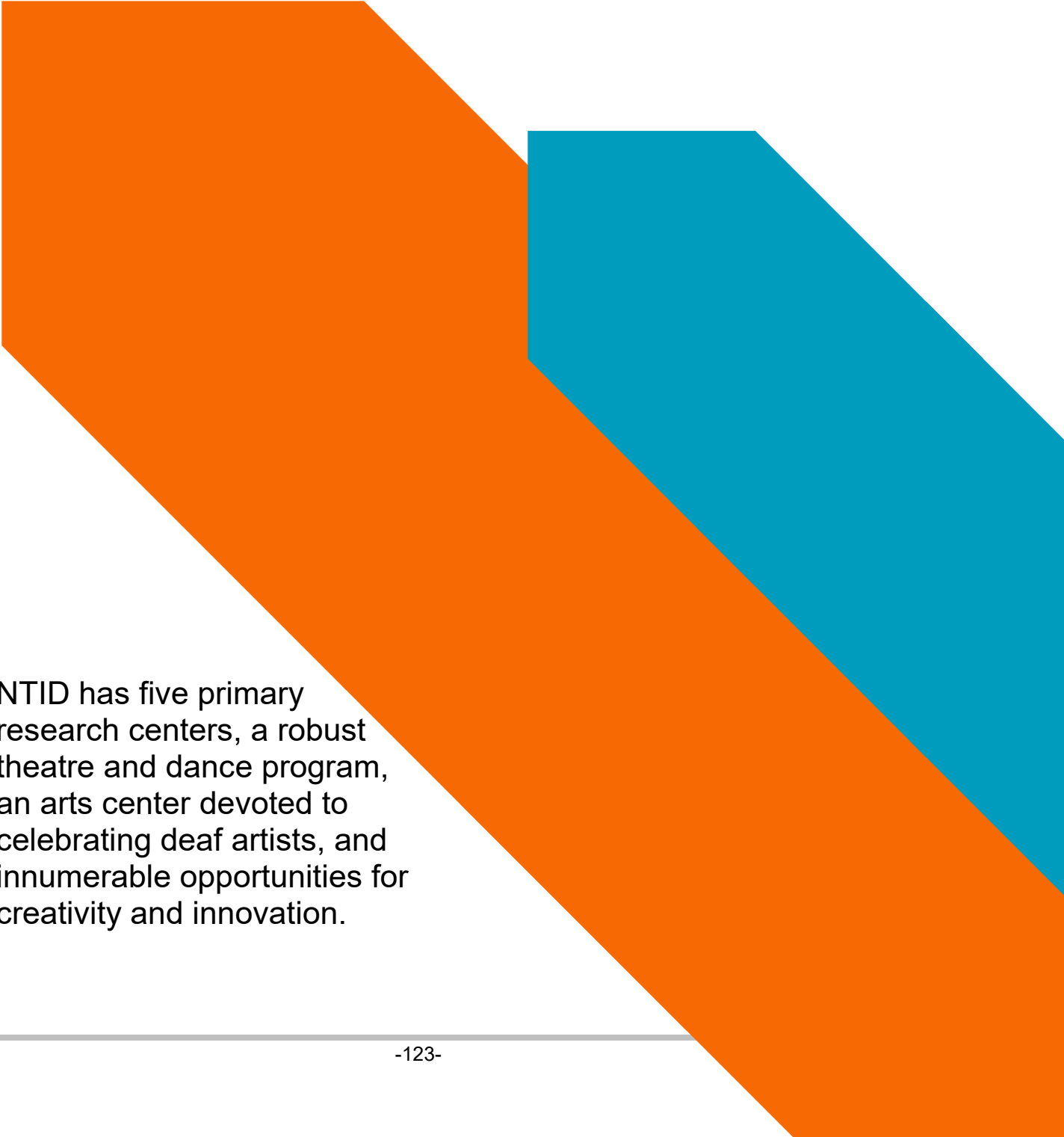
FY 2021

| | Total Terminated Employees | Female | Black or African American | Hispanic/Latino | Other Racial /Ethnic Categories* | Deaf and Hard-of-Hearing |
|--------------------|----------------------------|------------------|---------------------------|-----------------|----------------------------------|--------------------------|
| Faculty | 14 | 9 64% | 0 0% | 0 0% | 2 14% | 5 36% |
| Exempt Staff | 18 | 10 56% | 1 6% | 1 6% | 1 6% | 7 39% |
| Non-Exempt Staff** | 31 | 28 90% | 1 3% | 2 7% | 1 3% | 4 13% |
| Total | 63 | 47 75% | 2 3% | 3 5% | 4 7% | 16 25% |

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

** Includes technical and clerical positions, real-time captionists and interpreters.

Research, Innovation & Creativity



NTID has five primary research centers, a robust theatre and dance program, an arts center devoted to celebrating deaf artists, and innumerable opportunities for creativity and innovation.

Research

NTID Research Overview

NTID determines topics for research projects on the basis of priorities derived from both internal and external sources, including the U.S. Department of Education, the NTID National Advisory Group, the National Science Foundation, the National Institutes of Health and other federal, state and foundation funding sources. NTID also receives public input on its research priorities from stakeholder organizations and individuals via professional meetings, email, website comments and social media. NTID faculty also conduct research on special institutional projects established in response to immediate needs identified by the NTID administration as well as long- and short-term projects related to performance indicators established by the U.S. Department of Education. The research interests of the NTID faculty, often in combination with the faculty of other RIT colleges and/or institutions outside of RIT also contribute to the college's research activities. In addition to strategic research and special projects that are typically focused on people who are deaf or hard of hearing and the Deaf experience, NTID supports the research of scholars teaching in any NTID academic area, including mathematics, science, linguistics, sign language interpreting, business and other disciplines. NTID students are almost always involved in the research activities of the faculty, providing valuable learning experiences and skills development that better prepare them for a variety of careers. Research activity at NTID creates new knowledge that is passed along to NTID students in the classroom as well.

Office of the Associate Dean of Research (OADR)

Robert Pollard, Ph.D., associate dean of research

The mission of the OADR is to increase the number of funded projects in the college and to support and sustain NTID's research enterprise. The office is responsible for facilitating NTID efforts in evidence-based research relevant to deaf and hard-of-hearing individuals, including teaching and learning, communication and language, employment success, access technology, deaf health and other topics. In addition to providing leadership for strategic research in the college, the office provides direct administrative support, both pre- and post-award, for all research and grant-related activity at the college and plays a key role in expanding NTID's funding portfolio. The office continued to focus on four major priorities in FY 2021: providing fiscal and administrative support for research projects, professional development for principal investigators (PIs) and publicizing the research accomplishments of faculty and staff, as well as managing the impact of the COVID-19 pandemic.

a. Support for researchers and research initiatives

The OADR's Scholarship Portfolio Development Initiative (SPDI) is a program where intramural grants are awarded to meritorious applicants proposing innovative research, outreach initiatives or other types of scholarly projects. The program previously supported only early-stage principal investigators and soft-funded research faculty. In FY 2020, eligibility was expanded to include all NTID tenure-track faculty (pre- or post-tenure) and NTID staff who have served as principal investigators (PIs) on current or prior extramural awards. This expanded eligibility is designed to encourage applications from seasoned researchers who will utilize SPDI funds to conduct pilot studies to enhance the viability of subsequent extramural grant applications. In FY 2021, SPDI offered intramural funds of up to \$12,000 for one- or two-year projects. Applicants also could request an additional \$3,000 to support the involvement of collaborators from other colleges and institutions, another priority of the program. In FY 2021, two new SPDI proposals were funded for a total of \$26,863.

Development of the Visual Listening Cognitive Effort Scale for Sign Language Users

6/1/2021–5/31/2023

\$14,947

PI: Rain Bosworth

The goals of this project are to develop a survey instrument that measures perceived cognitive load during virtual visual listening experiences (i.e., "Zoom") in deaf and hard-

Research (continued)

of-hearing and hearing signers, and to establish a link between self-reported cognitive load while engaged in a Zoom gallery-view simulation and behavioral measures of visual listening effort.

Current Designs and Affordances of Theater Captions as Perceived by Deaf and Hard-of-Hearing Audiences and Theater Personnel

6/1/2021–5/31/2022

\$11,916

PI: Janine Butler

The primary goal of this project is to understand deaf and hard-of-hearing individuals' needs and preferences for improving access to performances in theaters through captions.

Seven SPDI projects that were funded in prior fiscal years remain active at this time. A number of these projects' time lines have been pushed forward due to RIT policy restrictions and other factors related to the COVID-19 pandemic.

Start-Up Packages (SUPs) are financial support agreements established for new tenure-track faculty, the goal of which is to facilitate their research and other scholarly activities in the early years of their employment at NTID. SUPs are funded by the OADR. The amount and intended usage of SUP funds is negotiated between the Associate Dean of Research and the individual faculty member and becomes a key aspect of their employment offer, whether they will be new to NTID faculty or are existing faculty who are new to a tenure-track position. Three new SUP accounts were established this year, bringing the total of currently active SUP accounts to nine. Examples of common SUP expenditures include faculty summer salary, research equipment, funds to hire student research assistants, travel support to attend and present at conferences, human subject fees and consultant fees.

The OADR also provides fiscal support for consultation from experts in three topic areas: statistics, program evaluation and writing/editing. Faculty may request any of these expert services in support of research or scholarship activities. The arrangement with professional statisticians from the College of Science (COS) was launched in FY 2020. In FY 2021, the program was expanded to include support for expert consultation regarding program evaluation and writing/editing. Each of these services enhances the viability of grant proposals, ongoing projects and/or manuscripts in preparation such as research reports and journal articles. These expert consultants also enhance the associated knowledge and skills of NTID faculty in these often challenging aspects of planning, conducting and disseminating research.

It is quite common for faculty to approach the Associate Dean for Research, seeking funding for various purposes that are not included in grant or academic department budgets or in expired SUPs. Such research-related purchases, which are almost always approved, include travel, equipment, human subject fees, open-access journal fees, captioning/translation costs, travel funds and more.

The OADR closely monitors communications from relevant research funding bodies, such as the National Science Foundation (NSF), the National Institutes of Health (NIH) and a number of foundations and other organizations. The OADR regularly analyzes these communications to determine those that are most relevant to our faculty and shares that information with the faculty as a whole or, sometimes, specific faculty members whose interests and activities are particularly suited to opportunities from funders. As detailed below, the OADR often directly supports faculty participation in professional development activities offered by funding agencies, where faculty learn about an agency's funding priorities, grant procurement mechanisms and policies, etc.

Research (continued)

b. Professional development

In FY 2021, OADR successfully completed its third year of *PI Prime Time*, a professional development program designed to enhance faculty success in applying for extramural funding, improve their skills in managing funded projects and disseminating their research and scholarship products. The *PI Prime Time* planning committee consists of the OADR team, RIT pre- and post-award research administrators who serve NTID and three NTID faculty advisors. The committee is continuously refining their workshops based on feedback from evaluations. A set of four workshops were offered during the fall 2020 semester and four workshops were offered during the spring 2021 semester.

Tenure-track faculty often use their SUP funds (see above) for professional development activities, primarily attending and presenting at conferences in their areas of academic concentration. The OADR also provides funding for professional development outside the SUP process, including for faculty who do not have SUPs or for whom their SUP accounts have expired after the five-year SUP spending limit. This fiscal year, most conferences were virtual in nature due to the pandemic. In the past, OADR has funded sign language interpreter services for some conferences and co-funds faculty groups attending high-priority conferences (e.g., one on quantitative research methods held in 2019). In FY 2021, the Associate Dean of Research recruited and funded five faculty to attend the Council on Undergraduate Research (CUR) “Dialogues” virtual conference, where presentations and individual meetings with program officials from major funders take place (e.g., NSF, NIH, the U.S. Department of Education and many more). This activity (usually involving a non-virtual conference trip) takes place annually, although trips to major funding agencies (e.g., NSF, NIH) or pertinent other conferences relevant to professional development for researchers also have been led by the OADR.

The OADR also emphasizes the importance of professional development for its staff. In FY 2021, OADR staff attended virtual conferences hosted by the Society of Research Administrators and the National Council of University Administrators.

c. Publicizing the accomplishments of NTID personnel working on funded projects

OADR regularly contributes content to the monthly newsletter from NTID’s Office of the President. This typically includes news of recently obtained grants by NTID faculty, awards or other accomplishments worthy of attention. The OADR hosts a Sponsored Project Awards program every two years (upcoming in FY 2022) that recognizes the research activities of NTID faculty, staff and students, as well as partners outside the college, for accomplishments supported by intramural or extramural funding sources. Awards are presented in the following categories: Student Researcher, Student Research Mentor, Up-and-Coming Principal Investigator (PI), X-Factor (presented to an individual who is not a PI or Co-PI but whose work significantly contributes to team success), Collaborator, Co-PI, PI and a Partner award presented to a valued colleague from another college or institution who has made significant contributions to sponsored projects at NTID.

d. Impact of the COVID-19 pandemic

The OADR team (comprising five full-time permanent staff members) began working from home full-time in March 2020. OADR’s focus on faculty rather than students allows this operational change to occur, and allowed OADR to contribute to RIT’s desired 50% reduction in personnel capacity on campus during the pandemic.

Additionally, various procedural suspensions or other changes (e.g., denials or delays in purchase approvals affecting summer salary contracts and contractor hires) affected some of the work done by OADR. Faculty who were awarded research funds in our annual SPDI grant competition also were affected by those procedural changes. Additionally, staff working from

Research (continued)

home were affected by various technical considerations (e.g., lack of printing capabilities or high-speed Internet access). OADR's operations were further impacted by new reporting requirements imposed by both RIT and the State of New York in order to allow re-opening of research labs, among other things.

On an unexpected positive note, OADR's budget benefited from the reduction or elimination of traditionally approved expenses, ranging from certain contractors to travel expenses and costs associated with formal gatherings. The OADR continues to seek various means of accomplishing its necessary work while abiding by COVID-19 protocols.

RESEARCH CENTERS

This section summarizes the activities and accomplishments of each of the NTID Research Centers during FY 2021. When there is collaboration among several research centers, the activity is described in connection with the research center leading the effort.

NTID Sensory, Perceptual and Cognitive Ecology (SPaCE) Center

Matthew W. G. Dye, Ph.D., director

The research mission of the NTID SPaCE Center is to study the sensory, perceptual and cognitive capabilities of deaf and hard-of-hearing individuals, and to explore how those individuals create deaf-friendly environments within which they can most effectively function. In FY 2021, SPaCE Center faculty and staff published six peer-reviewed journal articles, one book chapter and presented at virtual academic conferences.

SPaCE currently encompasses three research laboratories:

1. deaf *x* laboratory

Matthew W. G. Dye, Ph.D., principal investigator

The mission of the deaf *x* laboratory is to investigate how the deaf experience ("*x*") shapes cognition, including attention and the executive brain functions. During FY 2021, the deaf *x* laboratory worked on three major projects:

- Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Experience
National Institutes for Health: NIDCD R01DC016346 7/1/2017–6/30/2022
PI: Matthew Dye \$2,604,026

The overall aim of this project is to examine the effects of auditory development, cognitive function and language outcomes in a large group of young deaf adults. The results of this study will provide much-needed and timely answers regarding the possible benefits of early cochlear implantation and early intervention with sign language that parents and policy-makers seek as they determine how best to intervene with the next generation of deaf infants who are cochlear implant recipients or candidates. In FY 2021, the team continued data collection activities and presented initial results. In the coming year, data collection will continue and dissemination activities will begin.

Research (continued)

- Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution
National Science Foundation: BCS-1749376 7/1/2018–6/30/2021
PI: Matthew Dye \$343,975

The research team will take advantage of the fully visible articulators of sign languages to develop novel pose estimation algorithms so that they can automatically extract information contained in 2D video to create accurate 3D models of articulator movement during sign language production. These models will be used to empirically assess the extent to which linguistic changes are driven by perceptual constraints imposed by the human visual system and/or articulatory constraints imposed by the musculoskeletal system. This project is a collaboration between RIT/NTID, Pennsylvania State University, Boston University, Bryn Mawr College and Barnard College.

- A Comparative Modeling Approach to Exploring Speech Processing in the Human Visual System
URMC Del Monte Institute Pilot Project Program 7/1/2021–6/30/2022
Co-PI: Matthew Dye \$49,690

This study aims to use EEG recordings to characterize the cortical representation of visually lip-read speech in deaf individuals and to explore audio, visual and audiovisual speech representations in people who use cochlear implants (CIs), as a function of their pre-implant deafness and their length of CI use.

2. Perception, Language & Attention in Youth (PLAY) Laboratory

Rain G. Bosworth, Ph.D., principal investigator

The mission of the PLAY Laboratory is to investigate how different types of sensory experience shape the ways in which we perceive the world, with a particular emphasis on the study of infants and young children. During FY 2021, the PLAY Laboratory received funding for two new projects:

- Do Tactile Exploratory Behaviors Predict Language Development in Deaf Signing Children?
James S. McDonnell Foundation: JMSF 2021-2864 9/1/2021–8/31/2025
PI: Rain Bosworth \$249,695

Deaf signing children may explore their surroundings in the classroom in adaptive ways that afford learning benefits for them. In this proposal, we describe and classify tactile exploratory and communicative behaviors of deaf preschoolers during free play activities in an ASL-primary classroom. We will assess this using a multiple-camera system installed in the classroom and with lightweight, miniaturized inertial measurement (IMU) bilateral wristbands that each contain an accelerometer, gyroscope and magnetometer.

Development of the Visual Listening Cognitive Effort Scale for Sign Language Users
NTID Scholarship Portfolio Development Initiative (SPDI) 6/1/2021–5/31/2023
PI: Rain Bosworth \$14,947

The goals of the present research are to develop a survey instrument that measures perceived cognitive load during virtual visual listening experiences (i.e., “Zoom”) in deaf and hard-of-hearing and hearing signers, and to establish a link between self-reported cognitive load while engaged in a Zoom gallery-view simulation and behavioral measures of visual listening effort.

With fiscal and other assistance from OADR and the enthusiastic support of the Rochester School for the Deaf (RSD) administration, Dr. Bosworth is establishing a PLAY Laboratory location on the RSD campus. This space will enhance recruiting and participation of children and families from RSD and elsewhere and allow the conduct of studies employing the specialized equipment and other child-friendly amenities present in this new space.

Research (continued)

3. Perception & Acquisition of Words (PAW) Laboratory

Allison Fitch*, Ph.D., principal investigator

Established in FY 2021, the mission of the PAW Laboratory is to study the inter-relationships between the developing visual cognitive system and language acquisition. A particular interest is how joint attention contributes to language acquisition and the relationship between early language experiences and low-level visual attention mechanisms. These questions are addressed in infant and toddler populations, particularly deaf children acquiring ASL.

* Dr. Fitch is an assistant professor in the College of Liberal Arts at RIT.

Selected Publications

- Bosworth, R.G., & Stone, A. (2021). Rapid development of perceptual gaze control in hearing native signing infants and children. *Developmental Science*, e13086.
- Bosworth, R.G., Binder, E.M., Tyler, S.C., & Morford, J.P. (2021). Automaticity of lexical access in deaf and hearing bilinguals: Cross-linguistic evidence from the color Stroop task across five languages. *Cognition*, 212, 104659.
- Dye, M.W.G., & Terhune-Cotter, B. (2021). Sustained visual attention in deaf children: A deafcentric perspective. In C. Enns, J. Henner, & L. McQuarrie (Eds.), *Discussing Bilingualism in Deaf Children: Essays in Honor of Robert Hoffmeister*. Routledge.
- Fitch, A., Thaker, N., & Kaldy, Z. (2021). The role of redundant verbal labels in 8- and 10-month-olds' working memory. *Infant Behavior & Development*, 64, 101617.
- Lieberman, A.M., Fitch, A., & Borovsky, A. (2021). Flexible fast-mapping: Deaf children dynamically allocate visual attention to learn novel words in American Sign Language. *Developmental Science*, e13166.
- Rodger, H., Lao, J., Stoll, C., Pascalis, O., Dye, M., & Caldara, R. (2021). The recognition of facial expressions of emotion in deaf and hearing individuals. *Heliyon*, 7(5), e07018.
- Terhune-Cotter, B., Conway, C.M., & Dye, M.W.G. (2021). Visual sequence repetition learning is not impaired in signing DHH children. *Journal of Deaf Studies & Deaf Education*. 26(3), 322-335.

Center on Access Technology (CAT)

Gary Behm '78, '81, director

The Center on Access Technology (CAT) was established in 2006 to address the challenges of utilizing, developing and/or adapting new technologies for use by people who are deaf or hard of hearing in order to improve access to personal communication within educational environments, social settings and the workplace. CAT investigates, evaluates and reports on the most effective use of access technologies and trains individuals in order to accelerate the implementation of best practices within postsecondary deaf education. The center's main strands of research include cyber-infrastructure and provision of remote services, classroom access technologies, mobile and personal communication technologies, training and evaluation services and audio technologies that are of particular interest to hard-of-hearing people.

The NTID CAT lab strives to involve students in the R&D enterprise. Faculty and students at all levels (associate, bachelor's, master's and doctorate) collaborate on multidisciplinary projects leading to real solutions.

Research (continued)

- MITRE FCC Telecommunications Relay Services (TRS): Year Three
Federal Communications Commission / MITRE Corporation \$700,000
PI: Michael Stinson

RIT is collaborating with the MITRE research corporation on research, testing and procedures in order to share assessment approaches to obtain test results on Video Relay Service (VRS) and Internet Protocol Captioned Telephone Service (IP-CTS), further develop approaches and research, and share plans and results. This project involves, but is not limited to: (a) usability research on consumer perspectives regarding the use of IP-CTS, VRS and other assistive technologies and on determining the accuracy and latency threshold of captions in IP-CTS technology; (b) assessment of the interoperability of VRS devices; (c) assessment of the quality of VRS and IP-CTS services; and (d) research and development of various prototypes closely related to the ongoing ACE efforts.

NTID Research Center on Culture and Language (CCL)

Peter C. Hauser, Ph.D., director

The vision of the NTID Research Center on Culture and Language (CCL) is to create an accessible world where deaf and hard-of-hearing people live, learn and thrive with equal footing in different communities and environments. The mission of the center is to promote access and education through research, development and mentorship focusing on cultural and linguistic characteristics and processes of deaf and hard-of-hearing communities. This Deaf and sign-language-centered place for research and development values mentorship and collaboration. The center has several mentorship programs to broaden the participation of deaf and hard-of-hearing individuals in STEM fields. CCL globally disseminates the center's discoveries to foster a transformative impact on deaf people's lives.

CCL operates five research laboratories and three research education programs.

1. Deaf Studies Laboratory (DSL)

Joseph Hill, Ph.D., director

The Deaf Studies Laboratory, established in 2003 by CCL's director, is the original laboratory that eventually evolved into CCL. DSL's research mission is to study variation in, perception of and ideology surrounding the linguistic, social and historical aspects of sign language communities. During FY 2021, DSL lab personnel worked on two projects:

- Interaction of Racial and Linguistic Perspectives in Evaluative Responses to Marked Signing Features
NTID Scholarship Portfolio Development Initiative (SPDI) 1/2/2017–12/31/2020
PI: Joseph Hill \$10,000

This project explores language attitudes toward different dialects in American Sign Language. In the fall of 2020, Hill and his graduate assistant supervised the team of student employees working on the second set of five videos with animated signing avatars. This set completed the goal of having two different sets of animation videos for the language attitude study planned in the fall of 2021. On November 20, 2020 at RIT's Frameless Labs Symposium, the graduate assistant, Youmee Lee, and the student worker, Andrew Smith, gave a presentation along with Hill on the challenge of preserving captured sign language data in human avatar models.

- Documenting Individual Variation in ASL (DIVA)
NTID Scholarship Portfolio Development Initiative (SPDI) 7/1/2018–8/30/2021
PI: Corrine Occhino; Co-PI: Joseph Hill \$9,968

Research (continued)

The goal of this project is to collect recordings of 100 students of varying regional, racial, ethnic and socio-economic backgrounds to create a preliminary database of individual linguistic variation in ASL. The objectives of this study are to: 1) describe the natural variation of ASL signers with diverse backgrounds; 2) evaluate ASL users' perceptions of non-standard varieties; and 3) develop a framework and preliminary data for a proposal to the National Science Foundation that will further explore the role of variation in educational and interpreting situations involving deaf individuals. Occhino and Hill submitted their National Endowment for the Humanities (NEH) grant application in June 2020 requesting funds for the development of a web application that is designed to collect and manage crowdsourced signing variation contributed by the website users. In January 2021, their grant application was not selected but encouraged to apply again. From March 2021 to August 2021, a team of developers from NTID's Technology and Information Services developed a website prototype to explore functions and applications. The website prototype will be used as an example in grant applications to foundations and as guidance for the next round of website development. Student employees organized and coded signed items with the data management application as an electronic dictionary reference, SooSL.

2. Deaf Health Laboratory

Tiffany Panko, '08, '08, MD, MBA, director

The Deaf Health Laboratory was established by Jessica Cuculick '98, '02, in 2016. The DHL's mission is to promote health justice through research and initiatives in health priority areas including but not limited to healthcare systemic barriers, health literacy, family planning and preventive health. During FY 2021, lab personnel worked on the scopes of work specified in four projects, two funded by the NIH, in collaboration with multiple institutes:

- Mechanisms of Health Literacy and Information Accessibility
National Institutes of Health: 1R01DC014703 9/17/2015–8/31/2022
Subaward from University of Michigan \$600,189
PI: Peter C. Hauser

This project investigates the mechanisms of health literacy among deaf people, focusing particularly on how deaf people navigate and use websites to obtain health-related information. During FY 2021, the project team completed its collaborative data collection with sites in Michigan and Illinois. A total of 900 deaf and hearing adults were tested for 90 minutes with a battery of cognitive, learning and health literacy measures along with behavioral and eye-tracking data on their website navigation practices in search for health information. A sample of 60 participants were tested in a second session that involved semi-structured qualitative interviews, more eye-tracking navigation data and post-performance cognitive interviews.

