



RIT


**National
Technical
Institute for
the Deaf**

2023

Annual Report

2023 Annual Report

National Technical
Institute for the Deaf



Note of Explanation

This Annual Report notes activities and accomplishments throughout Fiscal Year 2023 (October 1, 2022 - September 30, 2023), corresponding primarily to Academic Year 2022-2023. References to Fiscal Year 2024 correspond to characteristics and accomplishments as of fall semester Academic Year 2023-2024.

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

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December 22, 2023

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 2023, RIT continued its upward trajectory to becoming the foremost university in the nation integrating technology, the arts, and design, surpassing its \$1 billion several-year fundraising goal in March and receiving more than \$94 million in sponsored research awards. NTID students continued to take advantage of their host institution, with students creating and innovating in RIT's new Student Hall for Exploration and Development (SHED). We have also reached a milestone with the first two NTID-supported students receiving their Ph.D.s at RIT.

We are pleased to report that, once again, NTID students had persistence rates and graduation rates on par with or higher than the national persistence and graduation rates for all students, hearing and otherwise, at two- and four-year colleges. For the second year in a row, NTID students had a 96% employment rate (students who graduated in 2022 and were employed in 2023). NTID also continued to expand its service to the community, both immediate and worldwide. Whether providing Deaf Culture programming at local museums (Strong National Museum of Play and Rochester Museum & Science Center), ensuring the PGA Championship in Rochester had ASL interpreting for the first time in its history, bringing Fortune 500 companies, alumni, and advocates together for the Deaf Employment Summit, or earning a \$1 million NSF grant to improve emergency resources and services for deaf and hard-of-hearing individuals, NTID and its graduates are leading the charge for inclusion in the workplace and beyond.

For 55 years, RIT and NTID have provided an unparalleled professional and technical education for deaf and hard-of-hearing students, and throughout it all, support from the U.S. Department of Education and Congress has remained steadfast. We appreciate the Department's guidance and feedback on our FY 23 efforts, which can also be found online here: 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

Ruth Mendoza, of Kenner, Louisiana, flashes a smile as she walks the stage during NTID's commencement ceremony in May 2023. Mendoza graduated with an AAS in Applied Computer Technology and is currently pursuing a BS in Applied Arts and Sciences at RIT.

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.

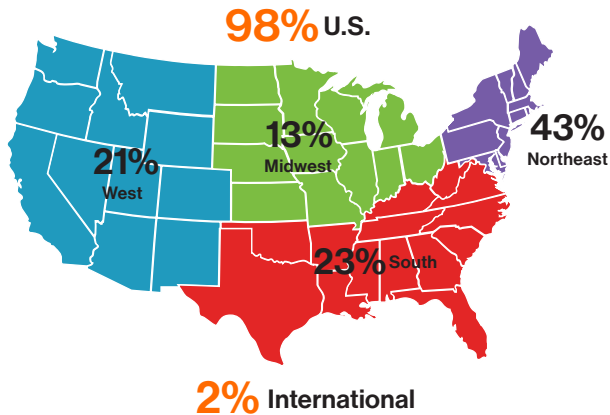
NTID by the Numbers

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.

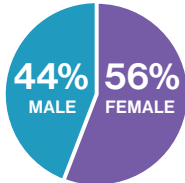
Student Enrollment

1,129 TOTAL ENROLLMENT

BREAKDOWN BY GEOGRAPHIC REGION:



BREAKDOWN BY GENDER:



MORE THAN **10,000** ALUMNI



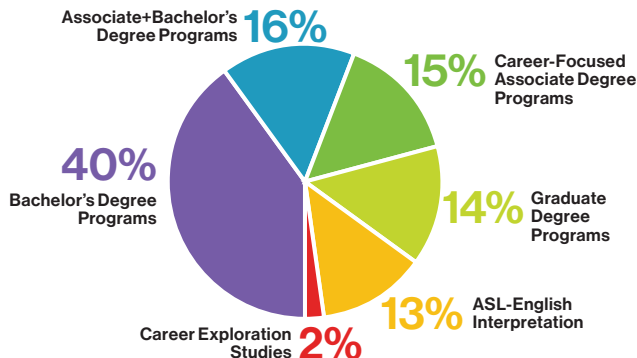
37% of RIT/NTID students are eligible for Pell Grants

Growing Diversity

50% of RIT/NTID deaf and hard-of-hearing students are from a minority background



Academics



Employment/Earnings After College

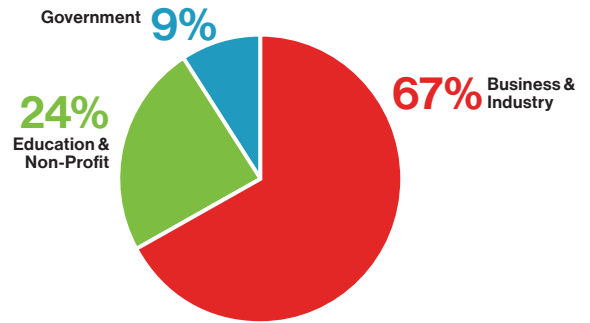
204 STUDENTS COMPLETED A CO-OP LAST YEAR

New RIT/NTID grads are ready to succeed



96% of students who sought jobs after graduation found one within a year

New RIT/NTID alumni thrive in all economic sectors



Employers include:

Abbott Labs; Boeing; Caterpillar; Citi; Dow Chemical; Fidelity Investments; MWI, Inc.; National Institutes of Health; U.S. Naval Research Lab; Walt Disney World

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

Student Access Services

Hours provided

	In Classroom	Outside Classroom
Interpreting	86,535	38,029
Captioning	26,270	1,364
Notetaking	43,522	

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 2022 is 96%. 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 on par with or higher than the national rates for two- and four-year colleges.
- In October 2022, NTID's Department of Performing Arts hosted the 2022 Deaf Play Creators Festival, featuring filmed performances of two plays, *Plumb Crazy Pipe Dream* by Aimee Chou and *Pushing Buttons* by Robert Roth.
- In fall 2022, NTID renewed a partnership with the Environmental Protection Agency, enabling NTID students to benefit from enhanced educational and career opportunities in the environmental sciences.
- In February 2023, NTID alumnus and actor Daniel Durant, star of the Academy Award-winning film "CODA" and contestant on "Dancing with the Stars," visited NTID for a special screening of "CODA" and workshops with Performing Arts students.
- NTID received a Big Read grant from the National Endowment of the Arts to offer programming related to one of the Big Read books, *Deaf Republic*. In April 2023, NTID and area libraries hosted art exhibits, poetry readings, book club discussions, and events with the author, Ilya Kaminsky.
- In May 2023, via a partnership with NTID, the PGA of America had ASL interpreters through the week-long PGA Championship at Oak Hill Country Club in Rochester.
- In May 2023, NTID was awarded a three-year renewal grant of \$1,649,965 for the DeafTEC Resource Center that will continue to help increase the number of deaf and hard-of-hearing individuals in highly skilled technician jobs.
- In 2023, the first-ever NTID-supported students earned Ph.D.s at RIT: Abraham Glasser and Matthew Seita, both in Computing and Information Sciences.
- In June 2023, NTID hosted the Deaf Employment Summit in partnership with Gallaudet University, Communication Service for the Deaf, and the National Association of the Deaf, bringing together human resources professionals, advocates, and policy makers to identify strategies for improving the quantity and quality of employment opportunities for deaf and hard-of-hearing individuals.
- NTID's all-Deaf production house, Morpheyes Studio, produced a feature film, "INSPIRED," which has garnered numerous awards at film festivals around the world.
- More than half (51%) of NTID's fall 2023 new students, excluding MS in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) and interpreting programs, are from minority groups. Excluding MSSE and interpreting programs, 50% of the total enrolled student body is from minority groups.
- In recent years, NTID's MSSE program has expanded online options to help address the nationwide need for more teachers in Deaf Education. FY 24 MSSE enrollment is 82, an increase of 60 students from its FY 20 enrollment of 22 students.
- In September 2023, RIT was one of 19 teams to earn a \$1 million award through the National Science Foundation Civic Innovation Challenge for its proposal, "Bridging the Gap between Essential Emergency Resources and Services and the Deaf and Hard of Hearing Community in Monroe County, NY: A Geospatial-Visual Approach." RIT and NTID researchers will develop the nation's first Deaf community hazard-mapping geospatial toolkit called "Deaf Map" to empower deaf and hard-of-hearing communities to identify, characterize, map, and communicate community hazards with public service agencies.