- Pregnancy Outcomes and Experiences of Deaf and Hard-of-Hearing Women Year Five
National Institutes of Health 6/1/2021–5/31/2022
PI: Jessica Cuculick '98, '02 \$19,603

This project is investigating deaf and hard-of-hearing women's peri-, neo- and post-natal experiences. During FY 2019, the final data collection was completed, and video data was being transcribed. The qualitative data has been analyzed for common themes these deaf women experienced and manuscripts are in development for publication.

- Parents Empowering Parents: National Research Center for Parents with Disabilities and their Families
National Institute on Disability, Independent Living, and Rehabilitation Research
U.S. Department of Health and Human Services 9/20/2020–9/29/2021
PI: Jessica Cuculick '98, '02 \$31,224
Co-PI: Tiffany Panko '08, '08

Research (continued)

The goal of this project is to examine the feasibility of a program providing parenting support groups for parents of different types of disabilities. The RIT sub-contract team focused on provision and evaluation of support groups of deaf and hard-of-hearing parents.

- Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study
NTID Scholarship Portfolio Development Initiative (SPDI) 9/1/2020–8/31/2022
\$15,000

Society of Family Planning 1/1/2021–12/31/2022
PI: Tiffany Panko '08, '08 \$72,549
Co-PI: Corrine Occhino, Mentor: Jess Cuculick '98, '02

The goal of this project is to gather national data on the reproductive behaviors and healthcare system use of deaf and hard-of-hearing women as well as qualitative data through socio-linguistics interviews. During FY 2021, the national survey was developed and is in circulation, and the interviews have begun.

3. Sign Language Acquisition and Assessment Laboratory

Peter C. Hauser, Ph.D., director

The research mission of CCL's Sign Language Acquisition and Assessment Laboratory is to understand how different individuals learn a signed language and to create theory-based sign language proficiency with evidence of psychometric validity and reliability. During FY 2021, with support from the Office of the NTID President, this laboratory completed the development and testing of two new ASL receptive proficiency tests to be used to document faculty sign language development and skills. The ASL Online Vocabulary Exam (ASL-OVE) and the Fingerspelling and Number Comprehension Test (FaNCT) can be administered online and remotely. The ASL-OVE is an excellent way to document progress in ASL development through repeated testing every six months. The FaNCT is better suited for those with functional ASL skills as it can identify those with advanced skills as well as document progress over time. These tests were created in collaboration with NTID developers and will be adopted and operated by NTID ASL Training and Evaluation (ASLTE) for faculty testing. Peer review manuscripts for these tests are currently in preparation.

4. XR Accessibility Solutions Laboratory (XR-ASL)

Wendy Dannels '98, '99, '00, '05, director

XR-ASL develops real-time, immersive and interactive technologies such as mixed, augmented and virtual reality with a focus on accessible and inclusive experiences. Wendy Dannels mentored two students giving video presentations at the undergraduate student research symposium on this project titled, "Viewing Sign Language Interpreted Content Through Smart Glasses" and "A Hard of Hearing Developer's Perspective on Capturing ASL with a Hololens 2". During FY 2021, the XR-ASL laboratory focused on the scope of work of the following grant:

- Augmented Reality: Accessible Dynamic Informal STEM Learning for Deaf and Hard-of-Hearing
National Science Foundation: DRL-1811509 9/1/2018–8/31/2022
PI: Wendy A. Dannels '98, '99, '00, '05; \$258,861
Co-PIs: Brian Trager '00, '05 and Sara Schley

This project is funded by the Advancing Informal STEM Learning program's Pilot and Feasibility Studies which seek new approaches to design and development of STEM learning to be accessible to all learners, including underrepresented groups in informal environments. Often Deaf and hard-of-hearing (DHH) learners are excluded from learning STEM topics in science centers and museums. The major goal of this project is to broaden the participation and promote

Research (continued)

innovation of DHH learners in informal settings. Funding is being used to explore augmented reality (AR) technology to make STEM content accessible, especially in live presentations to DHH learners (e.g., Planetarium, Electricity Theater and Science on a Sphere). This project is developing a wearable displayed technology using advanced AR solutions by integrating signed and captioned explanations during live presentation. The funding allowed the hiring of qualified graduate and undergraduate students majoring in software engineering (or equivalent) to assist with the development of the platform for the smart glasses.

5. American Sign Language for Second Language Learners Research Lab (ASL²ED)

Jason Listman, '07, '09, Ed.D., director

ASL Education for Second Language Learners Research Laboratory (ASL²ED) is a new addition to NTID's Center on Culture and Language. The mission of ASL²ED is to improve the quality of ASL education for second-language learners. The lab is dedicated to studying and understanding how individuals learn a second language (L2) in a signed modality and how to improve sign language pedagogy. Through evidence-based research, ASL²ED aims to bridge the gap between fields of linguistics, interpreting and second-language education by broadening knowledge and diverse perspectives within these fields, thereby translating research into practice. The following projects are ongoing at ASL²ED:

- BIPOC Interpreting Students' Perspective on Interpreting Training Programs
CCL Fund and Honors Program 9/1/2021–present
PI: Jason Listman '07, '09; Co-PI: Joseph Hill \$500.00
Student Investigator: Taylor Harris

This is a student research project by an honor student, Taylor Harris, who aims to explore BIPOC students' perspective on interpreting education programs. This project is funded by CCL and supervised by Jason Listman and Joseph Hill. The survey was developed and is currently being administered. Data analysis will be completed during AY 2021-2022.

- Students Perception of the Learning Assistant Model in Interpreting Program Courses
CCL Fund and Honors Program 9/1/2021–present
PI: Jason Listman '07, '09 \$250.00
Student Investigator: Tadhg Hicken

This is a student research project by an honor student, Tadhg Hicken, who aims to further investigate how Learning Assistants can best promote student success in interpreting courses. Survey data was collected during FY 2021 and the data analysis is completed. The next step is to conduct focus groups, which will happen during AY 2021-2022.

- The Climate of the ASL Profession: ASL Pedagogy, Curriculum, and Assessment
Office Associate Dean of Research and CCL 9/1/2021–present
PI: Jason Listman '07, '09; Co-PI: Kim Pudans-Smith; \$2,080
Co-PI: John Pirone; Co-PI: Tracy Ivy '96, '00, '09

This project conducted a series of focus group discussions with ASL experts and a nationwide survey to build a better understanding of the climate of ASL profession concerning pedagogy, curriculum and assessment. Data collection is completed and the data is currently being transcribed. This FY, the data will be analyzed and the manuscript will be prepared to submit for publication. This study was funded by the Office of the Associate Dean of Research.

- Phonological Production Errors in L2 ASL Students 9/2020–present
CCL
PI: Jason Listman '07, '09
Student Investigator: Kira Hart

Research (continued)

This project is led by an interpreting student, Kira Hart, as part of her independent research project and aims to explore what are the common L2 phonological errors in interpreting students. During FY 2020, we completed the data collection, and will begin our data analysis during AY 2021-2022.

- Exploring the Relationship between Shadowing Technique and L2/M2 ASL Learners' Mirror Neuron System
NTID Scholarship Portfolio Development Initiative (SPDI) 9/1/2020–8/31/2021
PI: Jason Listman '07, '09, Co-PI: Geo Kartheiser '09; \$13,000
Mentor: Matthew Dye

The goal of this project is to examine the relationship between the action observation network (AON) and sign language perception. Due to COVID-19, the project is on hold for the time being. We are currently doing a dry-run and hope to begin our data collection during AY 2021-2022.

CCL Science Mentorship Programs

The CCL plays a major role in two ongoing research education programs for deaf and hard-of-hearing individuals: the *Rochester Bridges to the Doctorate Program*, and the *IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing Program*. These programs are detailed in the sections below entitled: "Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists" and "Support for Student Involvement in Research."

During FY 2021, CCL created summer co-op opportunities with funds from the Office of the NTID President. The *Summer Training in Academia and Research Summit (STARS)* was formed. CCL had 22 deaf, hard-of-hearing and hearing students, primarily women and BIPOC, working full time on research, and half of these research assistants presented at the RIT Undergraduate Research Symposium. STARS was successful and will be offered again in FY 2022.

Education Programs

The CCL presently plays a major role in two ongoing research education programs for deaf and hard-of-hearing individuals: the *Rochester Bridges to the Doctorate Program* and the *Rochester Post-Doctoral Partnership*. These programs are detailed in the section below entitled: "Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists".

Selected CCL Publications (CCL authors in bold, students underlined)

- Risk of COVID-19-related bullying, harassment and stigma among healthcare workers: an analytical cross-sectional global study. *BMJ open*. 1:10(12).
- Dye, T.D., Levandowski, B.A., Pérez Ramos, J.G., Siddiqi, S., Hall, W.C., **Panko, T.**, Li, D., Sharma, S., Wiltse, S., Muir, E., Royzer, E., Irvine, C., & Pressman, E., (2020). Adherence to COVID-19 Prevention Strategies among Pregnant People and their Partners. [SMFM abstract]. *American Journal of Obstetrics and Gynecology*. 2020.
- Dye, T.D., Levandowski, B.A., Siddiqi, S., Pérez Ramos, J.G., Hall, W.C., **Panko, T.**, Li, D., Sharma, S., Wiltse, S., Irvine, C., Muir, E., Royzer, E., & Pressman, E., (2020). Worldwide COVID-19-related Knowledge, Impact, and Worry in Pregnant People and their Partners. [SMFM abstract]. *American Journal of Obstetrics and Gynecology*.
- Dye, T., Levandowski, B., Siddiqi, S., Ramos, J.P., Li, D., Sharma, S., Muir, E., Wiltse, S., Royzer, R., **Panko, T.**, & Hall, W., (Jan 2021). Non-medical COVID-19-related personal impact in medical ecological perspective: A global multileveled, mixed method study. medRxiv. 1:2020-12.
- Lee, Y., Hill, J., & Smith, A. (2021). The Challenge of Preserving Captured Sign Language Data in Human Avatar Models. *Frameless*, 3(1), 4.
- Mussallem, A., Panko, T.L., Hill, J., Cuculick, J., & Hauser, P.C., (2020). Double disparity in deaf and hard of hearing college students' health literacy. [HARC abstract]. *Health Literacy Research and Practice*.

Research (continued)

- Occhino, C.**, Fisher, J. N., **Hill, J. C.**, Hochgesang, J. A., Shaw, E., & Tamminga, M. (2021). New Trends in ASL Variation Documentation. *Sign Language Studies*, 21(3), 350–377.
- Postl, D.**, **Panko, T.L.**, **Contreras, J.**, **Hauser, P.C.**, & McKee, M., (2020). Deaf community's experience of COVID-19. [HARC abstract]. *Health Literacy Research and Practice*.
- Rotoli, J.M., Hancock, S., Park, C., Demers-Mcletchie, S., **Panko, T.L.**, Halle, T., Wills, J., Scarpino, J., Merrill, J., Cushman, J., & Jones, C., (2021 May 28). Emergency Medical Services Communication Barriers and the Deaf American Sign Language User. *Prehospital Emergency Care*. 1-3.
- Schönström, K., & **Hauser, P. C.**, (2021). The sentence repetition task as a measure of sign language proficiency. *Applied Psycholinguistics*, 1-19. Doi:10.1017/S0142716421000436

Selected CCL Presentations (CCL authors in bold, students underlined)

- Chan, B., **Dannels, W.A.**, Kyle, M., & Robinson, C. (2021, July). "Gaming for Access", TDI 24th Biennial Conference, Live Online Community Forum.
- Cureaux, M.**, **Contreras, J.**, **Cuculick, J.**, & **Panko, T.**, (2021). Rochester Bridges to Doctorate: Lessons Learned. Texas STEMinar Series. Online Presentation.
- Dannels, W.A.**, Mejia, I., Sharpless, M., Stricken, J., & Urena, Y. (June 2021) "Game Changing: Technology, Tools, and Supports that Grow with Children and Families", Early Childhood/Special Education Showcase, Office of Special Education Programs at the U.S. Department of Education, 8th Annual ED Games Expo, Live Q/A.
- Doane, E.**, & **Wright, J.**, (2021, July). Deaf LGBT adults' health literacy: possible effect of stigma. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Doane, R.**, & **Panko, T.**, (2021, July). Language deprivation's impact on Deaf women's access to reproductive health. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Dye, T.D., Levandowski, B.A., Pérez Ramos, J.G., Siddiqi, S., Hall, W.C., **Panko, T.**, Li, D., Sharma, S., Wiltse, S., Muir, E., Royzer, E., Irvine, C., & Pressman, E., (2021, January). Adherence to COVID-19 Prevention Strategies among Pregnant People and their Partners. 41st Annual Pregnancy Meeting, Society for Maternal Fetal Medicine, Las Vegas, NV.
- Dye, T.D., Levandowski, B.A., Siddiqi, S., Pérez Ramos, J.G., Hall, W.C., **Panko, T.**, Li, D., Sharma, S., Wiltse, S., Irvine, C., Muir, E., Royzer, E., & Pressman, E., (2021 January). Worldwide COVID-19-related Knowledge, Impact, and Worry in Pregnant People and their Partners. 41st Annual Pregnancy Meeting, Society for Maternal Fetal Medicine, January 2021, Las Vegas, NV.
- Edwards, I.**, & **Panko, T.**, (2021, July). Impact of healthcare provider's perception of patient health literacy. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Gray, M.**, & **Hauser, P.C.**, (2021, July). Executive function in Deaf adults and the link to caregiver hearing status. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Harris, T.**, **Hill, J.**, & **Listman, J.** (2021, July). BIPOC Interpreting Students Perspective on Interpreting Training Programs. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Hicken, B.**, & **Listman, J.**, (2021, July). Students' perception of learning assistant model in interpreting program courses. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Hill, J.**, & **Beers, K.** (2020, November 20). Language Attitudes and Policies at Mainstream and Deaf Schools in Italy. High Desert Society Linguistics, Albuquerque, NM.
- Hose, T.**, & **Hauser, P.C.**, (2021, July). Cardiovascular knowledge in the deaf community. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Kloseler, L.**, & **Contreras, J.**, (2021, July). Feasibility and utility of remote support group for deaf parents. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Lee, Y.**, **Smith, A.**, & **Hill, J.** (2020, November 20). The Challenge of Preserving Captured Sign Language Data in Human Avatar Models. Frameless Labs Symposium, Rochester, New York.

Research (continued)

- McFadden, T., & Hill, J.**, (2021, July). Elucidating BIPOC students' perspective on navigating the COVID-19 pandemic. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Mussallem, A., Panko, T.L., Hill, J., Cuculick, J., & Hauser, P.C.**, (2020 Oct). Double disparity in deaf and hard of hearing college students' health literacy. Health Literacy in Action and Health Literacy Annual Research Conference. Virtual Meeting. Conference Presentation.
- Mussallem, A., Panko, T.L., McKee, M., Hill, J., Cuculick, J., & Hauser, P.C.**, (2020, Nov 9-13). Hidden disparity in health literacy among deaf college students. Annual Biomedical Research Conference for Minority Students. Virtual Meeting. Conference Poster.
- Ocampo-Diaz, K., & Dannels, W.**, (2021, July). Viewing sign language interpreted content through smart glasses. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Occhino, C., & Patterson, S.** (2020, November 18). Documenting Individual Variation in ASL. High Desert Linguistic Society, Albuquerque, NM.
- Panko, T.L.**, (2020, Nov). Reflecting on the Scalpel as a Deaf Physician Scientist. International Museum of Surgical Science. Chicago, IL. Guest Lecture.
- Panko, T.**, (2020, Nov). Reproductive injustice in the deaf community. JusticeNOW2020. Virtual Meeting. Conference Presentation.
- Panko, T.**, (2020, April 3-5). Deaf women's health: A reproductive justice issue? Civil Liberties and Public Policy Annual Conference. Hampshire College, Amherst, MA. (Conference canceled.)
- Postl, D., & Panko, T.**, (2021, July). Deaf women's contraceptive practices. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Postl, D., Panko, T.L., Contreras, J., Hauser, P.C., & McKee, M.**, (2020, Oct 9). Deaf community's experience of COVID-19. Health Literacy in Action and Health Literacy Annual Research Conference. Virtual Meeting. Conference Presentation.
- Pudans-Smith, K., Pirone, J., **Listman, J. D.**, & Ivy, T. (July 2021). The Climate of the ASL Profession: ASL Pedagogy, Curriculum, and Assessment. American Sign Language Teachers Association Conference, Virtual Conference.
- Roth, C., & Dannels, W.**, (2021, July). A hard of hearing developers' perspective on capturing sign language using a Hololens. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.
- Sahetapy, S., Panko, T., Champlin, S., Paasche-Orlow, M., Hauser, P.C., & McKee, M.**, (2020 Nov 9-13). Deaf community's access to internet and eHealth literacy. Annual Biomedical Research Conference for Minority Students. Virtual Meeting. Conference Poster.
- Tadhg, T., & Listman, J. D.** (2021, July). Students Perception of the Learning Assistant Model in Interpreting Training Program. 2021 Undergraduate Research Symposium, Rochester Institute of Technology, Rochester, NY.

Center for Education Research Partnerships (CERP)

Jessica Williams Trussell, Ph.D., co-director and Thomastine Sarchet-Maher, '03, '09, co-director

The Center for Education Research Partnerships (CERP) is charged with establishing and joining research partnerships concerning development and learning among deaf and hard-of-hearing students across the lifespan and in various educational settings (rit.edu/ntid/cerp/). Primary activities include promotion of related research collaboration among individuals, educational institutions and organizations, both nationally and internationally. These and other activities focus on bridging research and practice to optimize educational opportunities and success for students who are deaf or hard of hearing. This notion of serving as a collaborator and an incubator for new ideas lies at the heart of the research center.

CERP was established to contribute to the education of deaf and hard-of-hearing students of all ages through the sharing of research findings and expertise with others. In FY 2021, CERP faculty members delivered a variety of invited/keynote lectures for schools and organizations in the United States and abroad, in addition to conference presentations. CERP members collaborated with colleagues at schools and universities in the U.S. and abroad through ongoing research and joint publications.

Research (continued)

Beyond this sharing of knowledge related to deaf education, CERP activities bring greater visibility to RIT/NTID, thus creating additional opportunities for both collaborations and extramural funding. CERP partnered with the Summer Transition Education Program (STP) department to host its third cohort during the summer of 2021. The program supported 32 first-year NTID students. The Summer Transition Education Program is slated to continue in future years at NTID, expanding to other regions in the United States. At the same time, an alternative format of the program was implemented with the NTID Regional STEM Center during July 2021 and will be implemented in an additional state in 2022. Beyond providing essential academic support for students, the program is expected to attract new students in the future and provide a wealth of data for forthcoming publications. The STP program has been a core focus of CERP's research agenda over the last three years.

Dissemination

In FY 2021, CERP personnel published or have in press five peer-reviewed journal articles, with two more under review. CERP personnel have also served the field of deaf education by giving three peer-reviewed presentations and three workshops. Also, CERP and NTID's Office of External Affairs partnered to host a workshop series, Best Practices in Mainstream Education of Deaf and Hard-of-Hearing Students, on four occasions during summer 2021. The conference featured critical topics in the field in a virtual learning environment for teachers of the deaf and hard of hearing.

Selected Publications

CERP's dissemination activities and ongoing research seek "simply to change the world through better understanding and improving the education of deaf students."

- Alonzo, O., Trussell, J. W., Dingman, B., & Huenerfauth, M. (2021). Comparison of methods for evaluating complexity of simplified texts among deaf and hard of hearing individuals at different literacy levels. Association for Computing Machinery, New York, NY, USA. <https://dl.acm.org/doi/10.1145/3411764.3445038>
- Alonzo, O., Trussell, J. W., Watkins, M., Lee, S., & Huenerfauth, M. (in review). Methods for evaluating the fluency of automatically simplified Texts with deaf and hard-of-hearing adults at various literacy levels. *Proceedings of CHI 2021* (Human Computer Interaction).
- Ananthanarayana, T., Srivastava, P., Chintha, A., Santha, A., Landy, B., Panaro, J., Webster, A., Kotecha, N., Shagan, S., Sarchet, T., Ptucha, R., Nwogu, I. (in press). Deep learning methods for sign language translation. *Transactions on Accessible Computing*.
- Beal, J., Trussell, J., & Walton, D. (2021). Incoming deaf college students' sign language skills: Self-awareness and intervention. *Journal of Language, Identity, and Education*, <https://doi.org/10.1080/15348458.2021.1878360>
- Gehret, A. U., Michel, L., & Trussell, J. W. (2021). Experiential education of deaf and hard of hearing students in the lab with non-signing advisors. *International Journal of Inclusive Education*, <https://doi.org/10.1080/13603116.2021.1879948>
- Trussell, J. W. & Nordhaus, J. (in review). Effects of metacognitive reading strategy on retell ability: A replication study. *American Annals of the Deaf*.
- Trussell, J.W., Sarchet, T., & Walton, D. (in press). Reading and writing instruction for academically at-risk deaf and hard of hearing first-year college students. *Community College Review*.

Research (continued)

Peer-Reviewed Conference Presentations

- Trussell, J.W. (July, 2021) Practitioners as researchers. Presented at the International Congress on the Education of the Deaf. Virtual.
- Trussell, J.W., & Sarchet, T. (July, 2021) Self-efficacy and emotional regulation in academically at-risk, first-year DHH college students. Presented at the International Congress on the Education of the Deaf. Virtual.
- Trussell, J. W., Sarchet, T., & Sarchet, S. (October, 2021). MATH THAT: Using online curricula with high school and Postsecondary DHH students. Presented at the SERID Conference, Knoxville, TN, United States.

Workshops

- Ntigulirwa, J. (June, 2021) *"I missed breakfast, I can't work today": Self-awareness among first-year deaf and hard-of-hearing college students*. Presented at the National Deaf Education Conference (Virtual).
- Trussell, J. W., Sarchet, T., Walton, D., Ntigulirwa, J., & Buckley-Thompson, J. (October, 2021). *Opening the acceptance letter is the easy part...* Presented at the SERID Conference, Knoxville, TN, United States.
- Trussell, J. W., & Sarchet, T. (December, 2020). *Current issues and trends in college-readiness of first-year DHH students*. Presented at the SERID Seminar, Knoxville, TN, United States (Virtual).

Research Center for Teaching and Learning (RCfTL)

Sara Schley, Ed.D., director and Carol Marchetti, Ph.D., associate director

The primary mission of the RCfTL is to create a sustainable setting in which diverse teams of faculty and students conduct research that will improve deaf education, expose students to research practice and prepare a future generation of NTID educational researchers and scholars. A secondary mission is to facilitate the development of collaborative partnerships between NTID faculty and faculty in the other colleges of RIT focused on the education of deaf and hard-of-hearing students.

Research Projects

- Faculty in Pedagogical Exploration and Innovation for Accessible STEM Instruction with Deaf/Hard-of-Hearing Students
National Science Foundation 8/29/2016–8/28/2021
PI: Sara Schley; Co-PIs: Stephanie Cawthon (University of Texas), W. Scot Atkins '89, '92 \$443,200

This project is developing and operating faculty learning communities to teach basic principles of instructing deaf and hard-of-hearing students to faculty in other RIT colleges. In FY 2021, the project offered two sessions of its Faculty Learning Community program. Faculty participants learned basic principles about instructing deaf and hard-of-hearing students and devised and tested ways of improving communication and collaboration in postsecondary classes with mixed groups of deaf and hearing students. An online "accessibility toolkit" of strategies for teaching STEM subjects in a mainstream classroom continues to be under development.

- Let's Talk Money: Building Community Understanding of the Institutional Compensation System
National Science Foundation ADVANCE Partnership Program 10/1/2021–9/30/2026
PI: Carol Marchetti, Co-PIs Margaret Bailey and Iris Rivero (COE), Jessica Bennett (APLU), Gloria Blackwell (AAUW) \$1,314,681
Internal Evaluator: Sara Schley

Research (continued)

This project aims to significantly expand knowledge of best practices for faculty compensation to a broader community in higher education and provide critical insights to guide compensation practices via collaborations with three university partners, Villanova, Drexel and Gallaudet; the American Association of University Women (AAUW); the NSF INCLUDES Hub and the ASPIRE Alliance. The three partner-universities will undertake actions to: promote an inclusive work environment and informed faculty community that understands its financial model about compensation; align university resources with institutional values to promote enhanced equity; and support systemic, sustainable change through institutionalization of compensation interventions. Ongoing formative assessment will include input from women of color and deaf and hard-of-hearing women. The project's reach will expand to additional institutions through partnerships with the AAUW, NSF INCLUDES Hub and the ASPIRE Alliance. Expected outcomes include implementation of compensation-related accountability measures, improved faculty understanding of pay practices, increased comprehension of equity among salary decision-makers and infrastructure changes to support ongoing progress.

Faculty and Student Mentoring Activities

A focus of the RCfTL involves mentoring and developing faculty research and inclusive pedagogy skills. RCfTL faculty presented on one expert panel, designed three online webinars and mentored a doctoral student. FY 2021 projects included the following:

- Culturally Appropriate Icons in Digital Applications for Deaf and Hard-of-Hearing Users.
PI: Doctoral student in GCCIS; mentor: Carol Marchetti

Dissemination

In FY 2021, RCfTL personnel gave five peer-reviewed conference and poster presentations (and had three canceled due to COVID-19), led two workshops, had seven peer-reviewed journal articles published and published two articles in venues to spread results to broader audiences (including in a news outlet and in a set of research-to-practice notes).

Peer-Reviewed Publications

- Atkins, W. S., Schley, S., Cawthon, S., Schmitz, K. & Marchetti, C. In Press. Learning from Deaf Students: Student/Faculty Partnerships in Inclusive Pedagogy Development. Submitted to the *Learning Communities Journal*, Accepted for publication, 6/12/2021. To appear, fall 2021.
- Chimenti, C., McIntyre, J., Noonan, B., Woerner, L., Bell, M., & Marchetti, C. 2020. Pain Assessment Clinical Practice Improvement: An Educational Approach in the Home Healthcare Setting. *Home Healthcare Now*, 38(5), 254-260.
- Schley, S., Cawthon, S., Marchetti, C. & Atkins, W.S. 2021. From Access to Inclusion: A Faculty Learning Community Curriculum. *Journal of Faculty Development*. 35(3), 44-50. Note: Selected as first *Featured Article* of this journal, a new designation to highlight timely and valuable contributions to the field.
- Schley, S. & Marchetti, C. 2021. Pandemic Transformation of Teaching and Learning: Designing Pedagogy: Using Your Pedagogical Pantry Rather than Established Recipes. *Journal of Transformative Learning*. 8(1), 29-35.
- Scott, S., & Marchetti, C. 2021. "A Review of the Biennial AHEAD Surveys: Trends and Changes in the Demographics and Work of Disability Resource Professionals", *Journal of Postsecondary Education and Disability*, 34(2), 107-126.
- Stinson, M., Elliot, L., Marchetti, C., and Rentsch, J. 2021. "Effects of Schema-Enriched Communication in Teams with Diverse Hearing Status", *Journal of Deaf Studies and Deaf Education*, 522-534. <https://doi.org/10.1093/deafed/enab017>
- Stinson, M., Elliot, L., Marchetti, C., Devor, D., and Rentsch, J. 2021. "Sharing of Knowledge and Problem Solving When Teammates Have Diverse Hearing Status," *Small Group Research*. <https://doi.org/10.1177/10464964211010218>

Research (continued)

Workshops

- Le Doux, J., Carrion, C., Schley, S., Cyr, P., Abidi, S. 2021 (May 25-27). The Problem Solving Studio: May 2021. Faculty Professional Development Workshop, Engineering Unleashed, Kern Entrepreneurial Engineering Network (KEEN). Virtual: <https://engineeringunleashed.com/content/faculty-development-the-problemsolving-studio>
- Schley, S. 2021 (Jan. 15). Going Beyond Compliance and Accommodations: Teaching Inclusively. Faculty Professional Development Workshop, Supported by the Title III Grant to Illinois College. Springfield, IL (virtual).

Publications: News Articles, Practice Notes, Reviews and Opinion

- Schley, S. 2021 (Aug). Class-sourcing interaction: online agendas, notes, discussions. Mills, W (Editor), *Teaching Messages Collection 2021-2022*, p. 40.
- Schley, S. & Ramirez-Stapleton, L. 2021 (July 28). Lessons from Segregated Schools Can Help Make Today's Classrooms More Inclusive. *The Conversation*, <https://theconversation.com/lessons-from-segregated-schools-can-help-make-todays-classrooms-more-inclusive-159791>.

Peer-Reviewed Conference Presentations (*Conferences canceled due to the COVID-19 pandemic are noted)

- Atkins, W.S. 2021. (virtual presentation) Beyond the lemonade stand: Best practices for entrepreneurship education for deaf and hard of hearing students. International Congress on the Education of the Deaf, Brisbane, Australia.
- Bailey, M., Chapman, T., Scully, M., McQuiller, L., & Marchetti, C. 2020 (Oct 19). "Supporting a College-level Environment that Values Civility and Respect through Annual Bystander Awareness and Action Workshops," [poster presentation], *2nd Annual Public Summit of the Action Collaborative to Prevent Sexual Harassment in Higher Education*, online.
- Helmke, B. P., Grimm, M. J., Jensen, K., Childers, R. C., Schley, S., & LeDoux, J. M. 2020 (June 25). Diversity, Equity, and Inclusion in Biomedical Engineering: Best Practices and Future Directions. *ASEE's 2020 Virtual Annual Conference – Biomedical Engineering Division*. Montreal, Quebec, Canada. https://www.asee.org/public/conferences/172/registration/view_session?session_id=12985
- Heuer, C., Kennedy, M., & Marchetti, C. 2020 (Oct 27). "Accessible Instruction for Deaf College Students During COVID-19 and Beyond," Panel Discussion moderated by E. Shadburne, National Deaf Center, online.
- Schley, S., Atkins, W. S., Lange, D., Kavin, D., & Dannels, W. 2020 (July 5-8). Access, Inclusion, Interaction, and Engagement between DHH and hearing participants in formal and informal learning environments. *ICED 2020 – International Congress on the Education of the Deaf*. Brisbane, Australia. (Conference canceled).
- Schley, S. & Lange, D. 2020 (July 5-8). Universal Design for Learning: Strategies for Inclusion. *ICED 2020 – International Congress on the Education of the Deaf*. Brisbane, Australia. (Conference canceled)
- Schley, S. & Marchetti, C. M. 2020 (June 15-18). Engaging Faculty in Designing Inclusive and Collaborative Classroom Strategies with Students with Disabilities: A Guide for Faculty Developers. *ICED 2020: International Consortium for Educational Development*, Zurich Switzerland. (Conference canceled)

Research (continued)

OTHER FUNDED RESEARCH AND OUTREACH EFFORTS

Communication Research

Michael Stinson, principal investigator

- Investigating Team Knowledge Building in Complex Science and Statistics Problem Solving when the Teams Include Deaf/Hard-of-hearing and Hearing College Students.
National Science Foundation 9/1/2015–11/31/2021
PI: Michael Stinson; Co-PIs: Lisa Elliot, Carol Marchetti \$499,830
(RCFTL), Judith Rentsch (University of Tennessee)

This project is testing the contribution of team knowledge building theory to optimal solution of complex problems in teams with deaf, hard-of-hearing and hearing students. It uses statistics as the test domain. While group work often is incorporated in science, technology, engineering and mathematics (STEM) classes because of its perceived pedagogical benefits, groups that consist of deaf and hard-of-hearing students as well as hearing students often struggle to communicate while working on these critical STEM learning activities. Test teams with two deaf and hard-of-hearing students and two hearing students participated in one of three conditions: (a) control, (b) training and information board or (c) training, information board and messaging. The study informs development of interventions and strategies that directly translate to improved problem solving and participation by team members with diverse characteristics, including deaf and hard-of-hearing members, in STEM secondary and postsecondary classrooms and work settings.

- Investigating Messaging Technology on Interactions of Deaf and Hard-of-Hearing College Students
NTID Support 9/1/2015–8/31/2022
PI: Michael Stinson

This study investigated effects of computer-based messaging and training in communication strategies on the interactions of deaf and typically hearing (TH) teammates in completing decision-making tasks without interpreter support. Fifteen teams, each comprised of two deaf and two TH college students, completed three decision-making tasks, one without messaging, one with messaging and one with messaging and training in communication strategies. The study found that availability of messaging increased the extent that participants used this method to communicate and reduced misunderstandings among teammates.

Publications

- Stinson, M., Gamta, R., Meyer, L., Powers-Blom, C., & Singer, S. (2021). Effects of messaging and communication strategy training on interaction in teams with deaf and hearing college students. Manuscript submitted for publication.
- Stinson, M., Elliot, L.B., Marchetti, & C. Rentsch, J. (2021). Effects of schema-enriched communication in teams with diverse hearing status. *Journal of Deaf Studies and Deaf Education*, 26 (4), 522-534, <https://doi.org/10.1093/deafed/enab017>
- Stinson, M., Elliot, L.B., Marchetti, C. Rentsch, J., & Devor, D.J. (in press). Sharing knowledge and problem solving when teammates have diverse hearing status. *Small Group Research*.

Research (continued)

Deaf STEM Community Alliance

Lisa Elliot, Ph.D., principal investigator

- DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM
National Science Foundation 9/1/2018–8/31/2022
PI: Lisa Elliot \$299,347

This project compares the online scientific and scholarly community groups created by the Deaf STEM Community Alliance, which is hosted by RIT/NTID, and the NSF INCLUDES Open Forum, which is hosted by the American Association for the Advancement of Science (AAAS). It is exploring the life cycle stages of the communities, development of leadership and community engagement managers' roles and skills, and members' perceptions of social capital and benefits for each community. The findings will add new knowledge that will contribute to strengthening the NSF INCLUDES Network and other NSF efforts to broaden STEM participation.

Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists

RIT/NTID is participating in a partnership with the University of Rochester (UR) and the Rochester Regional Health (RRH) organization to develop a National Hub of Excellence that will support the academic development, professional training and career advancement of deaf and hard-of-hearing individuals pursuing careers in biomedical and behavioral science fields. These institutions are combining their experience and expertise in research training, health care and the education of deaf and hard-of-hearing students. The concept of the Rochester Hub is explained in the following publication.

Buckley, G., Smith, S., DeCaro, J., Barnett, S., & Dewhurst S. (Jan. 19, 2017). Building community for deaf scientists. *Science*, 355(6322), 255.

Three NIH-funded educational development programs form the nucleus of the Hub pipeline to support the academic development of deaf and hard-of-hearing students who aspire to careers in biomedical and behavioral science fields: RIT-RISE (for RIT undergraduate students), Rochester Bridges to the Doctorate (for RIT graduate students) and the Rochester Postdoctoral Partnership (for postdoctoral fellows). The first award is a partnership across six colleges of RIT, and the latter two awards are in full partnership with the University of Rochester Medical Center.

RIT-RISE Scientists-In-Training Program for Deaf and Hard-of-Hearing Undergraduates
National Institutes of Health 4/5/2017–3/31/2022
PI: Vincent Samar; Co-PI: Paul Craig (COS) \$1,025,191

NIH funds a number of programs entitled Research Training Initiative for Student Enhancement (RISE). The RIT-RISE Scientists-In-Training Program for Deaf and Hard of Hearing Undergraduates (RIT-RISE) is a cross-campus collaboration among NTID and RIT's College of Science, College of Liberal Arts, College of Health Sciences and Technology, Kate Gleason College of Engineering and B. Thomas Golisano College of Computing and Information Sciences. The goal of the program is to diversify the national scientific workforce by increasing the number of deaf and hard-of-hearing biomedical, biobehavioral and clinical research scientists.

Presently in its fifth year, RIT-RISE is providing research preparation, research experience, supplemental research training and career preparation to support four deaf/hard-of-hearing undergraduate RIT students (RISE scholars) who aspire to become successful Ph.D. scientists. RISE scholars engage in intensive research training, working closely with selected RIT faculty and external mentors during three academic years and two summer terms. The grant pays student wages and provides funds for lab and other research supplies. RISE scholars also receive ongoing

Research (continued)

advising/counseling, feedback on their writing, special research-environment accommodations as determined by periodic research-environment communication access assessments and enhanced academic mentoring from faculty researchers. The project team uses doctoral readiness meetings and individualized research development plan assessments to track the success of each scholar in achieving targeted core research competencies.

The RIT-RISE Program also provides ongoing curricular and co-curricular programming to promote undergraduate research experiences for students throughout RIT. RIT-RISE sponsors Scientists-in-Training Series (SITS) presentations to expose scholars and the greater RIT community to leading-edge scientific research by deaf and hard-of-hearing and hearing scientists and to the personal career journeys of successful deaf and hard-of-hearing scientists. RIT-RISE also developed two new career and research-oriented courses, two new summer research training workshops and two new online certification courses that introduce interested students and faculty to career options in biomedical science, scientific writing and essential professional development topics such as the responsible conduct of research and the principles of rigor and reproducibility in science. RIT-RISE also collaborated with NTID's Department of American Sign Language and Interpreting Education (ASLIE) to develop new classroom and online courses for undergraduate and graduate interpreting students at RIT/NTID, focused on interpreting in research settings. RIT-RISE also provides cultural competence training for hearing research mentors who work with deaf and hard-of-hearing RISE scholars. RIT-RISE has developed partnerships with several research-intensive universities and institutions to facilitate opportunities for our scholars to participate in undergraduate summer research experiences and internships before applying to graduate programs in the biomedical sciences. For more information about the RISE program, visit rit.edu/ntid/rise/.

Program Presentations

- Craig, P.A., Samar, V., Womack, K., & Listman, J. (2020). Best Practices for Inclusion of Deaf and Hard-of-Hearing Scientists at Conferences. ASBMB, San Diego, CA, United States. FASEB Journal, 34(S1), 1-1. doi:10.1096/fasebj.2020.34.s1.00443
- Dahlstrom, S., Houston, R., Altheimer, I., Craig, P. & Samar, V.J. (2020, June 1 – September 1). *Mentored Undergraduate Research on Impulsivity Self-control, and Delinquency: Sponsored by the RIT-RISE Program for Deaf and Hard-of-Hearing Undergraduates* [Poster Presentation]. Association for Psychological Science Virtual Poster Showcase. <https://www.psychologicalscience.org/2020-virtual-poster>

Scholar Presentations and Preprints

- Christie, R., Stack Whitney, K., Perrone, J., & Bahlai, C.A. (2021, March). Longer study length, standardized sampling techniques, and broader geographic scope leads to higher likelihood of detecting stable abundance patterns in long term deer tick (*Ixodes scapularis*) studies [Preprint], BioRxiv. Archived here: <https://www.biorxiv.org/content/10.1101/2021.03.06.434217v1>
- Dahlstrom, S., Houston, R., Altheimer, I., & Samar, V.J. (2020, November 13-16). *Factor Analysis of Self Control and Associations with At-Risk Behavior* [Poster Presentation]. Annual Biomedical Research Conference for Minority Students, San Antonio, TX, United States.
- Dahlstrom, S., Houston, R., Altheimer, I., Craig, P. & Samar, V.J. (2020, June 1 – September 1). *Mentored Undergraduate Research on Impulsivity Self-control, and Delinquency: Sponsored by the RIT-RISE Program for Deaf and Hard-of-Hearing Undergraduates* [Poster Presentation]. Association for Psychological Science Virtual Poster Showcase. <https://www.psychologicalscience.org/2020-virtual-poster>
- DiMartino, D. & Gaborski, T. (2021, July 29-Aug 4). *Analysis of Critical Blood-Brain Barrier Proteins* [Presentation], RIT Undergraduate Research Symposium, virtual.
- Elder, H. & Fedorovskaya, E. (2021, July 29-Aug 4). *Familial Alzheimer's Disease and Cognitive Performance in Young Adults* [Presentation], RIT Undergraduate Research Symposium, virtual.
- Elder, H., & Craig, P. (2020). *Neurodegenerative Diseases and Hearing Loss*. [Poster Presentation]. Annual Biomedical Research Conference for Minority Students, San Antonio, TX, United States.

Research (continued)

Fors, M. & Houston, R. (2021, July 29-Aug 4). *Differential Associations Between Tinnitus and Mental Health Symptomatology* [Presentation], RIT Undergraduate Research Symposium, virtual.

Kasper, A., Gaborski, T., Wuertz, K., & Michel, L. (2021, July 29-Aug 4). *Optimizing ADSC Medium-Sized EV Concentrations in Fibroblast Wound Healing* [Presentation], RIT Undergraduate Research Symposium, virtual.

Kasper, A., Jackson, N., Jones, S., Gleghorn, M., Kaur, R., & Michel, L.V. (2020, November 13-16). *Antigenic competition in Protein D antibody suppression by OMP26* [Poster Presentation]. Annual Biomedical Research Conference for Minority Students, San Antonio, TX, United States.

Rochester Bridges to the Doctorate

NIH R25 GM107739/417472G

8/1/2018–7/31/2023

PIs: Steven Barnett (URMC), Peter C. Hauser (NTID)

\$1,161,992

The Bridges program is a partnership between University of Rochester Medical Center (URMC) and RIT/NTID that aims to increase the number of deaf and hard-of-hearing master's degree students who go on to enroll in biomedical and behavioral science doctoral programs. The Rochester Bridges Program, which is locally administered by the NTID Research Center on Culture and Language, provides RIT graduate scholars with unparalleled mentored research experiences at RIT and UR. The scholars, who also take three or more doctoral-level courses at UR, receive research stipends, tuition waivers and conference travel funds. The program supported five deaf and hard-of-hearing scholars during FY 2021. For more information about the Rochester Bridges to the Doctorate Program, visit rit.edu/deafscientists/.

Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars

NIH K12 GM106997

7/1/2021–6/30/2026

PIs: Stephen Dewhurst (URMC), Gerry Buckley '78 (NTID)

\$1,147,594

Program Coordinator: Matthew Dye

A partnership between NTID, the University of Rochester Medical Center (URMC) and its National Center for Deaf Health Research, the "Rochester Postdoc Partnership" (RPP) offers learning opportunities at each institution to create a pipeline of deaf and hard-of-hearing scientists who have doctoral degrees, preparing them for careers in academia. The program's fellows engage in research activities at URMC laboratories and teach courses at NTID in their fields of expertise. The program has an excellent record of its fellows securing employment in academia. Every two years, this program hosts a popular national conference for deaf and hard-of-hearing persons interested in research and academia, drawing participants from around the country and facilitating applications to the RPP program. The next such conference will take place in the summer of 2022. This program began in 2015. In July 2021, NIH renewed this project for another five years. For more information about the Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars Program, visit urmc.rochester.edu/academic-research-careers-deaf-scholars.aspx.

Mobile Applications Curriculum Development

Brian Trager '00, '05, program director

RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students

National Science Foundation

6/1/2016–5/31/2021

Co-directors: David Lawrence, Elissa Olsen '78, '80, '99

\$820,504

Research (continued)

This project supports the development and implementation of an associate degree program designed to increase the number of students in the mobile application development workforce. The five-semester degree program educates students using a native cross-platform development approach (Xamarin) to create mobile apps for multiple platforms.

During FY 2021, four credit-bearing courses underwent significant revisions for a hybrid classroom environment due to COVID-19. In addition, the rapidly evolving app development industry demanded change since both Apple and Google have updated their respective operating systems on their mobile handsets, which needed to be addressed in the program. The four courses that were updated are: Programming Fundamentals I: Mobile Domain, Programming Fundamentals II: Mobile Domain, Mobile App Development I and Mobile App Development II. In addition, one course (Mobile App Development Capstone) was offered for the third time to third-year students, offering the opportunity to work on creating two apps that were developed and published for Android and iOS using Xamarin, a cross-platform development platform to create native apps using a single codebase. Seven students have successfully completed the Mobile App Development program and graduated with an associate degree in May 2021.

The grant supporting this program concluded on May 31, 2021, with all of the project goals completed.

Center for International Educational Outreach

Thomastine A. Sarchet-Maher, '03, '09, director

The mission of the Center for International Educational Outreach (IEO) at NTID is to share its expertise to help expand education opportunities for deaf communities outside of the United States. This is accomplished through partnerships and collaboration with deaf and hard-of-hearing leaders and institutions in other countries to build centers of excellence in deaf and hard-of-hearing education. IEO works to establish and expand opportunities for RIT/NTID students and faculty to participate in cultural, academic and research exchanges between NTID and international organizations involved in educating and employing deaf and hard-of-hearing people.

IEO was established in 2016 to maintain and expand the global network of partnerships developed by RIT/NTID through the Postsecondary Education Network-International and Pre-College Education Network projects funded by Japan's Nippon Foundation. The center's main focus is sharing knowledge and expertise on best practices in the education and employment of deaf and hard-of-hearing people. Further, the center has received external funding to provide curriculum development, technical assistance, research assistance and workshops to deaf education professionals in several countries.

Externally Funded Projects

In FY 2021, IEO partnered with RIT/NTID faculty to lead two new externally funded projects and renewal of one federal research project.

- Transforming Reading in Early Education for Deaf Children
World Vision 7/1/2021–12/31/2022
PI: Christopher Kurz '91, '95; Co-PIs: Patrick Graham, \$274,067
Stephen Jacobs, Thomastine Sarchet '03, '09

This project will transform reading experiences for young deaf and hard-of-hearing children in the following five countries: Fiji, Indonesia, Papua New Guinea, the Philippines and Samoa. This will be done through a playful innovative sign language/written language bridging method on World Around You (WAY) Platform. Several challenges that early childhood professionals face are finding instructional strategies, curriculum materials and assessment approaches in literacy for deaf and hard-of-hearing children from birth to 8 years old. Additionally, these strategies must be visually engaging and follow developmentally appropriate practices of early learning to attract young deaf and hard-of-hearing children to reading. The main focus is reducing the global deaf literacy gap earlier. Now with the increasing acceptance and recognition of sign languages all around the world, professionals have been exploring innovative ways to bridge the gap between the sign language and the written language, especially for children from 4 to 6 years old.

Research (continued)

virtual exchange with our partners in China and two partner universities, Tianjin University of Technology and Changchun University in China. More than 30 students and six faculty members between the three universities participated. For AY 2020-2021, one faculty-led study abroad trip is being planned following RIT Global's new pandemic protocols. Two other new programs are in development for spring 2023.

Workshops and Training

Under the direction of Colin Allen, AM, IEO developed and piloted an online workshop in International Deaf Leadership for deaf community members around the globe. Topics included in the series were: leadership models, community needs assessments, advocacy work and legislative frameworks. The workshop series consisted of four sessions provided to two cohorts. IEO is planning to expand this training program in future years.

IEO personnel were invited to participate in a virtual session hosted by the United States Agency on International Development (USAID). This session was an opportunity to provide feedback and inputs to ensure the inclusion of deaf and hard-of-hearing perspectives in the revision of their Disability Policy framework.

Reports

Colin Allen, AM, conducted a study on the status of sign language interpreting and related training programs in other countries. The findings and recommendations of this study were published as A Global Report: International Perspectives on Deaf Leadership among Deaf and Interpreter Communities. The executive summary in American Sign Language and International Sign may be found here: rit.edu/ntid/ieo#publications.

Language Experience, Sign Language & Interpreter Education Research Lab

Kim Kurz '93, '95, Ph.D., director

The main research focus is to investigate issues in sign language education and experience, and research methods and issues in interpretation and translation.

Selected Publications

- Kurz, K., & Kurz, C. (in press). No two interpretations are alike: A study of constructed meaning in English to ASL interpretations in education. In Winston, E. A. & Fitzmaurice, S (Eds.). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.
- Kurz, C., & Kurz, K. (in press). Infusing ASL in the academic settings. In Winston, E. A. & Fitzmaurice, S (Eds.). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.
- Kurz, K., & Metzger, M. (in press). Signed language interpreters in education: Perspectives on their role in deaf and hard of hearing students' educational placement. In Winston, E. A. & Fitzmaurice, S (Eds.). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.
- Kurz, C., & Kurz, K. (2020). Academic American Sign Language [news bulletin]. Center for Education Research Partnerships. Oxford University Press.
- Kurz, C., Jacobs, S., Kurz, K., & Sarchet, T. (2019). *World Around You*. [Website]. Deafworldaroundyou.org
- Kurz, K. B., Mullaney, K., & Occhino, C. (2019). Constructed Action in American Sign Language: A Look at Second Language Learners in a Second Modality. *Languages*, 4(4), 90.
- Listman, J., & Kurz, K. (2020). Lived experience: Deaf professionals' stories of resilience and risks. *Journal of Deaf Studies and Deaf Education*, 25(2), 239-249.

Selected Presentations

- Dye, M., Huenerfauth, M., & Kurz, K. (2019). *Sign language avatars activate phonological and semantic representations: Evidence from working memory and priming paradigms*. 13th Theoretical Issues in Sign Language Research conference, Hamburg, Germany.

Research (continued)

- Kurz, C., & Kurz, K. (2020 - COVID). DeafEd equity: Open-Source platform for books and games. National Deaf Education Signs.
- Kurz, K., & Mullaney, K. (2020). *An analysis of constructed action in American Sign Language narratives: Comparing native signers and second language learners*. Linguistics Society of America conference. New Orleans, LA.
- Kurz, K. (2019). *An analysis of constructed action in American Sign Language narratives: Comparing native signers and second language learners*. 13th Theoretical Issues in Sign Language Research conference, Hamburg, Germany.
- Kurz, K., & Hill, J. (2019). *The “heart” of interpretation from Deaf perspective*. World Federation of the Deaf conference, Paris, France.
- Kurz, K. (2019). *Second modality and second language acquisition and constructed actions in ASL learners*. World Association of Sign Language Interpreters conference, Paris, France.
- Kurz, K., Bowman, C., Mullaney, K., & Stillman, M. (2019). *The cognitive benefits of learning a second language in a second modality: A cross-sequential study of ASL learners*. Linguistics Society of America conference. New York City.

DEAF Math and Science Language Learning Lab (DMS-L3)

Chris Kurz, '91, '95, director

This lab focuses on deaf experience related to language learning and conceptual understanding in mathematics and science. This lab is dedicated to understanding processes involved in accessing, acquiring and producing content knowledge and skills with support of multimodal literacies, including American Sign Language and English. By studying how deaf people learn and use mathematics and science effectively, we can relate learning to practice at home and at school.

Projects

World Around You: International Collaborative Multilingual Sign Language Books

All Children Reading – A Grand Challenge Development: Begin with Books 2020–2022
PI C. Kurz '91, '95, Co-PI S. Jacobs, Co-PI K. Kurz '93, '95, & Co-PI T. Sarchet '03, '09 \$236,956

This project will produce 50 bilingual storybooks for each grade from preschool to 2nd grade. In the past year, we have produced early grade literacy materials in multiple languages, including Filipino Sign Language, Fiji Sign Language, Somali Sign Language and Jakarta Sign Language.

- 9 COVID storybooks
- 49 preschool storybooks
- 10 kindergarten storybooks
- 8 original storybooks
- 4 storybooks with deaf characters

International countries partners: the Philippines, Indonesia, Papua New Guinea, Fiji, Samoa and Somali

Project TREE – Transforming Reading in Early Education for Deaf Children

All Children Reading – A Grand Challenge Development: Ready2Read 2021–2023
PI C. Kurz '91, '95, Co-PI P.J. Graham, S. Jacobs, & Co-PI T. Sarchet '03, '09 \$300,000
2021: All Children Reading: A Grand Challenge Grant – Ready2Read.

This proposed Project TREE will transform early-grade reading experience for young deaf and hard-of-hearing (DHH) children through Sign Language Rhythm and Rhyme (SLRR) and Shared Multilingual Reading Strategies (SMRS) on the ACR GCD: World Around You (WAY) platform. Project TREE commits to producing SLRR and SMRS training materials and providing training-of-trainers to partner country teams for maximum success in the assimilation of materials in three different countries: Fiji, Papua New Guinea and the Philippines. We are partnering with deaf community leaders in these countries.

Research (continued)

International partners: the Philippines, Papua New Guinea and Fiji

Selected Publications

- Kurz, C., & Kurz, K. (in press). Debunking the myths of American Sign Language in academic settings. In E.A. Winston, & S. Fitzmaurice (Eds.). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.
- Kurz, C., Golos, D., Kuntze, M., Scott, J., & Henner, J. (2021). *Multilingual Deaf Education in the United States and Canada: Guidelines for Teacher Preparation Programs*. Washington, DC: Gallaudet University Press.
- Kurz, C., Reis, J., and Spiecker, B. (2020). Ideologies and attitudes toward American Sign Language: Academic language and academic vocabulary coinage process. In A. Kusters, M. Green, E. Harrelson, & K. Snodden (Eds.), *Sign Language Ideologies in Practice*, (Vol. 12), pp. 287-308. Walter de Gruyter GmbH & Co KG.
- Kurz, C., & Pagliaro, C. (2020). Sign language pedagogy in mathematics classroom. In R. Rosen (Ed.), *Handbook on Sign Language Pedagogy*, pp. 85-99. New York, NY: Routledge.
- Langdon, C., Kurz, C., & Copolla, M. (2021). The importance of early number concepts for learning mathematics in deaf and hard of hearing children. *Special Issue: Perspectives on Early Childhood Psychology and Education*, 5(2), 125-155.
- Pagliaro, C., & Kurz, C. (2021). Using ASL to navigate the semantic circuit in the bilingual mathematics classroom. In C. Enns, J. Henner, & L. McQuarrie. (Eds.), *Discussing bilingualism in deaf children: Essays in honor of Robert Hoffmeister*, pp. 187-196. New York, NY: Routledge.

Substance and Addiction Intervention Services for the Deaf (SAISD)

Keven Poore, program director

Ongoing funding
NYS Office of Addiction Services and Supports (OASAS)
Coordinated Care Services, Inc.
DHHS Substance Abuse and Mental Health

SAISD has been in continuous operation since 1979. The five staff members at SAISD provide alcohol, tobacco and other drug information/referral, prevention/education, intervention, cross-disability professional consultation and training and support to treatment programs. The target population served includes the deaf and hard-of-hearing student population at RIT/NTID and the deaf and hard-of-hearing community in Monroe County and 15 surrounding counties in upstate New York (approximately 55,000 individuals). SAISD has increased its use of social media, videos and informational campaigns.

STUDENT RESEARCH ACTIVITIES

Todd Pagano, Ph.D., associate dean for teaching & scholarship excellence

RIT and NTID place significant emphasis on student involvement in research. RIT's strategic plan discusses the "Student-Centered Research University" as one of the five tenets of the RIT plan for "greatness through difference." NTID's *Strategic Decisions 2020* also highlights the importance of student participation in "Innovation and Scholarship Research."

NTID has become a leader at RIT in supporting students in research projects; however, FY 2021 was another COVID-19-disrupted time that limited students and faculty working together on research projects. Some in-person research experiences returned to campus, but a significant amount of the work (especially hands-on research) remained limited due to fall-out from the pandemic. Still, student researchers took advantage of a few funding opportunities to support their research and present (virtually) the fruits of their research at professional conferences. Several student researchers were listed as co-authors on peer-reviewed published journal articles. Unfortunately, due to the pandemic, the annual NTID Research Fair that typically occurs in the spring was canceled.

Research (continued)

Support for Student Involvement in Research

Beyond individual faculty researchers' efforts and fiscal support for engaging students in research activities, this year, NTID offered two specific support mechanisms to encourage student involvement in research:

- Student research micro-grants: Students (with approval of a faculty mentor) can apply for up to \$1,000 in funding to support a specific research project. For example, students can request funds to purchase a specific software program or chemicals or to pay subject fees.
- Conference travel awards: Research students who have made significant progress can apply for funding to travel to a professional conference and present their findings. This year, presentations were limited to virtual presentation due to travel restrictions.

For three of the last four years, NTID has also offered a grant-supported summer research program open to deaf and hard-of-hearing undergraduates from across the country. This summer, the program ran virtually because of COVID-19-related restrictions, with 10 deaf and hard-of-hearing undergraduates (associate and bachelor's degree-seeking levels) from across the United States joining remotely.

- REU Site: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences (REU@NTID)
National Science Foundation 6/1/2017–5/31/2022
PI: Bonnie Jacob, Co-PI: Jason Nordhaus \$303,000

This program is a unique REU Site geared toward the needs of deaf and hard-of-hearing scholars. It provides paid research experiences to undergraduates from RIT or other institutions across the country, who spend the summer working at NTID with faculty mentors who are proficient in American Sign Language and accustomed to interacting with deaf and hard-of-hearing students. After running for two consecutive summers (2018 and 2019) the program was canceled in 2020 for one summer because of COVID-19, and ran for the third time virtually in 2021.

Dr. Joseph Hill from the NTID Research Center on Culture and Language (CCL) received an international science mentorship award from NSF in collaboration with the Department of Linguistics at Stockholm University.

- IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing
National Science Foundation 8/1/2020–7/31/2023
PI: Joseph Hill; Co-PI: Matthew Dye \$401,828

This proposal will support 10 advanced graduate students annually for two years at an Advanced Studies Institute in Stockholm University (Sweden) titled "*Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing.*" The Institutes will be 14 days in length, and have a particular focus on print literacy in deaf and hard-of-hearing children who commonly participate in translanguaging practices. The core faculty will be a collection of experts in sign language assessment, speech assessment, bilingual assessment, literacy assessment, psychometrics and neuroimaging. These individuals will have overall responsibility, with the PI and co-PI, for the syllabus and curriculum, which include a series of integrated lectures, workshops and group activities around the following topics: translanguaging and literacy, language assessment and language processing in multilinguals. During FY 2021, the project team met with the RIT Global Office to collect materials, developed and launched a website to recruit students, developed an online application and set an institute curriculum for the summer of 2022. Website: iam3.info/.

Research (continued)

Dr. Jason Nordhaus has received two awards that provide research experiences for deaf and hard-of-hearing students through discipline-based research.

- Lost in Translation: Removing barriers for deaf participation in STEM fields
Gordon and Betty Moore Foundation 5/1/2019–4/30/2022
PI: Jason Nordhaus \$294,219

Deaf and hard-of-hearing participation in STEM fields is severely limited due to the presence of significant language barriers. In the college classroom, access to content is mediated via ASL interpreters. When communicating in ASL, interpreters must choose the correct signs to indicate meaning, a practice known as signing with conceptual accuracy. Conceptual accuracy is critical to understanding because the interpreter will not use signs that simply match the English words but signs that convey the meaning of the concept being taught. Unfortunately, it is rare for interpreters to possess STEM backgrounds and/or the conceptual understanding of high-level STEM content. Compounding the issue is a serious lack of well-developed technical signs in STEM disciplines. Quite literally, information can be lost in translation.

This project is creating and testing a novel and scalable solution that addresses the language barrier in physics. Namely, we are producing a comprehensive series of short (2-3 minutes) conceptually accurate signed videos, each of which is centered on a singular physics concept. As part of this process, we are developing and releasing new technical content. Conceptual understanding is being measured in RIT physics classrooms when the videos are used in the following configurations: (i.) students only, (ii.) interpreters only, (iii.) students and interpreters simultaneously. It is our belief that this project will result in an inspiring template that can be repeated for any discipline, thereby permanently eliminating the language barrier that inhibits deaf participation in STEM disciplines.

Publications resulting from the award

AstroDance: Engaging Deaf and Hard-of-Hearing Students in Astrophysics via Multimedia Performances

Nordhaus, J., Campanelli, M., Bochner, J., Warfield, T., Bischof, H.-P., Noel-Storr, J. 2020
Journal of Science Education for Students with Disabilities 23, 1

- Brief But Spectacular: New Windows into the Physics of Common Envelope Evolution
National Science Foundation: AST-2009713 7/1/2020–6/30/2023
PI: Jason Nordhaus \$296,190

This award supports two deaf and hard-of-hearing students for a summer research experience for each year of the award with a project team studying the physics of common envelope evolution. A variety of exotic compact objects are formed when two stars merge. This requires a close binary orbit. One common way to shrink the orbit of two binary stars is during a “common envelope” phase (CE). This phase only lasts a local year, but it is transformative. The star with the most mass swells as it grows old and engulfs its companion. The resulting friction reduces the distance between the stars. Progress in understanding this brief but important phase in stellar evolution has been hampered by a lack of observational data to test the models. Only two post-CE systems have been identified. The team will conduct a large-scale systematic search in hundreds of open star clusters. Once the post-CE systems are identified, the team will determine the orbital properties of the binary system, the temperatures and masses of the binary stars and age of the stellar cluster. Using this data, the team will be able to place tight constraints on both the pre- and post-CE phases. For the first time, theorists will be able to match the simulations to a set of real outcomes drawn from this new catalog of post-CE binary stars.

Research (continued)

Publications resulting from the award

Convection and Spin-Up During Common Envelope Evolution: The Formation of Short-Period Double White Dwarfs. Wilson, E., Nordhaus, J. 2020 *MNRAS* 497, 1895

Bipolar Planetary Nebulae from Outflow Collimation by Common Envelope Evolution. 29th RIT Undergraduate Research Symposium on July 30, 2020 (virtual)

Successive Common Envelopes from Multiple Planets

Chamandy, L., Blackman, E., Nordhaus, J., Wilson, E. 2021 *MNRAS* 502, 110

The Formation of Discs in the Interior of AGB Star from the Tidal Disruption of Planets and Brown Dwarfs

Guidarelli, G., Nordhaus, J., Carroll-Nellenback, J., Chamandy, L., Blackman, E., Frank, A. 2021 Submitted to *MNRAS*

Revised Stellar Parameters for V471 Tau, a Post-Common Envelope Binary in the Hyades
Muirhead, P., Nordhaus, J., Drout, M. 2021 Submitted to the *Astrophysical Journal*

RIT's Undergraduate Research Symposium

Each year, RIT hosts a large undergraduate research symposium. In summer 2021, a virtual version of the symposium took place. NTID-supported students disseminated their research with short, captioned video summaries of their work. NTID student research was supported by federal grants, internal awards or faculty start-up funds. The projects represented both discipline-based research and center-based research that explore deafness and the deaf experience.

Imagine RIT: Innovation and Creativity Festival

After missing 2020 due to the COVID-19 pandemic, RIT held its 13th annual Imagine RIT: Innovation and Creativity Festival virtually. This year's festival featured exhibits in science, technology, engineering, the arts, mathematics and more.

The 13th annual Imagine RIT: Innovation + Creativity Festival, a one-day celebration of RIT's unique blend of technology and the arts, was held virtually for the first time, as a result of COVID-19 restrictions.

NTID student, faculty and staff exhibits included:

- **Smart Home Assistive Technology** – The Deaf community uses home assistive technology, but it isn't effective during an emergency for people who are asleep. This proposal creates a smart home assistive technology prototype that would use a "Smart Pillow" with different vibration strengths and different colors of light to know what is happening in a given situation after waking up from sleep.
- **Morpheyes Studio Tells Deaf Stories** – a video explaining the purpose and activities of Morpheyes Studio, a full-service video production company on the RIT/NTID campus, whose mission is to advance Deaf talent and culture through visual storytelling. Morpheyes also offers co-op and real-world work opportunities in a professional production environment to RIT/NTID students and recent graduates interested in becoming filmmakers, creators and storytellers.
- **Sensory Beacon** – The idea of a hub that connects three points of interest—business, services and consumer requests—Sensory Beacon is trying to centralize accessibility with services and maintenance to ensure safety, and adhere to ADA law requirements and COVID-19 guidelines.
- **Hologram Interpreter** – The hologram interpreter is used in place of Virtual Reality Interpreters that are on iPads. The hologram interpreter is displayed through a light and will be able to see the patient through a 360 camera. The interpreter is based at home and they will be able to see the room and what the patient is signing. The patient will be able to see what the doctor is saying through the 3D interpreter hologram. The doctor will wear a microphone that will focus on their voice so the interpreter can hear them clearly.
- **ASL/Deaf Culture and ProTactile ASL** – This exhibit explores the history and significance of American Sign Language and Deaf culture on the community, and also provides insights into the use of pro-tactile ASL for people who are DeafBlind.
- **Sunshine 2.0 Virtual Performance/Workshop** – Sunshine 2.0 is RIT/NTID's traveling performance troupe, who provide insights into Deaf culture and the ways in which Deaf and hearing people can work together using music, dance and skits.

RIT/NTID also provided virtual sign language interpreting support for the festival to ensure the event was accessible to deaf and hard-of-hearing attendees.

All of the exhibits, activities and performances demonstrated the innovative thinking and creative spirit and energy that are uniquely RIT; they exemplify RIT President David Munson's vision of RIT as a creative and innovative university that leverages the power of technology, the arts and design for the greater good.

Innovation and Creativity at NTID

Over the last decade, RIT has increased its emphasis on innovation and creativity, both in the curriculum and in other activities across campus.

The sampling of projects below reflects the innovative and creative activities underway within the National Technical Institute for the Deaf.

Digital Language Laboratory for Interpreting Instruction

ASLIE's three department classrooms are each equipped with four HD cameras, three "smart" microphones, two large-screen televisions, a white board and a teacher's station with an Apple computer. The technology is controlled by a specially designed touchpad and a camera controller. Additionally, each classroom is equipped with the following technology for students: Apple MacBooks and headsets with microphones. The classrooms use Apple's wireless technology to connect faculty and student devices to the TVs. Capturing student work or presentations is done with GoReact, a web-based video capture and storage program, or with other applications such as Zoom, Photo Booth or QuickTime.

Keeping Current in Communication Studies and Services

The Communication Studies and Services (CSS) department recognizes the exciting benefits of emerging technological trends to enhance communication access for deaf and hard-of-hearing individuals. CSS faculty and staff continuously participate in training activities to remain current and share these communication-related resources and options with students. Recent examples include:

- **Bluetooth technology:** Hearing aids and cochlear implants now have the ability to stream from mobile devices, such as cell phones and tablets. Deaf and hard-of-hearing students enjoy improved communication on the phone for voice and/or video calls, as well as increased access to other media on their devices.
- **Mobile applications (apps):** There are myriad new and evolving apps that can be used as tools for communication and accessibility. The faculty and staff in the CSS department actively encourage and train students to use these apps to maximize their communication potential. Trending apps explored with students include those designed for automatic speech recognition, team communication, live captioning of mobile phone calls and real-time hearing device adjustment. Furthermore, to improve access for deaf and hard-of-hearing students, the department has maintained relationships with app developers to explore adaptations.
- **Hybrid delivery options for speech-language services:** The speech-language pathologists at NTID have expanded meeting options for students to include both virtual and traditional in-person formats. Insights learned through the COVID-19 pandemic have shown that maintaining a virtual meeting option helps ensure continuity of support for students when health concerns or physical meeting restrictions would otherwise lead to canceled sessions. In addition, students today are facing a heightened need to solidify their virtual communication skills given the global shift to virtual classes, meetings, interviews and teamwork. Virtual speech-language sessions at NTID, in this way, are also serving to prepare students to become confident and successful communicators in virtual environments.

CSS remains current with regard to emerging research on electroacoustic hearing configuration, or the use of both electrical stimulation (cochlear implant) and acoustic amplification (hearing aid). Research has suggested improvements in several areas, including music appreciation, general sound quality and speech understanding, particularly in noise. Acoustic components now are available for use with current speech processors from all three major cochlear implant companies, allowing for even more students to benefit from a cochlear implant, if they choose. NTID audiologists have been trained to work with these devices and counsel prospective candidates on expected outcomes.

This research also indicates that the benefits of electroacoustic hearing are observed even when the electric and acoustic stimulation are on opposite ears (bimodal configuration). The CSS faculty and staff have observed that many students coming to college with just one cochlear implant are curious about technology for the contralateral ear, but have either been discouraged from use of a second device or are nervous about the outcomes, due to an extended period of auditory deprivation on that side. The

Innovation and Creativity at NTID (continued)

Audiology Center provides semester-long loans of current hearing aid technology so that students can decide whether a bimodal configuration is right for them.

In addition to departmental pursuit of ongoing training in communication-related topics, CSS faculty and staff are actively initiating or invited to participate in various research initiatives across the fields of audiology, speech-language pathology, accessibility and deaf education. Recent projects have focused on:

- bimodal amplification (simultaneous hearing aid and cochlear implant use) in the classroom;
- use of mobile applications to enhance cross-cultural communication;
- online learning initiatives for deaf learners;
- usability of automatic speech recognition for telephone captioning; and
- effects of cochlear implantation and sign language exposure on cognitive outcomes of young deaf adults.

A significant uptick in request for professional counsel and support for the University's LGBTQIA+ student population resulted in the creation of an ongoing collaboration between CSS speech-language pathologists and RIT's Q Center. Informational workshops on topics such as voice identity and vocal health have been well received across the RIT community. Direct communication group sessions for gender-affirming voice coaching have been routinely frequented by students, hearing and deaf alike. Consulting and training of best practices are also shared internationally in Ethiopia, where a CSS audiologist and speech-language pathologist are routinely part of a volunteer initiative to empower a Deaf community in Ethiopia.

NTID Performing Arts

For its 47th season in AY 2020-2021, NTID Performing Arts presented three virtual productions that involved more than 200 deaf, hard-of-hearing and hearing students, faculty, staff and Rochester community members. They participated as actors, dancers, theater technicians and front-of-house staff. These performances were attended by more than 1,723 people from throughout New York State, as well as schools and community groups from neighboring states.

This season included a joint production of *She Kills Monsters*, directed by Andy Head, which took place in the Panara Theatre, 1510 Lab Theatre and the Dance Lab. Fifteen actors were recorded performing between 15-20 feet from each other.

This season also featured a deaf virtual production created by Luane Davis Haggerty entitled *Spoon River Anthology*. Each scene was performed by two hearing and deaf performers. New pieces were also composed to reflect current social issues, such as racism. A few special guests appeared in the show: Patrick Graybill, Gerard Buckley '78, James JJ Jones '77, Monique Holt and Vicki Nordquist.

The final virtual production was *THIS*, by Raymond Luczak, directed by Fred Michael Beam '85. The actors worked remotely using their green screens at home or work.

She Kills Monsters had 369 viewers, *Spoon River Anthology* had 419 viewers and *THIS* had 284 viewers.

During AY 2020-2021, 299 students enrolled in Performing Arts classes and online classes. Twenty-one students were awarded performing arts scholarships and five students were awarded a performing arts certificate this past year.

In total, approximately 12,500 people were served by NTID's Performing Arts program during the AY 2020-2021 season.

Innovation and Creativity at NTID (continued)

Showcasing Deaf Artists

A team of NTID faculty and staff developed a website that showcases and promotes the works of Deaf and hard-of-hearing artists (deaf-art.org/). The site features art and biographical information on more than 100 professional Deaf artists from around the world as well as streaming videos and articles related to Deaf artists and Deaf art. Also included on the site are the self-portraits of a group of RIT/NTID students, along with video and/or written descriptions.

Preserving Deaf History

The experiences of Deaf people during World War II are captured in a website developed by a team of NTID faculty and staff (deafww2.com/). Designed for students, teachers, scholars, researchers and historians, the site features articles, scripts, video clips, testimonies, artwork, books and links to related sites. Also included is an award-winning NTID documentary, *Exodus: A Deaf Jewish Family Escapes the Holocaust* and the documentary, *Worry: A Jewish Deaf-Blind Survivor Shares Her Story*.

The HeART of Deaf Culture: Literary & Artistic Expressions of the Deaf Experience

This multimedia interactive website, produced and edited by retired NTID faculty members Karen Christie and Patti Durr, explores Deaf visual art, ASL and English literature, Deaf theater and Deaf cinema. It contains in-depth interviews with Deaf scholars and creators from each genre, and features more than 300 artworks, poems, ABC stories, performances and film clips: heartdeaf.com/.

Deaf Studies Archive

The RIT/NTID Deaf Studies Archive (library.rit.edu/archives/deaf-studies-archive) documents RIT's central role in educating people who are deaf or hard of hearing in the United States. This archive also draws from Rochester's significant deaf community. The focus of the popular and continually growing archive is Deaf culture, studies, education, theater and art. This significant archive contains primary resources, artwork, videos and books documenting the founding and growth of NTID, and highlights the many remarkable contributions of deaf, hard-of-hearing and hearing individuals affiliated with NTID. The Rochester area is home to a vibrant deaf community, and the Deaf Studies Archive represents a first-time effort that has been made to preserve some record of this culture. Including, but not limited to, the papers of distinguished faculty, artwork by alumni and the records of a local deaf theater group, this growing archive showcases the many talented and dedicated individuals affiliated with NTID and beyond. The Deaf Studies Archive (infoguides.rit.edu/dsa) is located in the RIT Archives in the Wallace Center and is curated by the NTID librarian, Joan Naturale, and the RIT archivist, Elizabeth Call. The NTID librarian also teaches Deaf Studies classes.

The Deaf Studies Archive has posted rare ASL Poetry and Literature streaming videos in its Digital Collections via digitalcollections.rit.edu/luna/servlet/RIT~7~7 in addition to the YouTube videos that were created last year (found among the Libraries' playlists at youtube.com/c/RITLibraries/playlists?view=50&sort=dd&shelf_id=7). The videos feature NTID ASL Poetry and Literature conferences showcasing nationally renowned sign language artists, including performances, interviews conducted by NTID interpreter, Miriam Lerner, and lectures from NTID faculty, staff, students and alumni, such as Dr. Robert Panara, Dr. Patrick Graybill, Dr. Clayton Valli '74, Peter Cook '81, '86 and Kenny Lerner, together, and Debbie Rennie '76, '89. The 1984 Symposium coordinated by Jim Cohn '84 featured Allen Ginsberg and Robert Panara discussing imagery in poetry, which sparked an explosion of ASL poetry among the students, inspiring Peter Cook and Debbie Rennie to create original poetry in sign language. In addition, the first known 1987 ASL poetry conference videos are in the collection, featuring the pioneer sign language artist: Ella Mae Lentz.

Innovation and Creativity at NTID (continued)

The YouTube videos listed above were the result of a Digitizing Hidden Collections grant (co-PI, Joan Naturale, NTID Librarian) from the Council on Library and Information Resources (CLIR) that was made possible by funding from the Andrew W. Mellon Foundation. The project was an institute-wide collaboration, with support from the NTID President's Office, NTID's Department of Cultural and Creative Studies and the Communications, Marketing & Multimedia Services team, as well as RIT Archive Collections and Libraries Metadata and Digital Scholarship Services. These rare videos are captioned, voiced, transcribed and signed for accessibility to all.

Thanks to a collective effort, the TRIPOD collection's finding aids and guides are now available on this website: rit.edu/ntid/radscctripod/. The website was made possible with support from Megan Williams, one of TRIPOD's founders, who secured funding for the development of the website; Jeanne Behm, '78, '80, RADSCC coordinator; Simon Ting, NTID web developer (retired) and current web developer, Cea Dorn; Joan Naturale, NTID Librarian; RIT Libraries; and RIT/NTID Deaf Studies Archives.

Founded in the Los Angeles area in 1982 by Megan Williams, the mother of two young deaf and hearing children, TRIPOD was intended to meet the complex educational needs of deaf children and their families. Based on Williams's concept of a holistic learning environment that removed barriers to communication, TRIPOD enjoyed the support of local philanthropists associated with the film industry. The TRIPOD Montessori Preschool opened its doors in 1984 with four pupils, but in 1989 was integrated as a public/private program with the Burbank Unified School District. As Williams's son grew, so did the program, ultimately serving more than 120 students.

TRIPOD is notable in deaf history as an early bilingual curriculum. This curriculum was supported by Carl Kirchner of California State University, Northridge and Cindy Murphy of Gallaudet University in Washington, DC, all of which are well-known and regarded educators of the deaf. TRIPOD sought to include deaf, hard-of-hearing and hearing students in the classroom. Total Communication was selected as the instructional modality, in which hearing children model English acquisition, and all children acquire sign language skills together, overseen by deaf and hearing teachers.

Williams's son, the first student to be enrolled in the program, graduated in 1998; he, along with many other TRIPOD graduates, is a successful professional in his field. Hearing graduates have become excellent interpreters and deaf graduates have gone on to become artists, film producers and teachers in their own right—some, including Williams's son, are also RIT/NTID alumni.

The TRIPOD model is now replicated in numerous public schools around the country.

RIT ASL & Deaf Studies Community Center (RADSCC)

The RIT ASL & Deaf Studies Community Center (RADSCC) continues to promote education, understanding and participation in the RIT/NTID deaf community by all members of the RIT/NTID community. A variety of events, ranging from weekly ASL classes to regular community meetings, are hosted in the RADSCC space, which is located in RIT's Wallace Memorial Center. As of September 2021, the RADSCC classroom has been relocated temporarily to the Gordon Field House in fall 2021 until the completion of the upcoming Student Hall for Exploration and Development (SHED).

The RADSCC's annual DeafMute Banquet did not take place during FY 2020 and 2021 due to the pandemic. Other RADSCC in-person events were put on hold until spring 2022.

RADSCC participated in the Summer 2020's Upward Bound program on ASL and Deaf Culture, which was a program hosted for one hour a week, for six weeks, and the Deaf Rochester Film Festival on October 17, 2020, which included various workshops.

The RADSCC has hosted ASL Lecture Series webinars, which productively drew in more people on Zoom than in person. These lectures included guests such as Jeremy Lee Stone in October 2020, Leah Geer Zarchy in February 2021, Korian "KoKo" Thomas in February 2021, Daniel Durant in April 2021 and Barbara Spiecker '11 in September 2021.

Innovation and Creativity at NTID (continued)

The activities organized by the Signing in Public Spaces Committee (SPSC) have been put on hold due to lack of students, staff and faculty on campus.

AY 2021 is the 10th anniversary of RADSCC's grand opening in January 2011.

Sunshine 2.0

Sunshine 2.0 is a professional traveling theater troupe based at NTID in the Department of Performing Arts. The troupe provides performances and activities for deaf and hard-of-hearing children and adults that highlight the fields of science, technology, engineering, arts and math (STEAM), as well as educational topics pertaining to the Deaf experience. In FY 2021, due to COVID-19, Sunshine 2.0 hosted most of its performances and workshops virtually. These performances and workshops involved 13,387 youth and adults and were hosted at 24 sites in the following states: New York, Ohio, Washington, California, Oklahoma, District of Columbia, Texas, New Jersey, Utah and Pennsylvania.

Fred Beam '85, coordinator for Sunshine 2.0, attended the following conferences/festivals in FY 2021:

- Very Special Arts (VSA), the international organization on arts and disability, national conferences in Irvine, California where he was one of the committee members of the pre-conference.
- Kids Connect Fall Program, Worthington, Ohio
- Black History Month at Gallaudet University, Washington, D.C.
- Southeast Nebraska Regional Program, Lincoln, Nebraska
- Utah School for the Deaf and Blind, Ogden, Utah

At most of these conferences, Mr. Beam gave presentations on combining ASL, performing arts and/or STEM.

Sunshine 2.0 attended the Urban Jazz Dance Company's Bay Area Conference, National Black Deaf Association conference, Black is Black: Blackity AF Webinar Reception, ASL Comedy FUNdraiser Show, Nebraska Conference for Deaf and HH Students to promote NTID and provided virtual performances and workshops related to STEAM and Deaf culture.

Sunshine 2.0 also provided presentations, workshops and performances to RIT/NTID students during summer and fall 2021. Sunshine 2.0 also performed for the Visionaries of Creative Arts and First Baptist Church of Glenarden.

TigerChat™

TigerChat™ is a communication app developed by NTID to help the RIT community eliminate communication barriers during the COVID pandemic. Members of the RIT community can use TigerChat to converse using automatic speech recognition (ASR) technology and typing. The app displays the conversation as it happens, which helps provide a more natural flow of communication. TigerChat has proven beneficial with spontaneous communication, meetings, or point of service locations.

ASLCORE

Specialized vocabularies used in academic disciplines often lack established ASL signs. Interpreters often fingerspell these words or develop ad-hoc signs that can be unclear and potentially confusing. ASLCORE (aslcure.org/) began with an NTID innovation grant in 2015 with the goal of developing and making available online new signs for advanced concepts in philosophy courses. After some initial success, the ASLCORE website expanded to include discipline-related terminology in art, biology, computer science, engineering, literature, physics and sustainability. All ASLCORE signs are generated by Deaf users of ASL via a team of Deaf content experts for that discipline and Deaf translators who have native fluency in ASL. With more than 1,500 total entries, ASLCORE also collaborates with a similar project, ASL Clear, a partnership between Boston University's Center for the Study of Communication and the Deaf and The Center for Research and Training at the Learning Center for the Deaf in Framingham, Massachusetts.

Innovation and Creativity at NTID (continued)

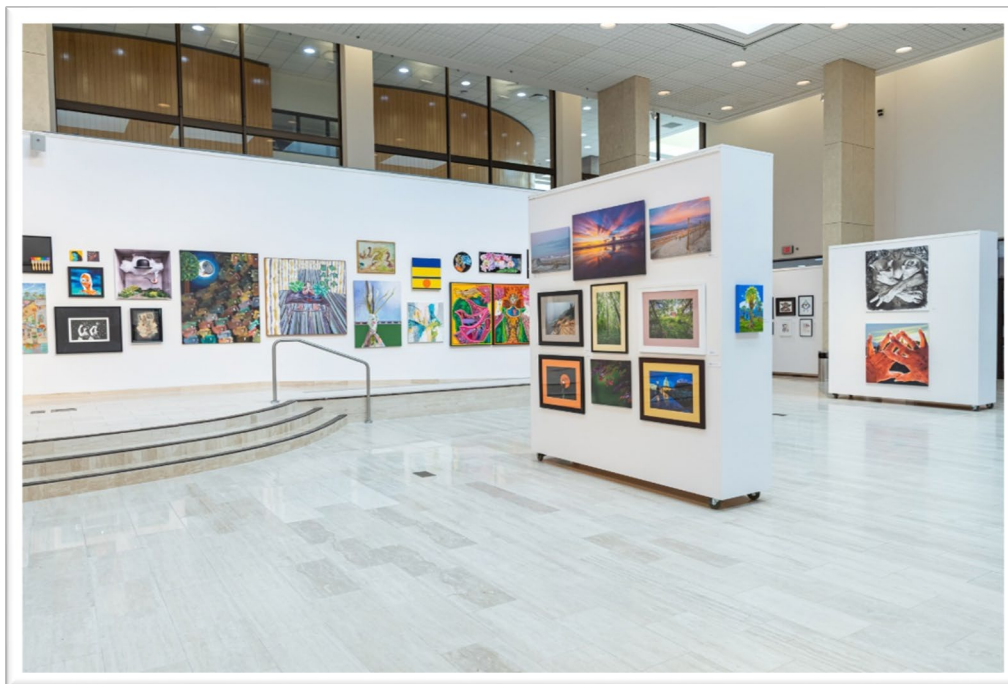
Dyer Arts Center

In AY 2020-2021, the RIT/NTID Joseph F. and Helen C. Dyer Arts Center hosted 21 online events, including educational workshops, receptions and virtual artist talks. Approximately 2,000 people registered for online events and as a result, the outreach of the Deaf community nationally and internationally expanded.

The Dyer Arts Center hosted nine exhibitions, five of which were online using Omeka as a platform and four of which were in-person. Some notable exhibitions include *Homecoming*, an exhibition celebrating the Dyer's 20th anniversary by featuring works and artists previously shown at the art center; *Post Colors of Life*, which spotlights two Black Deaf artists and *De'VIA: Reawakening the Authentic Expression*. The Dyer Arts Center continued the *Black is Black: Blackity AF* series, which explores the Black Deaf experience through art.

In March 2021, the Dyer Arts Center won a grant of \$50,000 from the Terra Foundation of American Art to develop and implement an exhibition titled *Shaped by the American Dream*. This exhibition will open in May 2022.

Along with hosting exhibitions and events online, the Dyer Arts Center's social media presence has grown. The Dyer Arts Center's Instagram has had an increase of 121 followers and an increase of 545 followers on Facebook. The permanent collection has acquired more than 100 new pieces.



The RIT/NTID Joseph F. and Helen C. Dyer Arts Center celebrated its 20th anniversary with the exhibition, Homecoming, a retrospective of artists and work previously shown at the center.

Intellectual Property: Licensed Educational Materials, Patents and Inventions

NTID educational materials are categorized into two groups. Materials developed before the October 1997 RIT Intellectual Property Policy was implemented are unlicensed materials. Materials developed after RIT implemented the policy are licensed, and the sales revenue is shared by the

creator(s) of the materials and NTID, per the requirements of the policy. All materials are copyrighted to Rochester Institute of Technology and are available through a variety of vendors. Below is a summary of the materials in both categories and distribution information.

Unlicensed Educational Materials

- *Let's Communicate* (brochure)
Distributed through NTID Communications, Marketing and Multimedia Services
- *Tips for Communicating* (brochure)
Distributed through NTID Communications, Marketing and Multimedia Services

Licensed Educational Materials

- *Attention Deficit Scales for Adults - Sign Language Version*
Distributed through NTID Communications, Marketing and Multimedia Services
- *ASL at Work* (textbook with accompanying DVD)
Distributed by Dawn Sign Press
- *ASL Dictionary and Inflection Guide*
Available for online subscription through rit.edu/ntid/dictionary/
- C-Print® Pro Software and C-Print® online training
Distributed through NTID College Operations
- *Educational Interpreting* (DVDs and companion booklet)
Distributed through Harris Communications, Butte Publications and NTID Communications, Marketing and Multimedia Services
- *NTID Speechreading* (DVD and supplementary materials)
Distributed through AUDiTEC
- *Processing Skills Development* (ASL texts)
Distributed through Barnes & Noble @ RIT and NTID Communications, Marketing and Multimedia Services
- *A Shining Beacon: Fifty Years of the National Technical Institute for the Deaf* (hardcover book)
Distributed through NTID Communications, Marketing and Multimedia Services and RIT Press

Intellectual Property (continued)

Patents/Inventions and Copyrights

- U.S. Patent granted by U.S.P.T.O. for “Method for Determining Hearing Thresholds in the Absence of Pure-Tone Testing.” Date of Patent: December 5, 2017. Patent Number: US 9,833,174 B2.
- Provisional Patent filed with U.S.P.T.O. for “Method for Measuring Sign Recognition Ability in Learners of American Sign Language (ASL) as a Second Language.” Application date: July 18, 2017. Converted to non-provisional June, 2018.
- Trademark NTID Speech Recognition Test® (NSRT®).
- Translation to ASL of the Connor-Davidson Resilience Scale (CD-RISC), by NTID’s Center on Cognition and Language through an agreement between Connor-Davidson and the University of Michigan.
- An ASL Dictionary and Inflection Guide translation to South African Sign Language via license agreement from NTID through the ASLIE Department.
- Translation agreement to digitize and make publicly accessible more than 60 videotapes held in the RIT/NTID Deaf Studies Archive through a grant from the Council on Library and Information Resources (CLIR).
- “Method and System to Enhance Telecommunication Relay System for People with Disability” Provisional patent filed February 14, 2019. Converted to Non-provisional patent filed February 14, 2020.
- Trademark TigerChat™ in progress.



NTID Librarian Joan Naturale is also the liaison for the Deaf Studies Archive housed at The Wallace Center at RIT.

Outreach



A primary goal of NTID's Pre-College Outreach Programs is to better prepare deaf and hard-of-hearing middle and high school students for college.

Outreach Highlights

NTID's educational outreach efforts include a number of innovative programs designed to share educational information and provide technical assistance to alumni, teachers of deaf and hard-of-hearing students, employers, Vocational Rehabilitation personnel, secondary and middle school students, parents of deaf and hard-of-hearing children and other deaf and hard-of-hearing adults.

Pre-College Outreach Programs

Due to the COVID-19 pandemic's impact on university operations, all employees of NTID's Outreach unit started working from home on March 19, 2020. All NTID employees returned to in-person work schedules starting August 2, 2021.

Outreach is responsible for arranging camps and competitions for deaf and hard-of-hearing middle and high school students. Due to the pandemic, several programs had to be canceled: TechBoyz, TechGirlz and Health Care Careers Exploration Program. The flagship program of the department, Explore Your Future, provided two virtual sessions with a reduced number of registrations. The Math Competition was held virtually as well, with students competing individually. The team competition was not held in 2021 as most schools across the country were closed.

Outreach is currently working on several virtual programs for the fall and spring. FutureQuest is a one-hour webinar for students and parents to learn how a college-bound student can prepare for their first semester. A virtual math competition is being developed for spring 2022 for individual students as well as the team competition.

This summer's virtual Explore Your Future hired student workers on a much smaller scale than the in-person events of the past. When the camp was hosted on campus, expenses associated with hospitality, instructional supplies and room and board were significant.

- During FY 2021, NTID faculty and staff conducted four virtual outreach programs: the SpiRIT Writing Contest, for students in grades 10–12; Explore Your Future, a summer program for students in grades 10–11; the Digital Arts, Film and Animation Competition, for students in grades 9–12; and the Math Competition, for students in grades 6–8.
- FutureQuest webinars were offered in eight states during FY 2021 for middle and high school deaf and hard-of-hearing students and their parents/guardians. States that offered the webinar include Kentucky, Colorado, Montana, New Hampshire, New Mexico, Arizona, Oklahoma and Illinois. The registrations totaled 59 students and their parent/guardian. During these webinars, the topics included picking the right high school curriculum and activities for college-bound students, starting the college search process, financing a college education, connecting with a Vocational Rehabilitation counselor/office, ways to get your child interested, deciding which academic programs to enroll in and learning more about Pre-Employment Transition Services.
- NTID Outreach offered a Career Exploration Series, four activity-based webinars for deaf and hard-of-hearing high school students focusing on a STEM career area. The webinars were led by STEM role models from NTID, who led students through a STEM activity and discussed careers within their field of expertise. Students were able to register for one or all of the webinars, and were sent activity materials for each webinar for which they registered. Each of the webinar's participation averaged well over 200 students. The webinar topics were Entrepreneurship, Maker Spaces, Health Science and Chemistry.
- Explore Your Future (EYF), a week-long career exploration and evaluation program for deaf and hard-of-hearing students about to enter their junior or senior year of high school, is one of NTID's most successful outreach programs. EYF provides opportunities for high school students to learn about themselves and their educational and life/career choices. The program is based on the idea that people have differing interests in six areas: Realistic, Investigative (Computing), Artistic, Social, Enterprising and Investigative (Science). Students participate in hands-on career exploration classes

Outreach Highlights

and personal awareness instruction. A total of 7,331 students have participated in EYF over the past 37 years. Twenty-six of the summer 2020 participants subsequently enrolled at NTID. Two virtual sessions were offered in summer 2021. This year's participants came from 27 states and Canada.

Other Outreach Activities

- The NTID Office of Alumni & Constituent Relations plans and implements strategies for engaging alumni and other constituents through social and professional-development events, volunteer opportunities and other activities, both on campus and in targeted regions around the country. With counsel from, and in collaboration with, members of the NTID Alumni Association Board of Directors, Alumni & Constituent Relations works to build and maintain connections between NTID and its more than 9,000 alumni. NTID retirees and parents of current students are also included in events, activities and engagement initiatives. AY 2020-2021 had 1,000+ alumni and guests participating in almost 40 activities and events. With the COVID-19 pandemic having a major impact, events and gatherings moved online and took place virtually through the year. Despite this, NTID was still able to offer a terrific selection of small group chats, interaction with the NTID President, large monthly webinars, online chats engaging current parents, recognition of the 2020-2021 Distinguished Alumni Awardee through an online gala hosted in collaboration with RIT Alumni Relations and virtual NTID Alumni Association Board of Directors meetings. NTID Office of Alumni & Constituent Relations also launched a pilot mentoring program with alumni and current students of diverse backgrounds as part of the NTID *Antiracism and Social Justice Plan*.



From left to right, Shiann Cook, Bianca Ware and TJ Story '20 of NTID's Sunshine 2.0 perform for students, family and alumni at Brick City Homecoming & Family Weekend.

Pre-College Outreach

NTID's *Strategic Vision 2010* called for development of an educational outreach consortium that would allow NTID to share its expertise to improve the education and career development of individuals who are deaf or hard of hearing. An outgrowth of this decision has been a series of outreach initiatives designed to provide educational experiences for students in grades 6–12.

NTID's pre-college outreach focuses on empowering deaf and hard-of-hearing middle school and secondary students and their parents with information to help students' long-term career success. A special focus of this effort is young women and Black or African American, Hispanic/Latino and American Indian or Alaska Native students.

In 2021, RIT/NTID welcomed 260 middle school and high school students, and their parents, from all over the country to four pre-college outreach efforts. Participation is expected to grow annually as marketing and other promotional efforts continue.

Parents, students and teachers alike had high praise for the 2021 competitions and camps. With the success of these initiatives, RIT/NTID is well on its way to its goal of making outreach a central focus through sharing 50 years of expertise in access services, program development, the application of technology and ensuring that students will possess the skills and knowledge necessary to be active participants in the 21st Century American workforce.

Digital Arts, Film and Animation Competition

Thirty-seven students were registered in the 2021 Digital Arts, Film and Animation competition for students in grades 9–12. The program format was changed to allow students to explore their interest and skill in this area. The program was expanded for March 2021 to take place throughout the entire month. Students were sent materials that encouraged them to practice daily on their art and provide ideas for different, challenging art projects.

Math Competition

RIT/NTID's national Math Competition for middle school students challenges math skills, develops self-confidence and rewards achievements. The intent of the competition is to foster interest in mathematics.

Due to the COVID-19 pandemic, this contest was held virtually with 74 registered students. There were three rounds of competition and the 1st, 2nd and 3rd place winners received cash prizes.

Pre-College Outreach AY 2020-2021

| | Total Participants | Minorities | |
|----------------------------------|-----------------------|------------|---------|
| | | Number | Percent |
| Explore Your Future | 137 | 54 | 39% |
| SpiRIT Writing Contest | 12 | 2 | 16% |
| Digital Arts, Film and Animation | 37 | 21 | 57% |
| Math Competition | 74 | 37 | 50% |

SpiRIT Writing Contest

RIT's 17th annual SpiRIT Writing Contest for deaf and hard-of-hearing students attracted submissions from 12 students in grades 10–12 from around the United States in March 2021. As with the Digital Arts Program, the program format was changed and expanded to one month. Students received a writing journal, magnetic poetry pieces that were to encourage them to work within parameters and a second journal that provided ideas for more challenging writing projects.

TechGirlz and TechBoyz Camps

These week-long summer camps give girls and boys the opportunity to learn more about careers in science and technology-related fields. They build their own computers, learn how to program a robotic car, learn how to make educated money decisions and become versed in Adobe programs.

Due to the COVID-19 pandemic, the summer 2021 sessions of TechGirlz and TechBoyz were canceled.

NTID Regional STEM Center

The mission of the NTID Regional STEM Center (NRSC) is to promote exposure to STEM for middle and high school deaf and hard-of-hearing students in Science, Technology, Engineering and Mathematics (STEM) fields. The ultimate goal is to increase post-secondary participation for deaf and hard-of-hearing students in STEM fields, resulting in substantial employment. Congress authorized this project to establish a formal regional partnership with at least one organization in the southeastern United States to expand the geographic reach of activities and services supported by NTID consistent with NTID's

mission and strategic plan. NTID has contracted with the Alabama Institute for Deaf and Blind (AIDB) since November 2016 to serve as the NTID Regional STEM Center-Southeast (NRSC-SE). The region served by this partnership includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas. Additional programming can be provided outside the 12-state region on a case-by-case basis.

The NRSC targets five specific groups:

Students and Families

Camps, programs and activities offered to deaf and hard-of-hearing middle- and high-school students include but are not limited to: robotics tournaments, drones activities, cybersecurity activities, STEM days and fairs, ACT Testing Strategies training, biology and biotech camps, Mechatronic Engineering Leadership in Deafness programs, STEM in agriculture programs, Career Exploration webinars, Explore Your Future camps, FutureQuest workshops, TechBoyz and TechGirlz camps, and Health Care Careers Exploration programs. NTID's annual Math Competition also targets deaf and hard-of-hearing middle-school students and will be expanded to regional competitions, leading up to a national competition on campus in spring 2023. There is also a new and growing focus on student transition programming, supported by our Summer Transition Programs on the RIT/NTID campus and Alabama Institute for Deaf and Blind (in combination with a STEM academy at AIDB). A new regional Summer Transition Program is also planned for the Northwest region in summer 2022, at the Washington School for the Deaf. Scholarships are offered for participation in camps and activities, as well as sponsorships for external STEM camps and activities. Sunshine 2.0, NTID's theater troupe, has also traveled throughout the country, offering STEM-related performances and workshops.

Teachers

NRSC has provided support for state, local and regional conferences on education of deaf and hard-of-hearing secondary and postsecondary students, with an emphasis on STEM topics. In addition, NRSC offers scholarships for undergraduate students in STEM programs at RIT/NTID, as well as ASLIE and MSSE students who demonstrate interest in working in STEM fields. Priority is placed on BIPOC students in the scholarship selection process. NRSC is also providing support for NTID's expanded national Project Fast Forward dual-credit program for high schools serving deaf and hard-of-hearing students.

Vocational Rehabilitation (VR) Personnel

NRSC staff have provided training, consultations and visits to VR personnel, and a full-time VR specialist was hired to do outreach and training. A new advisory board has been established.

Sign Language Interpreters

NTID employs a full-time STEM interpreter trainer who organizes and provides professional training activities, exchange programs and mentorship for educational trainers on STEM topics.

Employers

NTID Co-op and Career Center (NCCC) conducts training for employers, ranging from private corporations to non-profits and visits job sites where students have worked. The team also attends various conferences, educating leaders about hiring and working with deaf and hard-of-hearing employees and how to make workplaces more accessible. In collaboration with Gallaudet University, National Association of the Deaf and Communication Service for the Deaf, NCCC staff also offer a series of virtual seminars on employment-related topics. A national employment summit is planned for spring 2023.

Explore Your Future

Explore Your Future (EYF) is a week-long career exploration and evaluation program conducted at NTID each summer for deaf and hard-of-hearing students about to enter their junior or senior year of high school. It is one of the college's most successful outreach programs. The program provides high school students with the opportunity to learn about themselves and their educational and life/career choices. It incorporates the framework that people have differing interests in six areas: Realistic, Investigative (Computer), Artistic, Social, Enterprising and Investigative (Science).

Students participate in hands-on career exploration classes and personal awareness instruction. Myriad social activities and dorm-living opportunities give participants a taste of college life. A total of 7,331 students have participated in EYF over the past 37 years. Twenty-six percent of summer 2020 participants subsequently enrolled at NTID. Two virtual sessions were offered in summer 2021. This year's participants came from 27 states and Canada.

| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|-------------------------------|---------|---------|---------|---------|---------|
| Number of Participants | 203 | 179 | 212 | 136 | 137 |
| Percentage of Minorities | 55% | 51% | 57% | 47% | 39% |
| Percentage Enrolling at NTID* | 49% | 27% | 44% | 26% | N/A** |



Staff and students relax and learn about student services and clubs at NTID's Apple Festival in September 2021. Many EYF participants go on to enroll at NTID.

* Since EYF participants are juniors and seniors, the percentage of an EYF cohort that enrolls at NTID is recalculated each year to capture additional enrollments.

** Students from EYF 2021 currently are in the process of applying to NTID.

Explore Your Future – Enrollment by Location

Summer 2021 EYF students represented 27 states and Canada.

| Home State or Country | Number in EYF Summer 2021 |
|--------------------------|---------------------------|
| Arizona | 4 |
| California | 11 |
| Colorado | 1 |
| Connecticut | 2 |
| Delaware | 1 |
| Florida | 6 |
| Georgia | 4 |
| Illinois | 12 |
| Indiana | 1 |
| Maryland | 5 |
| Massachusetts | 5 |
| Michigan | 5 |
| Minnesota | 2 |
| Missouri | 3 |
| New Jersey | 6 |
| New York | 29 |
| North Carolina | 2 |
| Oregon | 1 |
| Pennsylvania | 11 |
| Rhode Island | 6 |
| South Carolina | 2 |
| Tennessee | 1 |
| Texas | 4 |
| Virginia | 3 |
| Washington | 2 |
| Wisconsin | 6 |
| Wyoming | 1 |
| British Columbia, Canada | 1 |
| Total | 137 |

DeafTEC

The National Science Foundation (NSF) Advanced Technological Education (ATE) National Center of Excellence grant, *DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students*, was awarded in August 2011. A four-year renewal of the award was received in August 2015. The largest NSF award in RIT's history, DeafTEC established the first ATE center to support individuals who are deaf or hard-of-hearing. In August 2019, a three-year DeafTEC Resource Center was awarded to RIT to continue and disseminate the work of DeafTEC.

The goal of DeafTEC is to increase the number of deaf and hard-of-hearing individuals in highly skilled technician jobs in which there continues to be underrepresentation and underutilization of such individuals in the workplace. The DeafTEC Resource Center provides deaf and hard-of-hearing students, as well as their teachers, counselors, employers and co-workers, with the resources that will help those individuals succeed, both in the classroom and on the job.

DeafTEC Resource Center

The DeafTEC Resource Center builds on and utilizes the exemplary materials and network that have been developed as part of the DeafTEC National Center. The DeafTEC Resource Center: (1) leverages partnerships to broaden professional development opportunities onsite and online for high school teachers, community college faculty and employers to improve access to learning and technician employment for deaf and hard-of-hearing students; (2) expands, enhances and broadly distributes DeafTEC's innovative online resources and curricula available through its websites that serve as an information clearinghouse related to technical education and technician careers for deaf and hard-of-hearing students and a national resource for teaching student veterans with hearing loss and (3) collaborates and provides mentoring for prospective PIs and current ATE projects and centers on creating inclusive environments for deaf and hard-of-hearing students and military veteran students with hearing loss. Some of the DeafTEC highlights from this year are given below.

Khan Academy ASL Demonstration Website. DeafTEC is partnering with Khan Academy to create an ASL demo site in the Khan Academy portal system so that deaf and hard-of-hearing students, their teachers and parents can utilize this resource. The ASL demo site involves recreating Khan's Algebra-Basics videos in ASL. The Algebra-Basics section includes 197 videos totaling 17 hours of instruction. This project is being led by Co-PI and NTID faculty member Keith Mousley '78, '80, who has assembled an outstanding team consisting of five deaf secondary math teachers from schools for the deaf across the country, and two math professors (one hearing and one deaf) from NTID. To date, the team has established model ASL videos on the Khan Academy site, recreated 130 out of the 197 (66%) of the Algebra Basic videos in ASL and have developed guides for creating and evaluating ASL videos for Khan Academy.

STEM ASL Video Dictionary Project. The dictionary presents technical signs developed and vetted by experts across the country. The STEM ASL Video Dictionary now contains accurate signs for technical vocabulary as well as signed definitions and usage for three STEM disciplines: Information Technology, Lab Sciences and Mathematics. This project is being supported, in part, by a gift from The Dow Chemical Company. This year, all math signs were reviewed and updated as needed. Thirty new math signs were added, giving a total of 105 math signs in the dictionary. These math signs are being used to standardize the math lexicon for the Khan Academy ASL Demonstration site. The dictionary now contains close to 500 signed STEM terms, along with the signed definition, and a signed sentence using the term.

Working Together: Deaf and Hearing People Online Course

Two hundred sixteen people have registered for the online Working Together Course (workingtogether.deaftec.org/); 120 completed at least one of the modules with 50 finishing all of the modules and 37 completing the survey to receive a Certificate of Completion and a digital badge. To date, 745 people have registered for the course, 525 have taken at least one module, 284 have finished all modules and 161 have completed the survey and received a Certificate of Completion and a digital badge.

Student Veterans with Hearing Loss

DeafTEC has created the *Project Good to Go: Teaching Student Veterans with Hearing Loss* (PG2G) website (good2go.org/), which serves as a national resource for community college faculty by

DeafTEC (continued)

providing best practices for teaching student veterans with hearing loss in STEM classes. The website currently contains expanded information on *DeafTEC's Top Ten Things that Student Veterans Would Like Faculty to Know* document. This document is the result of student veteran participation in focus groups and surveys and is the underpinning of the related professional development offering. The PG2G team presented a webinar, "Top Ten Tips for Teaching Student Veterans from the Classroom to Online" on October 15, 2020. Ninety people registered for the webinar, and 59 attended.

Math Observations in Deaf Education (MODE) Webinars. MODE is a monthly webinar series hosted by Dr. Dawn Kidd, a middle school math teacher at the Texas School for the Deaf. Dr. Kidd invites different guests each month to discuss in ASL a particular current topic in math education. The webinar is presented in an informal talk show format, complete with visual aids, ideas for teaching, etc. Voice interpreting and captioning are provided for each webinar. The webinar series which began in March has presented three webinars to a total of 467 attendees.

Mode #1: Remote Teaching Mathematics for Deaf Students was offered on March 3, 2021, with 398 people registered and 262 (66%) attending. The webinar provided classroom teachers of deaf and hard-of-hearing students with recommendations and ideas for quality learning during virtual instruction. Tips were shared on activities, apps and ways to keep students engaged. Audience participation was encouraged.

Mode #2: Khan Academy: Instructional Mathematic Videos in ASL was offered on April 14, 2021, with 201 people registered and 121 (60%) attending. This webinar featured two current members of the DeafTEC Khan Academy project team discussing the addition of American Sign Language to the existing languages available on Khan Academy.

Mode #3: Perspectives of a Deaf Mathematician was offered on May 19, 2021, with 154 people registered and 84 (55%) attending. The guest for this webinar was Christopher Hayes, a PhD candidate in mathematics at the University of Connecticut. Christopher shared information on his background, including how he developed his love for mathematics, as well as the barriers he experienced as a deaf student. He talked about his insights as a deaf learner and teacher of high school and college level mathematics and his research on fractals.

Project Fast Forward

Project Fast Forward originally was established in 2006, with a three-year grant from the National Science Foundation's Advanced Technological Education program, under award DUE#: 0602761. Project Fast Forward transitioned from DeafTEC to NTID Academic Affairs during February 2020. The program is primarily funded by the NTID Regional

STEM Center for all STEM-related courses. The goal of the project is to build a pathway for deaf and hard-of-hearing students to transition from high school to college in selected STEM disciplines by allowing these students to take dual-credit courses, earning RIT/NTID college credit while they are still in high school.

School Partners. During AY 2020-2021, 48 dual credit course sections were offered at 24 established schools. All of the current Project Fast Forward school partners are listed below:

1. Alabama Institute for Deaf and Blind, Talladega, Alabama
2. American School for the Deaf, West Hartford, Connecticut
3. Arkansas School for the Deaf, Little Rock, Arkansas
4. Arizona State Schools for the Deaf and Blind, Tucson, Arizona
5. Atlanta Area School for the Deaf, Atlanta, Georgia
6. California School for the Deaf, Fremont, California
7. California School for the Deaf, Riverside, California
8. Cypress Ridge High School, Houston, Texas
9. Delaware School for the Deaf, Newark, Delaware
10. Eastern North Carolina School for the Deaf, Wilson, North Carolina
11. Florida School for the Deaf and the Blind, St. Augustine, Florida
12. Georgia School for the Deaf, Cave Spring, Georgia
13. Hinsdale South High School, Hinsdale, Illinois
14. Idaho School for the Deaf, Gooding, Idaho
15. Indiana School for the Deaf, Indianapolis, Indiana
16. The Learning Center, Framingham, Massachusetts
17. Lexington School for the Deaf, Jackson Heights, Queens, New York
18. Marilton School for the Deaf, Los Angeles, California
19. Maryland School for the Deaf, Frederick, Maryland
20. McNeil High School, Round Rock, Texas
21. Metro Deaf School, St. Paul, Minnesota
22. Mill Neck Manor School for the Deaf, Mill Neck, New York
23. Minnesota State Academy for the Deaf, Faribault, Minnesota
24. Model Secondary School for the Deaf, Washington, DC
25. Pennsylvania School for the Deaf, Philadelphia, Pennsylvania
26. Phoenix Day School for the Deaf, Phoenix, Arizona
27. New Mexico School for the Deaf, Santa Fe, New Mexico
28. New York School for the Deaf, White Plains, New York
29. North Carolina School for the Deaf, Morganton, North Carolina
30. Oklahoma School for the Deaf, Sulphur, Oklahoma
31. Ohio School for the Deaf, Columbus, Ohio
32. Plano Senior High School, Plano, Texas
33. Rhode Island School for the Deaf, Providence, Rhode Island
34. Rochester School for the Deaf, Rochester, New York
35. Rocky Mountain Deaf School, Denver, Colorado
36. St. Mary's School for the Deaf, Buffalo, New York
37. Tennessee School for the Deaf, Knoxville, Tennessee
38. Texas School for the Deaf, Austin, Texas
39. University High School, Irvine, California
40. Utah Schools for the Deaf and the Blind, Ogden, Utah
41. Vines High School, Plano, Texas
42. Washington School for the Deaf, Vancouver, Washington
43. Western Pennsylvania School for the Deaf, Pittsburgh, Pennsylvania

Project Fast Forward (continued)

Dual-Credit Courses. The following courses were developed for high schools to teach and earn their students RIT/NTID college credit.

1. *Computer Applications:* An introduction to word processing, spreadsheet, presentation and database applications
2. *Web Development I:* An introduction to Web page development, including XHTML and Web graphics
3. *PC Hardware I:* An introduction to the fundamental hardware concepts of personal computer (PC) systems, including their structure and components
4. *Introduction to Programming:* An introduction to the fundamental concepts and terminology of computer programming
5. *Visual Idea Development:* An introduction to strategies for developing concepts and organization of thought processes, as well as systems to formulate solutions to design problems utilizing different mediums
6. *Page Layout I:* An introduction to page layout applications to produce pages and documents to given specifications
7. *Raster/Vector Graphics:* Introduces the skills needed for the successful production and manipulation of raster and vector images using image creation and production software
8. *Blueprint Reading:* An introduction to the skills necessary to read and interpret fundamental engineering drawings of details, subassemblies and assemblies
9. *Engineering Graphics:* Introduces the skills needed to create professional 2D mechanical, architectural and civil drawings using AutoCAD software
10. *CAD Applications:* Introduces skills using computer-aided drafting (CAD) as a tool to generate 2D graphics and 3D solid models
11. *Mathematics in Society:* An exploration of mathematical thinking and procedures including applications to real world situations and using problem-solving skills
12. *Processes of Science: Forensics:* An introduction to science processes using the content of forensics as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
13. *Processes of Science: Biological Studies:* An introduction to science processes using biology content as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
14. *Processes of Science: Environmental Studies:* An introduction to science processes using the content of environmental studies as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
15. *Personal Finance:* An introduction to basic financial literacy so they can develop sound financial management of their personal income as well as an understanding of the economic events that can influence their financial well-being and society as a whole
16. *Fundamentals of Spreadsheet Applications:* An introduction to developing a strong foundation in the fundamentals concepts of developing a spreadsheet
17. *Orientation to Business:* An introduction to a broad overview of the form and structure of multinational organizations and how businesses operate

Courses Taught and Credit Earned. During the 2020-2021 academic year, 48 course sections were taught at 28 partner high schools, with 225 deaf and hard-of-hearing high school students enrolled in those courses and 37 students enrolled in more than one course for dual credit, bringing the total to 262 registered students. Of these students, 173 students, or 66% of the total, successfully completed their dual-credit course and earned three RIT credits. The COVID-19 pandemic had an impact on high school teachers' ability to satisfy NTID course objectives in the transition to remote instruction. Some high schools reported their students did not have access to the software and hardware at home in order to complete coursework, which is why the passing rate for AY 2020-2021 is significantly lower compared to pre-pandemic years. The following is the total number of Project Fast Forward dual-credit courses taught and students served through Project Fast Forward, from fall 2007 to spring 2021:

- 322 dual-credit course sections were taught by 110 teachers in their high schools.
- 1,939 registrations were recorded in Project Fast Forward courses.

Project Fast Forward (continued)

- 1,440 unique deaf and hard-of-hearing students participated in the program.
- 499 deaf and hard-of-hearing students took more than one course.
- 1,200 (62%) of students enrolled in dual-credit courses received passing grades.
 - When removing teacher errors, 68% of students received passing grades.
- 3,600 RIT/NTID credits were awarded to deaf and hard-of-hearing students.

In AY 2020-2021, 39 dual-credit participants matriculated at RIT/NTID compared to 28 students during AY 2019-2020.

At press time, 245 students were registered in 38 course sections for AY 2021-2022, with more possible enrollments over time. Forecasting the number of sections has been challenging due to the COVID-19 pandemic.

Professional Development. Offered to high school teachers from partnering high schools. Teachers receive technical training on course content, teaching methodologies and improving access for deaf and hard-of-hearing students in mainstream classrooms. Both teachers and counselors also receive training on selected STEM career opportunities for deaf and hard-of-hearing individuals and on the dual-credit program.

In July 2021, training was offered virtually to 17 new Project Fast Forward high school teachers and 21 returning Project Fast Forward high school teachers. There were three new high school partners present at the training. Due to the pandemic, the training for high school counselors was not offered. During the 14 summers of Project Fast Forward, between 2007 and 2021, the following numbers of teachers and counselors have participated in summer professional development:

- 141 teachers from 48 high schools have attended summer professional development to prepare to teach dual-credit courses in their high schools, with many teachers returning to NTID to learn content for a second and third course, for a total of 209 teacher trainings.
- 44 guidance counselors attended summer professional development activities to work with students taking dual-credit courses in their high schools.

Employer Outreach

NTID initiates and delivers consultation, training, follow-up and other support services to employers. Through these services, employers become aware of the needs of deaf and hard-of-hearing people for

employment and, in partnership with NTID, facilitate graduates entering the workforce and continuing their career development.

Employer Training and Educational Programs

The NTID Co-op and Career Center (NCCC) conducted, delivered and presented eight virtual programs for 1,462 human resources professionals and company representatives.

NTID Virtual Information Sessions

Seventeen employers met with 428 students and alumni. The employer representatives explained their various mission areas, talked about what it is like to work, grow and advance within their organization and gave an overview of the types of work roles they hire for and skills they desire.

Co-op Visitation Program

The program was canceled due to COVID-19 concerns.

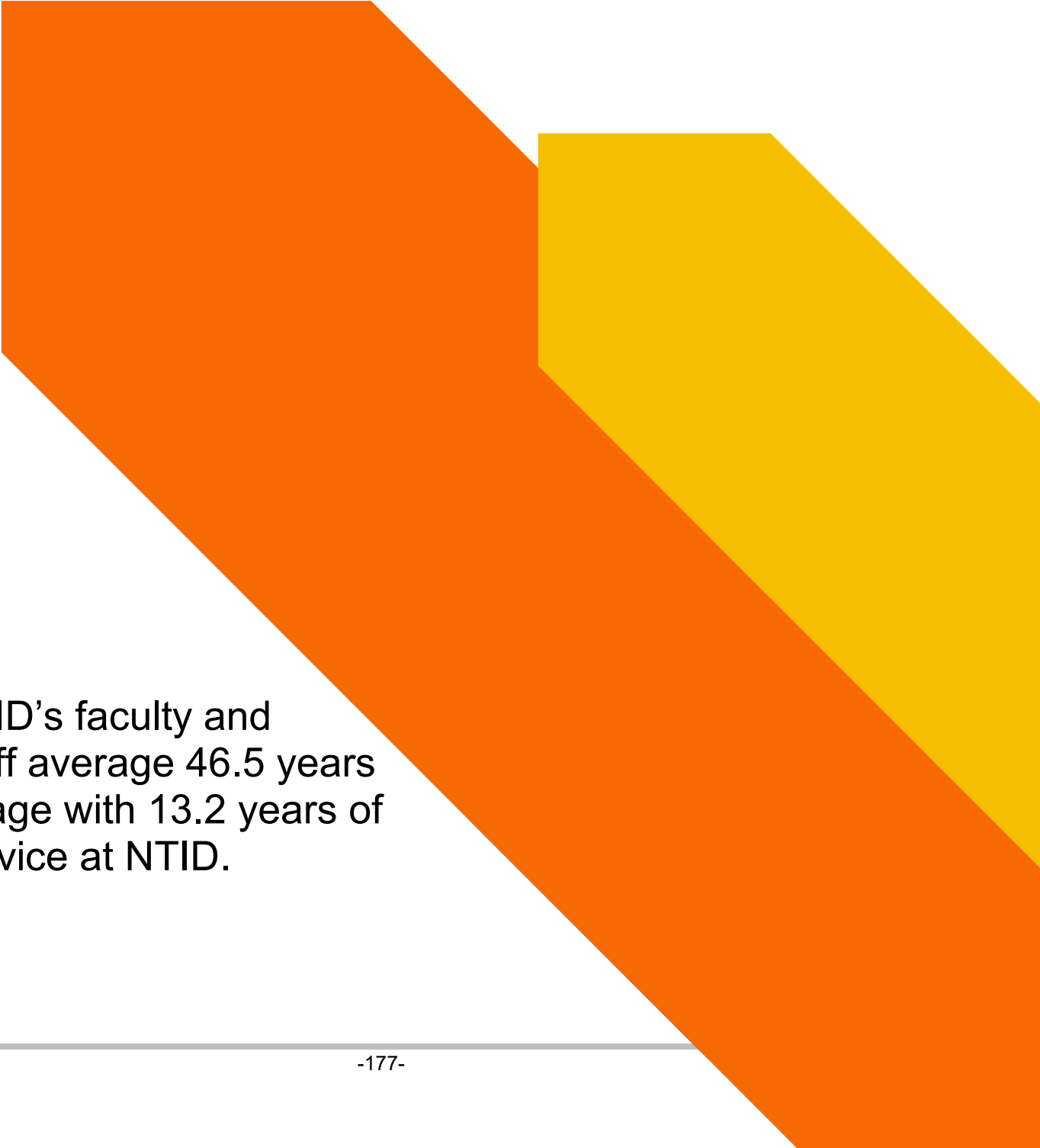
Outreach to Employers

- National Association for the Deaf, Communication Service for the Deaf, Gallaudet University and NTID partnered together to provide three Deaf Employment Summit webinar programs to 799 participants:
 - 1) "Hiring Deaf and Hard-of-Hearing Employees Now and Beyond" – December 2020
 - 2) "Do's and Don'ts of Accommodating Deaf Employees: From an Access Service Perspective" – March 2021
 - 3) "Career Advancement - Best Practices for Employers and Deaf and Hard of Hearing Employees" – June 2021
- Exhibited, networked and participated in five virtual conferences:
 - 1) SHRM Diversity & Inclusion – October 2020
 - 2) Deaf in Government – June 2021
 - 3) National Association of Colleges and Employers – June 2021
 - 4) Disability:IN Annual Conference and Engagement Expo – July 2021
 - 5) SHRM Talent Management Conference & Exposition – August 2021
- Successful presentation to 307 participants, from the U.S. Bureau of Reclamation (USBR) and Department of Interior (DOI), who attended "Maximizing Recruitment and Internship Partnerships with the National Technical Institute for the Deaf" – October 2020
- Served on three virtual panels:
 - 1) National Millennial/Gen Z Disability Awareness – November 2020 – 37 viewers
 - 2) Region 2 of the EPA – February 2021
 - 3) Disability:IN DC Metro – August 2021 – 31 viewers

NCCC Marketing Highlights

- Developed news releases and articles to promote employer participation in the NTID Virtual Information Sessions.
- Reviewed and revised the program marketing pieces, NCCC brochure and NCCC website (rit.edu/ntid/nccc) to ensure content was up to date.
- Posted current relevant information on the NCCC Facebook, LinkedIn and Instagram.
- Featured student and recent graduate success stories on the NCCC website at least once a month.

Faculty and Staff

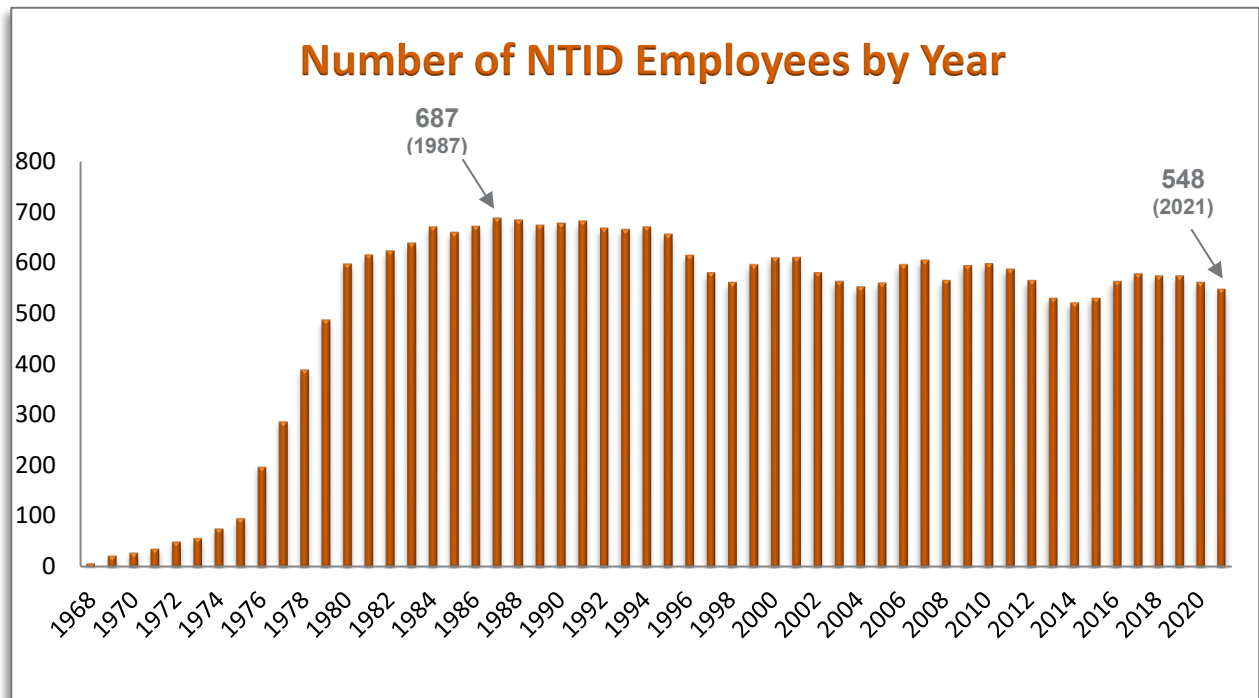


NTID's faculty and staff average 46.5 years of age with 13.2 years of service at NTID.

Faculty and Staff Highlights

Attracting and retaining the most capable and dedicated faculty and staff in order to provide an exceptional learning environment for deaf and hard-of-hearing students is central to fulfilling NTID's mission and purpose. NTID's highly qualified faculty and staff bring to the institute a wide variety of experiences, skills and backgrounds. Some are veteran educators with many years of higher education teaching experience, while others bring to the NTID classroom a wealth of hands-on knowledge gained from working in business and industry. Among the latter group are alumni who, after gaining significant work experience away from NTID, have returned to their alma mater to share the expertise they have learned on the job with a new generation of students.

In 1987, NTID employed 687 faculty and staff. As of fall 2021, NTID employed 548* faculty and staff, down from 561 in fall 2020.



* Of the 548 employees, 515 are covered by NTID's operating funds.

Average Salary: Faculty and Staff

RIT endeavors to maintain faculty salaries that are on par with the colleges and universities with which it competes. Similarly, RIT provides staff salaries that are competitive with other local and regional colleges and businesses. Annual pay increments for NTID faculty and staff are established by RIT.

| | Total Number in Position | Average Salary* FY 2021 |
|---------------------------|--------------------------|-------------------------|
| Faculty | | |
| Professor | 16 | \$111,657 |
| Associate Professor | 36 | \$93,361 |
| Assistant Professor | 20 | \$73,960 |
| Principal/Senior Lecturer | 40 | \$71,687 |
| Lecturer | 32 | \$63,094 |
| Subtotal Faculty | 144 | \$79,953 |
| Staff | | |
| Exempt Staff | 119 | \$70,254 |
| Non-Exempt Staff | 285 | \$48,839 |
| Subtotal Staff | 404 | \$55,147 |
| Total | 548** | \$61,665 |

* Average salary calculations are based on the standard full-time schedule for each faculty/staff category. Individual variances are adjusted to the same scale.

** Of the 548 employees, 515 are covered by NTID's operating funds.

Tenure-Track Positions and Faculty Rank

In FY 2021, senior-level faculty members (professor and associate professor) comprised 73% of all ranked tenure-track faculty as compared to 47% in FY 1985. Of the 63 tenure-track positions, 87% are tenured.

| Rank | Number of Tenure-Track Positions* | | | | | FY 2021 Faculty with Tenure | |
|------------------------|-----------------------------------|-----------|-----------|-----------|-----------|-----------------------------|------------|
| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | Number | Percent |
| Professor | 24 | 20 | 20 | 15 | 16 | 16 | 100% |
| Associate Professor | 33 | 33 | 35 | 35 | 30 | 30 | 100% |
| Assistant Professor | 28 | 22 | 20 | 18 | 17 | 9 | 53% |
| Total Positions | 85 | 75 | 75 | 68 | 63 | 55 | 87% |

* Includes ranked administrators.

Degree Levels of Tenured and Tenure-Track Faculty

Faculty members join NTID with a wide variety of backgrounds, including those with substantial experience in the private sector. In FY 2021, 97% of tenure-track faculty members held graduate degrees.

| FY 2021 Highest Degree Level Achieved Tenure and Tenure-Track Faculty* | | |
|---|---------------|----------------|
| | Number | Percent |
| Doctorate | 35 | 56% |
| Master's | 26 | 41% |
| Bachelor's | 2 | 3% |
| Total | 63 | 100% |

* Includes ranked administrators.

Age, Length of Service and Retirement Status of NTID Faculty and Staff*

NTID's faculty and staff average 46.5 years of age with 13.2 years of service at NTID.

FY 2021

| | Percent Full Time | Average Age | Average Length of Service | Currently in Retirement Transition |
|---------------------------|-------------------|-------------|---------------------------|------------------------------------|
| Professor | 100% | 61.8 | 27.8 | 1 |
| Associate Professor | 97% | 55.2 | 21.6 | 1 |
| Assistant Professor | 100% | 47.6 | 12.5 | 2 |
| Principal/Senior Lecturer | 100% | 49.1 | 16.3 | 1 |
| Lecturer | 100% | 47.6 | 5.4 | 0 |
| Exempt Staff | 100% | 46.5 | 13.0 | 0 |
| Technical/Clerical | 93% | 48.5 | 11.8 | 2 |
| Interpreter | 79% | 42.2 | 14.0 | 4 |
| Real-Time Captionist | 97% | 41.2 | 7.4 | 0 |

* Data not available for all faculty and staff.

Faculty and Staff New Hires

The distribution of new hires by category and for full-time and part-time positions is shown below.

| | New Hires | | | | |
|------------------------|-----------|-----------|-----------|-----------|-----------|
| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
| Full-Time: | | | | | |
| Faculty | 10 | 4 | 8 | 10 | 5 |
| Exempt Staff | 11 | 4 | 5 | 4 | 9 |
| Non-Exempt Staff* | 7 | 24 | 12 | 20 | 28 |
| Total Full-Time | 28 | 32 | 25 | 34 | 42 |
| Part-Time: | | | | | |
| Faculty | 1 | 0 | 1 | 0 | 0 |
| Exempt Staff | 1 | 0 | 0 | 0 | 0 |
| Non-Exempt Staff* | 39 | 7 | 5 | 1 | 8 |
| Total Part-Time | 41 | 7 | 6 | 1 | 8 |
| Total | 69 | 39 | 31 | 35 | 50 |

* Includes technical and clerical positions, real-time captionists and interpreters.

Faculty and Staff Terminations

The faculty and staff turnover rate, 11.5%, is almost the same as last year. Retirements of current faculty and staff are expected to rise as the employee base ages.

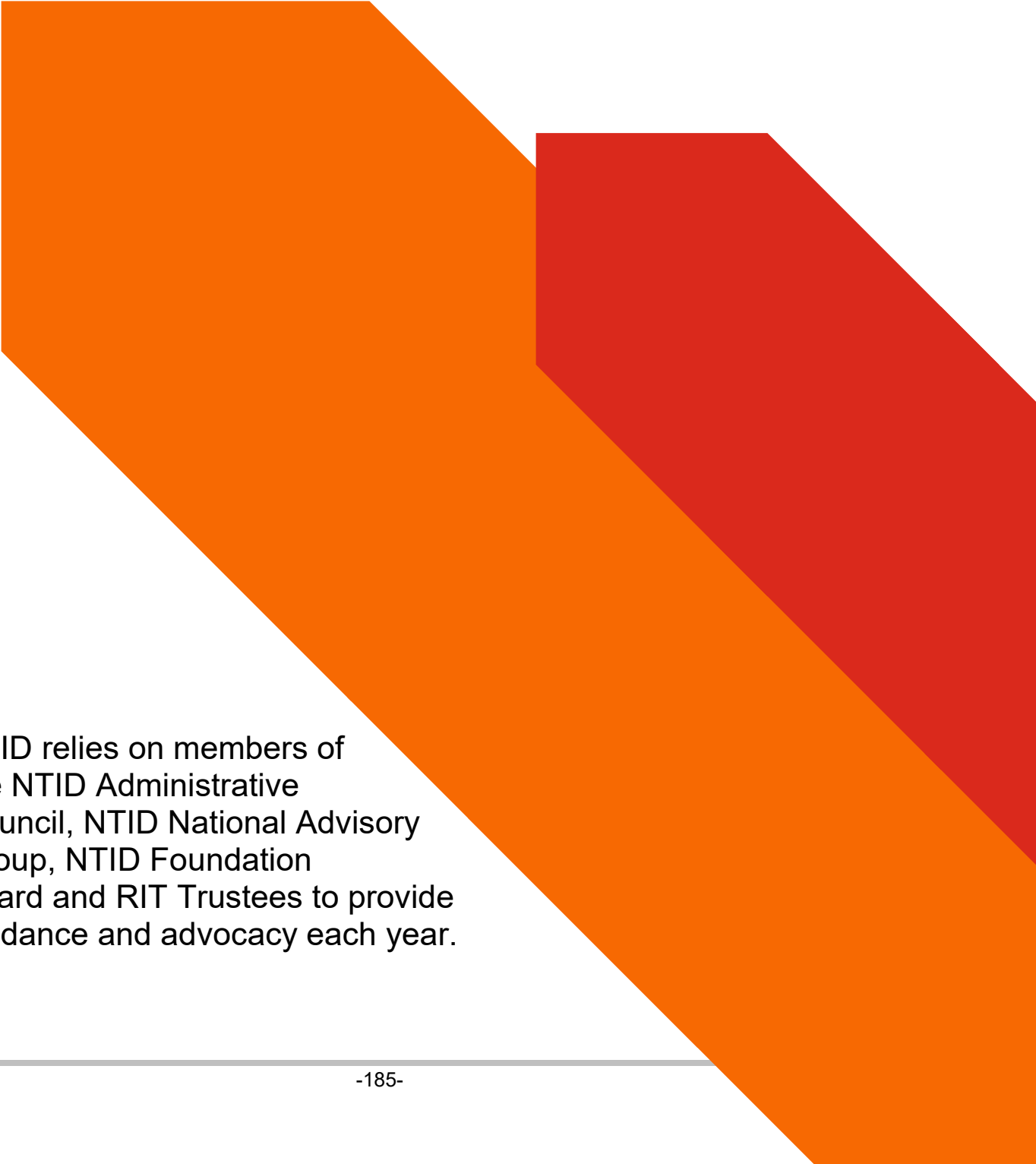
| Full-Time/Part-Time | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | |
|---------------------|-------------|--------------|--------------|--------------|--------------|-----------|
| | | | | | Percent | Number |
| Faculty | 10.4% | 9.0% | 7.1% | 8.6% | 9.7% | 14 |
| Exempt Staff | 4.5% | 10.4% | 10.3% | 6.4% | 15.1% | 18 |
| Non-Exempt Staff* | 10.3% | 12.6% | 14.0% | 14.7% | 10.9% | 31 |
| Total | 9.0% | 11.1% | 11.3% | 11.2% | 11.5% | 63 |



Lin Hoke, executive assistant to RIT/NTID President Gerry Buckley, retired after 49 years of service. She received the NTID National Advisory Group's Outstanding Service Award in spring 2021 in recognition of her work.

* Includes technical and clerical positions, real-time captionists and interpreters.

RIT/NTID Leadership



NTID relies on members of the NTID Administrative Council, NTID National Advisory Group, NTID Foundation Board and RIT Trustees to provide guidance and advocacy each year.

NTID Administrative Council*



Dr. Gerard J. Buckley '78
President, NTID;
Vice President and
Dean, RIT



Dr. Alesia Allen '04
Assistant Vice President for
NTID Diversity and Inclusion



Gary Behm '78, '81
Associate Vice President for
Academic Affairs



Dr. Pamela Carmichael '04
Assistant Vice President of
Communications, Marketing
and Multimedia Services



Dr. Peter Hauser
Assistant Dean for Research
Mentorship



Dr. Joseph Hill
Assistant Dean for ALANA
Faculty Recruitment and
Retention



Bernard Hurwitz, J.D.
Associate Vice President for
NTID Administration



Dr. Denise Kavin
Assistant Dean and
Executive Director of NTID
Outreach, Placement and
Special Projects



Dr. Mary Karol Matchett '88
Assistant Vice President
for Student and
Academic Services



Dr. Rico Peterson
Assistant Dean and Director
of NTID Access Services

* The following individuals also served on the NTID Administrative Council in FY 2021: Lin Hoke, Executive Assistant to the President, and Bill McGee '80, '82, Assistant Vice President for Finance and Budget.

NTID Administrative Council (continued)



Dr. Robert Pollard
Associate Dean
of Research



Nancy Popolizio
Executive Assistant to the
NTID President



**Thomastine Sarchet-Maher
'03, '09**
Assistant Dean of ALANA
Outreach, Access and Success



Dr. Kathryn Schmitz '95
Senior Associate Dean for
Academic Administration



Erwin Smith
Assistant Vice President for
Information Technology and
College Operations

Kate Sweeney
Interim Assistant Vice
President for Finance and
Budget

NTID National Advisory Group

The National Advisory Group advises the NTID president/RIT vice president and dean in developing and carrying out policies governing the operation and direction of the institute. The National Advisory Group comprises professionals

concerned with the education of deaf and hard-of-hearing students, professionals concerned with postsecondary education and individuals familiar with the need for the services provided by NTID.

Active Members

Bedarius Bell, Jr.

State Coordinator of Deaf and Hard of Hearing Services, Alabama Department of Rehabilitation Services

Joyce Bender

Chief Executive Officer, Bender Consulting Services, Inc.

Tina Childress

Educational Audiologist, Urbana School District

Rachel de Azevedo Coleman

President, Signing Time Foundation

History Estill-Varner '14

Co-Executive Director, Discovering Deaf Worlds, Inc.

Ernest E. Garrett III

Superintendent, Louisiana's Special School District; Chairman, Louisiana Commission for the Deaf

Cham Leang '03

Sr. Project Manager, U.S. Federal Government

Dr. Christopher Leheldt

Dentist, Elmwood Dental Group, P.C.

Pamela Lloyd-Ogoke '81

Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services; *Chair*

Marlene Mata

Rehabilitation Counselor, Massachusetts Rehabilitation Commission

Mary Beth (Barber) Mothersell '85

Senior Customer Relations Manager, Sprint Relay

Karen Putz

Business Owner, Ageless Passions

Annette Reichman

Superintendent, Arizona State Schools for the Deaf and the Blind

Robert Sidansky '77

Retired Administrator of Student Services, National Center on Deafness, California State University, Northridge

Kathleen Treni

Retired Principal, Continuum of Services for Deaf and Hard of Hearing Students, Bergen County Special Services District

NTID National Advisory Group (continued)

Scott Van Nice

Senior Manager, Proctor & Gamble

Dr. Scott Wills

Research Scientist, Dow Chemical Company

U.S. Department of Education

Brianne Burger

Director/Liaison, Office of Special Institutions, Office of Special Education and Rehabilitative Services

U.S. Government Representatives

The Honorable Charles E. Schumer

Member, U.S. Senate, New York State



Pamela Lloyd-Ogoke '81, of Garner, North Carolina, was named chairperson of NTID's National Advisory Group in January 2021. She is currently the chief of community integration services and supports for the North Carolina Division of Vocational Rehabilitation Services and has nearly 40 years of experience in the deaf and disability communities.

NTID Foundation Board

The NTID Foundation is an organization of volunteers committed to the advancement of career development and personal growth opportunities for deaf and hard-of-hearing students at NTID.

Foundation Board members foster involvement and private investment to enrich the quality and vitality of the learning environment at NTID.

Active Members:

Ed Baumann

Vice President, Software Quality, NetSuite

Lisa Baumann

Gary Behm '78, '81

Associate Vice President, NTID Academic Affairs

Dr. Gerard J. Buckley '78

President, NTID; Vice President and Dean, RIT

Shraddha Chaplot

Jinnie C. DeTrani

Psychologist, Former School Counselor

Joseph DeTrani

Ambassador, retired

Board of Managers, Sandia National Laboratories

Professor, Missouri State University

Department of Defense and Strategic Studies

Scott Ellender

General Manager and Chief Operating Officer

Monroe Golf Club

Sean P. Flanagan

Sr. Customer Business Manager, Bayer Consumer Care

Sue Flanagan

Volunteer Event Coordinator

Sarah Gordon '07

Dean of Students, Rochester School for the Deaf

Gordon Hewitt '73, '75

Retired Chief for Strategic Enterprise Initiative Branch, U.S. Dept. of Homeland Security

Daniel Kaiser

Partner, Kaiser Saurborn & Mair, P.C.

Jill Kaiser, LCSW

Psychotherapist

James Kinsley

Management Consultant

Adjunct Professor, St. John's University

NTID Foundation Board (continued)

Sharon Kinsley

Deputy Chief of Staff & Deputy Director, Office of the Administrator, United Nations Development Programme

Kathleen Martin

Retired Director of Policy Review and Development, RIT Human Resources

Jeff McCaw '89

Chief Financial Officer, SourceAmerica

Jay McHarg

CEO, AeroSafe Global

Barbara Montan

Matthew S. Moore '83

President, MSM Productions, Ltd.
Chairperson, NTID Performing Arts Advisory Committee

Jean-Guy Naud '68, '75 MS

Retired, NTID Faculty

Chris Soukup

Chief Executive Officer, Communication Services for the Deaf

James Stefano

Retired President, Synergy Global Solutions, Inc.

Rosa Lee Timm, '00

Chief Marketing Officer, Communication Services for the Deaf

James Tourangeau

District Manager, Sorenson Communications, Inc.

Sherri Turpin

Chief Executive Officer, ZVRS

Christopher D. Wagner '94

Chief Operating Officer, Customer Experience, ZVRS; *Chair*

George D. Webb

Retired Senior VP of Operations, Great West Life Insurance Company

Sandra Weintraub

RIT Administrative Council

Dr. David C. Munson, Jr.
University President

Karen Barrows '04
Chief of Staff

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Enid Cardinal
Senior Advisor to the President for Strategic Planning and Sustainability

Phil Castleberry
Vice President for University Advancement

Dr. Lisa Cauda
Vice President and Secretary

Robert Finnerty
Associate Vice President of University Communications

Dr. Ellen Granberg
Provost and Senior Vice President for Academic Affairs

Vanessa Herman
Vice President for Government and Community Relations

Dr. Keith Jenkins
Vice President and Associate Provost for Diversity and Inclusion

Dr. Sandra S. Johnson
Senior Vice President for Student Affairs

Joe Johnston
Ombudsperson

Ian Mortimer
Vice President of Enrollment Management and Associate Provost for Adult and Online Education

Dr. Ryne Raffaele
Vice President for Research

John Trierweiler
Vice President and Chief Marketing Officer

Dr. James H. Watters
Senior Vice President for Finance and Administration

RIT Board of Trustees Active Trustees

Robert W. August

Managing Partner, Laser Wash Group LLC

Mark G. Barberio

BS '85; Principal, Markapital, LLC

Brooks H. Bower

BS '74; Chairman and Chief Executive Officer, Papercone Corp. East

Andrew N. Brenneman

BS '88; Senior Client Director, T-Mobile USA

David J. Burns

Principal and Founder, Global Business Advisory Services LLC

Carol B. Cala

BS '97; MS '00; Vice President of Corporate Environment, Safety & Health, Lockheed Martin Corporation

Essie L. Calhoun McDavid

Retired Chief Diversity Officer and Director, Community Affairs Vice President, Eastman Kodak Company

Dale J. Davis, Esq.

BS '96; Chief Patent Counsel, Cummins INC

Hyacinth V. Drummond

BS '91; Founder, Dreamseeds Children's Program

Nita Genova

Women's Council Representative, Rochester Institute of Technology

Arthur A. Gosnell

Chairman and CEO, Stonehurst Capital LLC

Victoria D. Griffith

BS '93; Vice President, Quality Assurance & Purchasing, Farmer Restaurant Group; also serves as RIT Alumni Association President

Jeffrey K. Harris

BS '75; Chair Elect, Board of Trustees, Rochester Institute of Technology; Retired Corporate Vice President, Lockheed Martin

Darshan N. Hiranandani

BS '02, MBA '03; Managing Director, Hiranandani Group of Companies

Susan R. Holliday

MBA '85; Vice Chair, Board of Trustees, Rochester Institute of Technology; Retired President and Publisher, *Rochester Business Journal*

Andrew R. Jacobson

BS '90, MS '96; Enrolled Agent, Maverick Business Services

Rick A. Kittles, Ph.D.

BS '89; Professor and Founding Director, Health Equity, City of Hope

Eric J. Kuckhoff

MS '84; President and CEO, Polystar

RIT Board of Trustees Active Trustees (continued)

Christopher W. Lehfeldt, D.D.S.

Dentist, Elmwood Dental Group, PC

Pamela Lloyd-Ogoke

BS '81; Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services; also serves as NTID NAG Representative

Austin W. McChord

BS '09; CEO, Casana Care, Inc.

Dana A. Mehnert

President, L3Harris Technologies, Communication Systems Sector

Roosevelt Mercer, Jr.

Chief Executive Officer and Executive Director, Virginia Commercial Space Flight Authority

David C. Munson

President, Rochester Institute of Technology

Sharon D. Napier

MS '04; Chair and Founder, Partners + Napier

Brian P. O'Shaughnessy, Esq.

BS '81, MS '84; Partner, Dinsmore & Shohl LLP

Gerard Q. Pierce

MBA '77; CEO, HR Works Inc.

Susan M. Puglia

Vice Chair, Board of Trustees, Rochester Institute of Technology; Retired Vice President, Global Technical Leadership, Sales & Distribution, IBM Corporation

Ronald S. Ricotta

BA '79; CEO and Co-Owner, Century Mold Co., Inc.

Frank S. Sklarsky

BS '78; Retired Executive Vice President and Chief Financial Officer, PPG Industries, Inc.

Kevin J. Surace

BT '85; CEO and President, Appvance

James P. Swift

BS '88; President & CEO, Cortera

Sharon Ting

President, Ting & Associates, Inc.

Donald J. Truesdale

BS '87; Chair, Board of Trustees, Rochester Institute of Technology; Chief Executive Officer, Ardea Partners

Clayton P. Turner

BS '90; Director, NASA Langley Research Center

RIT Board of Trustees Active Trustees (continued)

Kim E. VanGelder

BS '86; Chief Information Officer and Senior Vice President, Eastman Kodak Company

Judy B. von Bucher

Chester N. Watson

BS '74; Retired General Auditor, General Motors Corporation

Dinah G. Weisberg

MS '97, EMBA '03; President & CEO, REDCOM Laboratories, Inc.

Christine B. Whitman

Chair Emeritus, Board of Trustees, Rochester Institute of Technology; Chairman and CEO, Complemar Partners, Inc.

Kathy M. Yu

BS '91

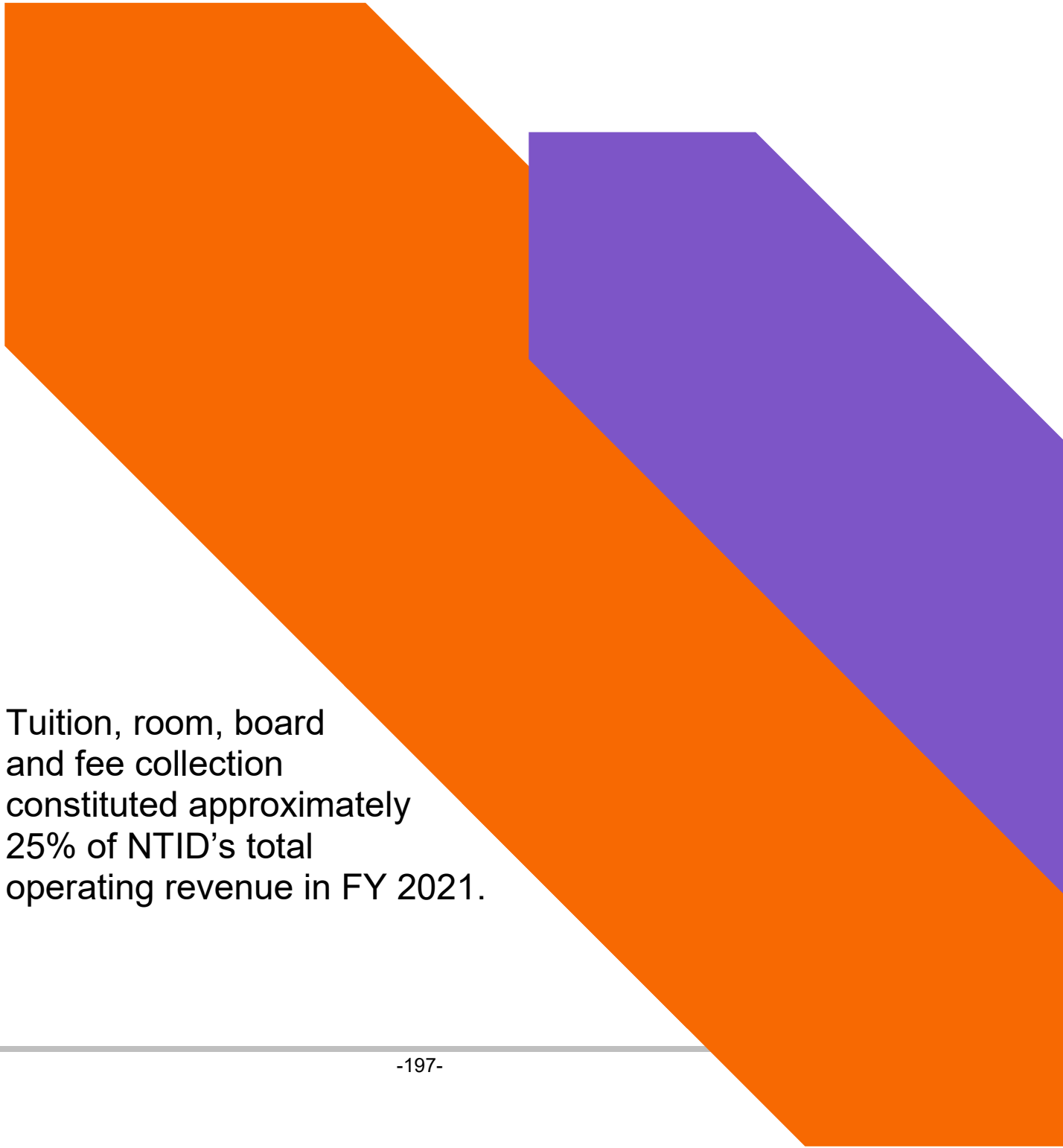
Ronald L. Zarrella

Chairman Emeritus, Bausch & Lomb, Inc.



On March 29, 2021, NTID's founding director, D. Robert Frisina, passed away at age 96. He was selected by the RIT Board of Trustees as the first director of NTID in January 1967 and served in that role until 1976, after which he served as an RIT senior vice president for 15 years.

Results of Financial Operations



Tuition, room, board
and fee collection
constituted approximately
25% of NTID's total
operating revenue in FY 2021.

Financial Operations Highlights

NTID continued to grow programming and operations in FY 2021, which resulted in an increase in total expenses of 3.4% from FY 2020 levels. NTID exercised prudent cost management to keep increases in expenditures to a minimum.

Total Personnel Compensation for FY 2021 decreased approximately \$1.5 million, or 3.1% from FY 2020 levels. This decrease in expense was due to retirements and retirement transition plans, and a year-over-year decrease in the vacation accrual.

Total RIT Services expense decreased approximately \$1.0 million, or 3.3% from FY 2020, primarily as a result of a \$1.9 million (15.2%) decrease in overhead costs, and a decrease in cross-registered tuition charges paid to RIT, offset in part by a year-over-year increase of \$1.3 million (21.6%) in residence hall, food and student service costs.

Total Other Expenditures increased by \$5.8 million (30.1%) in FY 2021, primarily as a result of an increase in Plant fund transfers of \$6.0 million, offset in part by a \$1.3 million (62.6%) year-over-year decrease in Capital expenditures.

NTID's FY 2020 and FY 2021 expenditures, and year-over-year comparisons, have been impacted by the operational shifts necessitated by the COVID-19 pandemic. We anticipate the impact of these factors to diminish in subsequent reporting periods. As always, NTID is committed to excellent stewardship of resources and sound financial management and oversight.

NTID's FY 2021 Federal appropriation for operations increased 1.4% over FY 2020 funding levels. As footnoted on the next page, the full fiscal 2021 Federal appropriation for NTID was \$81.5 million. The \$6.5 million not included in the statement of financial operating results was specifically designated for regional outreach efforts. In February 2017, NTID and the Alabama Institute for Deaf and Blind (AIDB) formalized a partnership and began executing planned outreach activities. As of September 30, 2021, expenditures of approximately \$5.3 million were made against FY 2020 appropriated outreach funds, and none of the FY 2021 outreach appropriation had been expended.



U.S. Senator Kirsten Gillibrand, of New York, visited NTID's campus in August 2021 to advocate for NTID's FY 2022 federal appropriation, including funds for training deaf and hard-of-hearing scientists, healthcare professionals and cybersecurity experts, as well as funds for additional outreach activities.

Financial Operating Results

| | FY 2020 | FY 2021 | Variance \$ | Variance % |
|--|---------------------|----------------------|----------------------|--------------|
| EXPENSES | | | | |
| Personnel Compensation Expenditures | | | | |
| Salaries and Wages | \$34,066,298 | \$33,369,913 | (\$696,385) | -2.0% |
| Benefits | 13,491,990 | 12,697,748 | (794,242) | -5.9% |
| Total Personnel Compensation | \$47,558,288 | \$46,067,661 | (\$1,490,627) | -3.1% |
| RIT Services Expenditures | | | | |
| Direct: | | | | |
| Residence Halls/Food Service, Student Services | \$5,965,127 | \$7,254,689 | \$1,289,562 | 21.6% |
| Cross-Registered Tuition | 9,209,906 | 8,755,482 | (454,424) | -4.9% |
| Physical Plant Services | 2,339,924 | 2,453,255 | 113,331 | 4.8% |
| Indirect: | | | | |
| Overhead | 12,835,457 | 10,885,730 | (1,949,727) | -15.2% |
| Total RIT Services | \$30,350,414 | \$29,349,156 | (\$1,001,258) | -3.3% |
| Other Expenditures | | | | |
| Support Expenditures | \$5,566,658 | \$5,723,107 | \$156,449 | 2.8% |
| Grant Cost Shares | 0 | 0 | 0 | 0.0% |
| Financial Aid | 3,605,276 | 4,655,052 | 1,049,776 | 29.1% |
| Capital | 2,150,429 | 804,669 | (1,345,760) | -62.6% |
| Matching Endowment | 353,855 | 285,201 | (68,654) | -19.4% |
| Plant Fund | 7,475,414 | 13,438,707 | 5,963,293 | 79.8% |
| Total Other | \$19,151,632 | \$24,906,736 | \$5,755,104 | 30.1% |
| Total Expenses | \$97,060,334 | \$100,323,553 | \$3,263,219 | 3.4% |
| REVENUE | | | | |
| Federal Appropriation* | \$74,000,000 | \$75,000,000 | \$1,000,000 | 1.4% |
| Non-Federal Funds | 23,060,334 | 25,323,553 | 2,263,219 | 9.8% |
| Total Revenue | \$97,060,334 | \$100,323,553 | \$3,263,219 | 3.4% |

* The FY 2020 and FY 2021 Federal Appropriations were \$79,500,000 and \$81,500,000 respectively. The \$5,500,000 and \$6,500,000 not included in the FY 2020 and FY 2021 totals were specifically designated for regional outreach efforts.

Tuition, Room, Board and Other Fees

The combined rate increase for tuition room, board and fees was 3.1%. These non-federal resource collections constituted approximately 25% of NTID's total operating revenue.

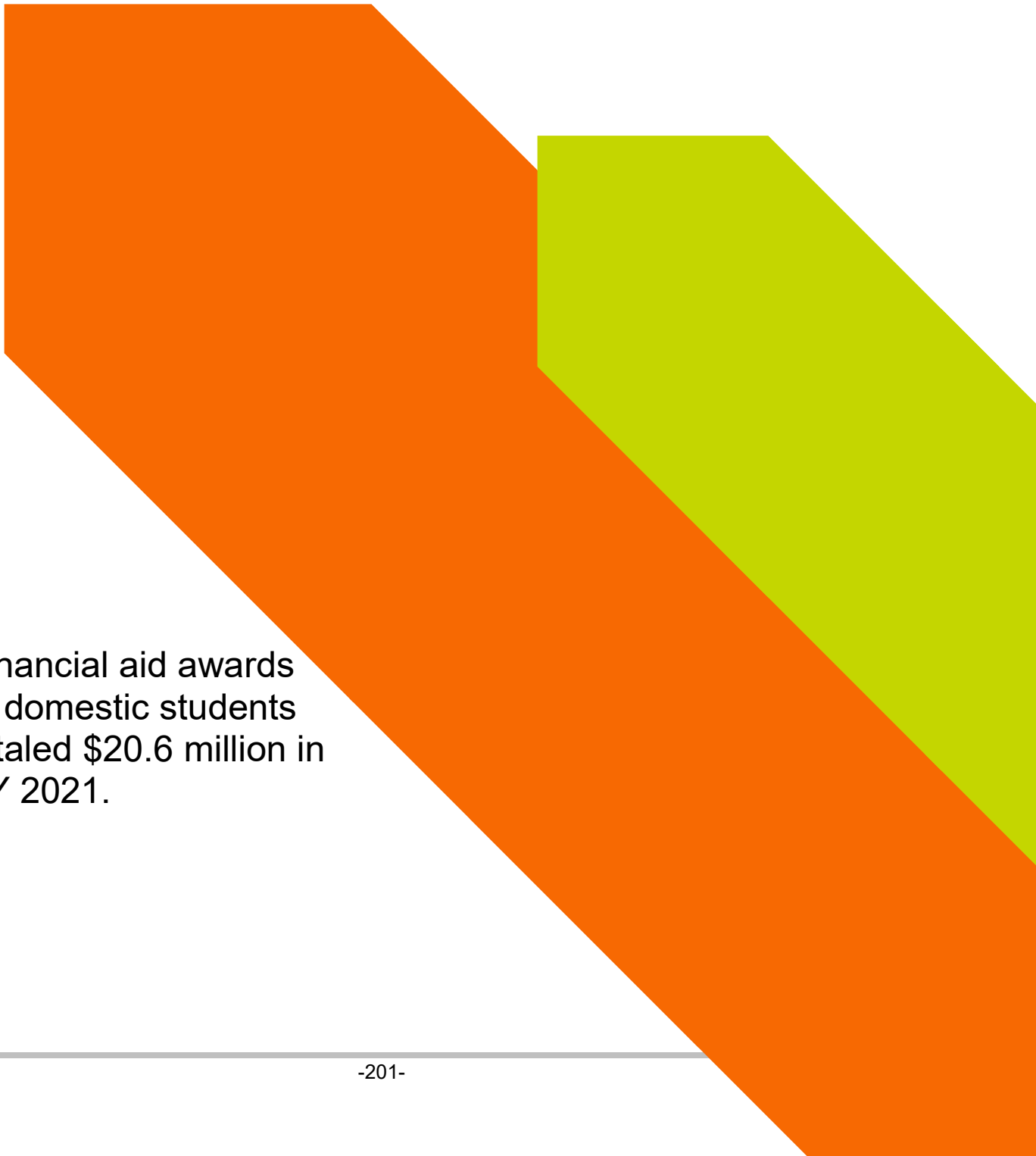
| Rates Charged Students | | | | | |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
| Tuition | \$15,730 | \$16,518 | \$17,162 | \$17,814 | \$18,330 |
| Room | 7,376 | 7,596 | 7,902 | 8,140 | 8,392 |
| Board | 5,524 | 5,662 | 5,800 | 5,836 | 6,040 |
| Fees | 562 | 584 | 646 | 676 | 726 |
| Total | \$29,192 | \$30,360 | \$31,510 | \$32,466 | \$33,488 |
| Collections | \$25,465,566 | \$25,342,080 | \$23,060,334 | \$25,323,553 | * |
| Enrollment (Fall) | 1,262 | 1,182 | 1,129 | 1,101 | 1,166 |
| Collections Per Student | \$20,179 | \$21,440 | \$20,425 | \$23,001 | * |



Maya Penn '18, right, an MSSE student and NTID Academic Support Center Coordinator, answers questions from local TV stations about her Peace Corps service in Ghana at the launch of RIT's Peace Corps Prep program in August 2021.

* As of the writing of this report, the collection information for FY 2022 is incomplete.

Financial Aid



Financial aid awards to domestic students totaled \$20.6 million in FY 2021.

Financial Aid (Domestic Students)

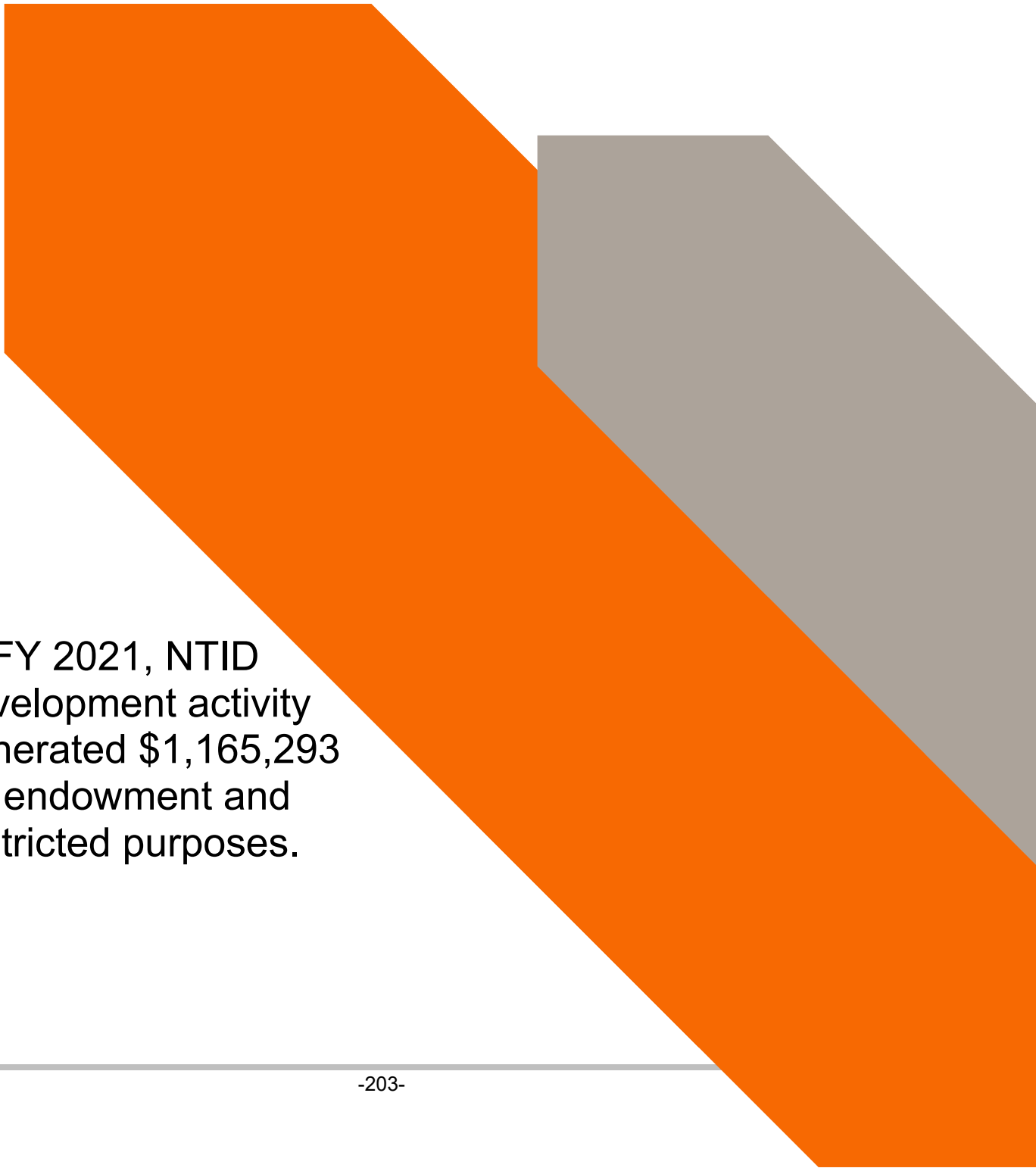
Financial aid awards to domestic students totaled \$20.6 million in FY 2021, a nominal decrease from FY 2020 levels. Institutionally sponsored aid increased in FY 2021 by 20.7% and state and federal support decreased by 7.7%. Loans taken

out by domestic students decreased by 17.7%, and the number of awards, including loans, decreased slightly as compared to FY 2020. Overall, the average financial aid (excluding loans) per domestic student increased by 4.3% in FY 2021.

| SOURCE OF AID | 2020 | | 2021 | | Amount Diff % |
|--|--------------|---------------------|--------------|---------------------|---------------|
| | Awards* | Amount | Awards* | Amount | |
| INSTITUTIONALLY SPONSORED SUPPORT | | | | | |
| Grant-in-Aid: | | | | | |
| NTID Grant-in-Aid | 285 | \$1,575,856 | 363 | \$1,977,232 | 25.5% |
| RIT Grant-in-Aid | 22 | 84,187 | 22 | 98,850 | 17.4% |
| Subtotal Grant-in-Aid | 307 | \$1,660,043 | 385 | \$2,076,082 | 25.1% |
| Scholarships: | | | | | |
| NTID | 459 | \$1,847,614 | 565 | \$2,770,339 | 49.9% |
| RIT | 121 | 303,614 | 160 | 413,550 | 36.2% |
| NTID Endowments | 783 | \$2,393,654 | 657 | \$2,215,168 | -7.5% |
| External Groups | 83 | 224,913 | 78 | 283,896 | 26.2% |
| Subtotal Scholarships | 1,446 | \$4,769,795 | 1,460 | \$5,682,953 | 19.1% |
| Subtotal Institutionally Sponsored Support | 1,753 | \$6,429,838 | 1,845 | \$7,759,035 | 20.7% |
| STATE AND FEDERAL SUPPORT | | | | | |
| Grants: | | | | | |
| Pell Grants | 485 | \$2,353,799 | 446 | \$2,215,865 | -5.9% |
| State Grants | 187 | 511,115 | 201 | 522,350 | 2.2% |
| Subtotal Grants | 672 | \$2,864,914 | 647 | \$2,738,215 | -4.4% |
| Other Federal Support: | | | | | |
| Vocational Rehabilitation | 668 | \$8,409,863 | 611 | \$7,679,659 | -8.7% |
| Federal Work Study | 39 | 78,941 | 27 | 62,956 | -20.2% |
| Subtotal Other Support | 707 | \$8,488,804 | 638 | \$7,742,615 | -8.8% |
| Subtotal State and Federal Support | 1,379 | \$11,353,718 | 1,285 | \$10,480,830 | -7.7% |
| LOANS | | | | | |
| Subsidized Federal Student Loan | 333 | \$1,206,249 | 283 | \$980,408 | -18.7% |
| Unsubsidized Federal Student Loan | 319 | 1,158,681 | 291 | 1,138,451 | -1.7% |
| Parent PLUS Loans | 47 | \$571,733 | 29 | \$298,808 | -47.7% |
| Subtotal Loans | 699 | \$2,936,663 | 603 | \$2,417,667 | -17.7% |
| TOTAL ALL FINANCIAL AID | 3,831 | \$20,720,219 | 3,733 | \$20,657,532 | -0.3% |
| Domestic Student Enrollment | | 1,089 | | 1,071 | -1.7% |
| Average Financial Aid per Student | | \$19,027 | | \$19,288 | 1.4% |
| Average Financial Aid per Student Excluding Loans | | \$16,330 | | \$17,031 | 4.3% |

* Students receive more than one form of aid; therefore, the numbers of awards (grants, loans, scholarship, etc.) outnumber the student body.

External Funding Sources



In FY 2021, NTID development activity generated \$1,165,293 for endowment and restricted purposes.

The NTID Foundation

NTID received \$1,838,792 in new commitments of support including outright gifts of cash and equivalents, gifts-in-kind, deferred gifts and pledges. These dollars were designated to support NTID endowed funds, the Dyer Arts Center and a variety of research and pre-college outreach programs.

Contributions of \$10,000 and above received during FY 2021 include:

Kathleen Anderson / Community Foundation of Greater Memphis
Mr. and Mrs. Edward and Lisa Baumann
Ms. Jane D. Bolduc '82
Dr. and Mrs. Gerard '78 and Judy Buckley
Easter Seals Massachusetts
Fidelity Charitable Gift Fund
Interpretek
Mr. Andrew R. Jacobson '90, '96
Jephson Educational Trust
Mr. and Mrs. Daniel and Jill Kaiser
Ms. Elizabeth A. Kolombatovic
Maguire Foundation
Ms. Malinda Mangrum
James S. McDonnell Foundation
Mrs. Chris and Lisa '04 M. Morgan
Nippon Foundation
Ms. Mildred L. Oberkotter
Drs. Varadaraja and Marie Louise '78 Raman
Ms. Kathleen Russell Setzer
Mrs. Shannon K. Shiver '11
Society of Family Planning Research Fund
Sorenson Communications, Inc.
Terra Foundation for American Art
Mr. Christopher D. Wagner '94
ZP Better Together, LLC

NTID Annual Fundraising Results

Through the ongoing support of the NTID Foundation, the college's development program continues to be successful. The substantial sums that NTID raises demonstrate NTID's commitment to seeking alternative sources of public and private

support. In FY 2021, NTID development activity generated \$1,165,293 for endowment and restricted purposes. Of that amount, \$285,201 was matched with federal dollars and directed toward NTID's endowed scholarship funds.

| | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|--------------------------------|------------------|------------------|--------------------|------------------|--------------------|
| Endowment and Restricted Funds | \$683,466 | \$872,054 | \$1,337,139 | \$907,640 | \$1,165,293 |
| Equipment and Software | \$20,530 | \$40,717 | \$100,728 | \$29,243 | \$65,599 |
| Total | \$703,996 | \$912,771 | \$1,437,867 | \$936,883 | \$1,230,892 |



The PLAY Lab, which is funded by the James S. McDonnell Foundation and NTID, will open a new space at the Rochester School for the Deaf this winter. Dr. Rain Bosworth, assistant professor and principal investigator of the PLAY Lab, aims to investigate how different types of sensory experience shape the ways in which we perceive the world, with a particular emphasis on the study of infants and young children.

NTID Endowment Programs

A total of \$1,165,293, including matching federal funds* of \$285,201, was added to the Federal Matching Endowment Fund corpus in 2021. The market value of NTID's Federal Matching Endowment portfolio stands at \$87,812,481.

The market value of NTID's total endowments, which include privately raised funds prior to the establishment of the Federal Matching Endowment program, is \$119,737,049.

Value as of September 30, 2021

| | Contributed Value | Market Value |
|--|--------------------------|----------------------|
| Funds Subject to Federal Investment and Spending Guidelines | | |
| Private | \$2,929,369 | \$5,457,949 |
| Federal | \$2,214,544 | \$4,399,339 |
| Subtotal | \$5,143,913 | \$9,857,288 |
| Funds No Longer Subject to Federal Investment and Spending Guidelines | \$26,508,651 | \$77,955,193 |
| Total Federal Endowment | \$31,652,564 | \$87,812,481 |
| Other Endowments | Contributed Value | Market Value |
| Private | \$21,931,365 | \$31,924,568 |
| Total Endowments | \$53,583,929 | \$119,737,049 |

* Any monies matched must be funded through operating funds efficiencies.

Scholarships, Endowed Funds and Estate Commitments

The generosity of a large number of friends of NTID has resulted in the following scholarships, endowed funds and estate commitments benefiting NTID students.

Stephanie S. Albert Memorial Endowed Scholarship Fund
Kathleen M. Anderson Endowed Scholarship
Dorothy E. Ann Fund (D.E.A.F.) Endowed Scholarship Fund
Anonymous Endowed Scholarship for Undergraduate Students in Science and Mathematics
Anonymous Endowment for NTID Faculty Research in Science and Mathematics
Barlow Endowed Scholarship Fund
Alice Beardsley Memorial Endowed Scholarship Fund for Interpreting Students at NTID
Behm Family Endowed Support Fund in Student Innovation, Technology, and Research
Ned Behnke Memorial Endowed Scholarship Fund
Frank P. Benz Jr. Memorial Scholarship
Doris W. Blanchard Endowed Scholarship Fund
Jane D. Bolduc Endowed Scholarship
Farid Bozorgi Memorial Endowed Scholarship Fund
Andrew and Mary Brenneman Annual Scholarship
Gladys Brooks Endowed Fund for the Laboratory Science Technology Program
Johnnie Brown (JB) Black History Month Celebration Endowment
Dr. Gerard Buckley Student Leadership Endowment
Citicorp/Citibank Endowed Scholarship Fund at NTID
Dr. Karen K. Conner Annual Scholarship Fund
Continental Corporation Endowed Scholarship Fund at NTID
Lillian M. Cowin Memorial Endowed Scholarship Fund
Robert R. and Donna E. Davila Endowed Scholarship Fund
James J. DeCaro Endowed Scholarship Fund
James and Patricia DeCaro Endowed Scholarship
Delta Sigma Phi Fraternity Endowed Scholarship Fund
Ronald Dodge Faculty/Staff Grants Endowed Fund
Ronald Dodge Memorial Endowed Scholarship Fund
Dreyfus Foundation Laboratory Science Technology Endowed Student Support Fund
DSK Endowed Scholarship Fund
Mr. and Mrs. Joseph F. Dyer Endowed Scholarship Fund
Joseph F. and Helen C. Dyer Arts Center Endowed Fund
Max Factor Family Foundation Endowed Scholarship Fund
Barbara M. Fallon KPMG Memorial Endowed Scholarship Fund
Rose and George Feigenbaum Endowed Scholarship Fund

Scholarships, Endowed Funds and Estate Commitments (continued)

Ruth H. Fenyvessy Memorial Endowed Scholarship Fund
Curt and Jean Feuer Scholarship at NTID
Maurice and Maxine Forman Endowed Scholarship Fund
Ann Wadsworth Frisina Memorial Endowed Scholarship Fund
Dr. Robert Frisina Award
Max and Helene Frumkes Memorial Endowed Scholarship Fund
Garlinghouse Endowed Scholarship Fund
Warren Goldmann Endowed Scholarship Fund
Allen and Gloria Gopen Endowed Scholarship Fund
Debbe A. Hagner Endowed Lecture at NTID
Mildred F. Hall Endowed Scholarship Fund
Hamilton Relay Scholarship
Jennifer Van Atta Hayes Memorial Endowed Scholarship
William Randolph Hearst Endowed Scholarship Fund for Financially Disadvantaged Students
Dr. Mary Jane Hellyar Endowed Scholarship Fund
Frank Horton Endowed Scholarship Fund
William "Dummy" Hoy OTB Endowed Scholarship
T. Alan and Vicki T. Hurwitz Family Endowed Scholarship Fund
Ralph Hymes Endowed Scholarship Fund
Linda A. Iacelli Endowed Student Support Fund
Interpretek Endowed Scholarship Fund
Andrew Jacobson Endowed Scholarship Fund
Lucille Ritter Jennings Endowed Scholarship Fund
Jephson Educational Trust Endowed Scholarship Fund for the Performing Arts
JHB Anonymous Scholarship Fund
Johnson Scholarship Foundation Endowed Scholarship for Innovation and Entrepreneurship
Kaiser Family Endowed Scholarship
David T. Kearns Endowed Scholarship Fund for Technical Excellence
Ron and Lyn Kelly Endowed Scholarship for Deaf and Hard-of-Hearing Students
Drew and Frances King Endowment Fund
Sara L. Kuhnert Endowed Scholarship Fund
La Sala Foundation Doctoral Fellowship Fund
Johanna Larson Endowed Fund for Health Care Education
Johanna Larson Endowed Scholarship in the Allied Health Disciplines
Michael E. Lawson Endowed Scholarship
Edward H. Lichtenstein Memorial Endowed Scholarship Fund
Dr. Frank W. Lovejoy Jr. Endowment for Deafness Research

Scholarships, Endowed Funds and Estate Commitments (continued)

Edmund Lyon Memorial Lectureship Fund
Maguire Scholars Program at NTID
Dr. James C. Marsters Endowed Scholarship Fund
Martin Family Endowed Scholarship
Dr. Robert S. and Carol D. Menchel Endowed Scholarship Fund
Chris and Lisa Morgan Endowed Scholarship
Kevin Mowl Memorial Endowed Scholarship Fund
Mageeda Murad Endowed Scholarship Fund
Dr. Genji Murai Endowed Scholarship Fund
Mutterer Family Endowed Scholarship Fund
Alvina Narkin Endowment
M. L. Navrat Endowed Scholarship Fund for NTID
Ruth G. Norton Endowed Scholarship Fund
NTID Alumni Association Endowed Scholarship Fund
NTID Anonymous #12 Endowed Scholarship Fund
NTID Anonymous #21 Endowed Scholarship Fund
NTID Architectural Technology Award Endowed Scholarship Fund
NTID Business Careers Endowed Scholarship Fund
NTID Emergency EYF Student Scholarship Fund
NTID Endowed Scholarship in the Visual Arts Disciplines
NTID Foundation Endowed Scholarship Fund
NTID Performing Arts Endowed Scholarship Fund
NTID President and Dean's Scholarship for Academic Excellence
NTID Scholarship Fund
NTID Science and Engineering Careers Endowed Scholarship Fund
NTID Student Leadership Endowed Fund
NTID Visual Communications Endowed Scholarship Fund
NYS Federation of Home Bureaus, Inc. Endowed Scholarship Fund in Honor of Martha Perry
Milton H. and Ray B. Ohringer Endowed Scholarship Fund
Robert F. Panara Endowed Scholarship Fund
Shirley M. Panara Memorial Endowed Fund
Sally J. Pimentel Endowed Scholarship
Pulver Family Endowed Scholarship Fund
Marie L. Raman Endowed Award for Deaf and Hard of Hearing Students
Randleman Endowment for Interpreter Certification
Robert W. Rice Endowed Scholarship Fund

Scholarships, Endowed Funds and Estate Commitments (continued)

RIT Celebration of Community Endowed Fund
Mary Hope Robinson Endowment for the Performing Arts
Dr. Ellie Rosenfield Endowed Scholarship Fund
Rothman Family Endowment Fund
Elizabeth Dunlap Sargent Memorial Endowed Scholarship Fund
Ryoichi Sasakawa / James J. DeCaro Endowed Scholarship Fund
Edward L. Scouten Endowed Fund for English Literacy
Wilfrid and Isabel Searjeant Endowed Scholarship Fund
Shelby Center for Excellence Scholarship Fund
Mu Zeta Chapter of Sigma Nu Endowed Scholarship Fund
S. Richard Silverman Endowed Scholarship Fund for International Deaf Students
Carolie R. Simone Endowed Scholarship Fund
Edythe and Edward Sklar Endowed Scholarship Fund
David Smith Memorial Endowed Scholarship Fund
Benjamin J. Soukup Endowed Scholarship Fund
Sprint Endowed Scholarship Fund
Dr. Frank B. Sullivan Endowed Scholarship Fund
Frank B. Sullivan Exemplary Business Student Award
Frank B. Sullivan Outstanding Graduate Business Student Award
Frank B. Sullivan Outstanding Student in Business Award
Solon E. Summerfield Foundation Endowed Scholarship Fund
Michael A. Swartzman Memorial Endowed Scholarship Fund
Paul L. and Sally A. Taylor Endowed Scholarship Fund
Michael Thomas Endowed Scholarship Fund in the Performing Arts
Eloise Thornberry Endowed Scholarship Fund
W. Paul Urich Memorial Endowed Scholarship Fund
Al Van Nevel Memorial Foundation Scholarship for Excellence in Business Studies at NTID
James Ventimiglia Memorial Printing Award Endowed Fund
Elizabeth W. Williams Endowed Fund for the Performing Arts
Joseph C. and Loretta F. Wolf Endowed Scholarship Fund
Louis S. and Molly B. Wolk Foundation Endowed Scholarship Fund for Deaf Students at RIT
The Woman's Club of Rochester Endowed Scholarship Fund for Deaf Students at RIT
Women's Council Endowed Scholarship Fund for Deaf and Hard-of-Hearing Students at RIT
WSK Endowed Scholarship Fund
Wu/Liu Family Endowed Scholarship

Grants and Contracts

During FY 2021 NTID submitted 22 new grant proposals requesting a total of \$15,318,280 in funding. Nine of these proposals were funded for a total of \$4,285,177; eight proposals are still pending; five proposals were not funded.

As of September 30, 2021, the annual reimbursed expenditures of all grants and contracts at NTID totaled \$2,947,910 with a total value of \$14,407,294 over the lives of the projects.

| Project Title | Grant Provider | Year | Amount FY 2021 | Total Value |
|---|---|------|----------------|-------------|
| Rochester Prevention Research Center | Centers for Disease Control / University of Rochester | 2/5 | \$5,957 | \$8,932 |
| Mechanism of Health Literacy and Information Accessibility | National Institutes of Health | 5/5 | \$94,848 | \$703,947 |
| Facilitating Knowledge Building in Cooperative Learning of Statistics in Mixed Teams with Deaf/Hard of Hearing and Hearing Students | National Science Foundation | 6/6 | \$78,234 | \$499,830 |
| Parents Empowering Parents: National Research Center for Parents with Disabilities and their Families | Department of Health and Human Services / Brandeis University | 1/2 | \$46,845 | \$60,850 |
| IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing | National Science Foundation | 1/2 | \$8,925 | \$401,828 |
| RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students | National Science Foundation | 5/5 | \$32,008 | \$820,504 |
| Brief but Spectacular: New Windows into the Physics of Common Envelope Evolution | National Science Foundation | 1/3 | \$19,554 | \$296,190 |
| RIT-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates | National Institutes of Health | 4/5 | \$249,815 | \$971,109 |
| REU SITE: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences | National Science Foundation | 5/5 | \$82,038 | \$303,000 |
| Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Exposure | National Institutes of Health | 4/5 | \$429,211 | \$2,604,026 |
| DeafTEC Ready Project | National Science Foundation | 1/3 | \$6,508 | \$470,069 |
| World Around You: Project | USAID-United States Agency for International Development / World Vision | 1/2 | \$839 | \$228,814 |
| Pregnancy Outcomes and Experiences Among Deaf and Hard of Hearing Women | National Institutes of Health / Brandeis University | 4/5 | \$21,394 | \$70,796 |
| Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution | National Science Foundation | 4/4 | \$95,217 | \$349,882 |
| Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study | Society of Family Planning Research Fund | 1/3 | \$22,225 | \$72,549 |

Grants and Contracts (continued)

| Project Title | Grant Provider | Year | Amount FY 2021 | Total Value |
|--|---|------|--------------------|---------------------|
| Augmented Reality: Accessible Dynamic Informal STEM Learning for Deaf and Hard-of-Hearing | National Science Foundation | 4/4 | \$117,429 | \$258,861 |
| World Around You: International Collaborative Multilingual Sign Language Books | United States Agency for International Development / World Vision | 2/2 | \$115,049 | \$236,956 |
| Establishment of Centers of Employment for the Deaf in the Philippines and Vietnam | The Nippon Foundation | 1/2 | \$424 | \$464,814 |
| DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM | National Science Foundation | 3/3 | \$70,289 | \$299,347 |
| AccessATE: Making Community College Technical Education More Accessible for Everyone | National Science Foundation | 3/3 | \$23,840 | \$139,475 |
| DeafTEC Resource Center | National Science Foundation | 4/4 | \$478,414 | \$1,649,928 |
| Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students | National Institutes of Health / University of Rochester | 3/5 | \$248,215 | \$699,847 |
| MITRE FCC Telecommunications Relay Services (TRS) – Tasks 1-6 | Center for Medicare & Medicaid Services/ MITRE Corporation | 3/3 | \$637,776 | \$2,501,521 |
| Lost in Translation: Removing barriers for deaf participation in STEM fields | Gordon and Betty Moore Foundation | 3/4 | \$62,856 | \$294,219 |
| Total | | | \$2,947,910 | \$14,407,294 |