Executive Summary

New Fall Registrations*	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Deaf and Hard-of-Hearing Students	246	248	273	237	259
ASL-English Interpretation	51	48	48	41	42
Community Development and Inclusive Leadership	N/A	N/A	N/A	0	1
MS in Secondary Education	8	22	28	38	36
Total New Registrations	305	318	349	316	338
Enrollment (Deaf and Hard-of-Hearing Students Only)					
Career Exploration Studies (CES)	31	25	33	26	16
Sub-Baccalaureate Programs					
Career-Focused Programs	218	201	193	172	172
Associate+Bachelor's/Pre-Baccalaureate	171	173	177	182	178
Subtotal CES and Sub-Baccalaureate	420	399	403	380	366
Undergraduate Programs at RIT	470	421	455	468	448
Graduate Programs at RIT	53	66	71	56	70
Subtotal Undergraduate and Graduate at RIT	523	487	526	524	518
Subtotal Deaf and Hard-of-Hearing Students Only	943	886	929	904	884
Other Enrollments					
ASL-English Interpretation	155	170	168	144	144
Community Development and Inclusive Leadership	N/A	N/A	N/A	3	8
MS in Health Care Interpretation	9	11	13	12	11
MS in Secondary Education	22	34	56	72	82
Subtotal Other Enrollments	186	215	237	231	245
Total Deaf and Hard-of-Hearing Enrollment	953	908	970	946	930
Total Enrollment	1,129	1,101	1,166	1,135	1,129

* 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 2019	FY 2020	FY 2021	FY 2022	FY 2023
Withdrawn (All Students)	17%	15%	17%	17%	16%
Degrees Granted					
Total	292	319	235	275	277
<i>Degree Level</i>					
Certificate	1	1	1	0	1
Associate (AOS)	22	28	18	17	13
Associate (AS/AAS)	78	82	54	54	56
Bachelor's (Interpreting)	35	23	30	44	29
Bachelor's	126	152	96	109	113
Advanced Certificate	0	0	1	3	1
Master's	17	15	24	25	26
Master's (MS Health Care Interpretation)	8	8	5	4	8
Master's (MSSE)	5	10	6	19	28
Doctorate (Ph.D.)	0	0	0	0	2
Post-Graduation Employment					
Post-Graduation Employment	116	124	92	112	N/A*
Post-Graduation Employment Rate	95%	95%	96%	96%	N/A*
<i>By Sector of the Economy</i>					
Business and Industry	77%	72%	67%	67%	N/A*
Education/Non-Profit	16%	21%	25%	24%	N/A*
Government	7%	7%	8%	9%	N/A*
Cooperative Work Experiences	232	181	218	209	204
Access/Support Services					
Notetaking Hours	47,181	40,475	30,263	39,989	43,522
Tutoring Hours	8,369	12,025	10,993	10,634	8,954
Interpreting Hours	145,284	118,240	117,831	132,176	124,564
Real-Time Captioning Hours	25,978	21,856	27,744	32,317	27,634

* Post-graduation employment numbers reflect status as of one year following graduation; employment numbers for September 1, 2022 through August 31, 2023 graduates will be reported next year.

Executive Summary (continued)

Outreach (Number of External Participants)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Career Exploration Series	N/A	N/A	N/A	N/A	1,040
Computer Science Week	26	N/A	N/A	N/A	N/A
Create Your Future	23	N/A	N/A	N/A	N/A
Digital Arts, Film and Animation	18	1	37	4	13
Explore Your Future	212	136	137	117	149
Health Care Careers Exploration Program	21	N/A	N/A	N/A	14
Health Science Week	20	N/A	N/A	N/A	N/A
Math Competition	168	N/A	74	107	106
NTID Co-op and Career Center	266	163	1,462	479	506
NTID Regional STEM Center	7,685	5,122	6,473	9,259	12,164
Project Fast Forward	158	306	196	252	274
SpiRIT Writing Contest	19	16	12	5	33
STEM Days	N/A	N/A	N/A	N/A	344
STEM Trivia	N/A	N/A	N/A	N/A	47
Steps to Success	19	N/A	N/A	N/A	N/A
Tech Tigers	51	N/A	N/A	48	56
Virtual Science Fair	N/A	N/A	N/A	N/A	236
Financial Aid (Domestic Students)					
Grant-in-Aid	\$1,588,692	\$1,660,043	\$2,076,082	\$2,199,614	\$2,270,865
Vocational Rehabilitation	8,951,676	8,409,863	7,679,659	7,375,278	7,978,755
Pell Grants	2,492,605	2,353,799	2,215,865	2,479,200	2,515,133
State Grants	483,487	511,115	522,350	517,474	521,881
Federal Loans	3,246,844	2,936,663	2,417,667	2,814,436	2,569,472
Scholarships and Other	4,898,701	4,848,736	5,745,909	7,427,511	8,588,473
Total Financial Aid	\$21,662,005	\$20,720,219	\$20,657,532	\$22,813,513	\$24,444,579
Average Aid per Domestic Student (Excluding Loans)*	\$17,022	\$16,330	\$17,031	\$17,667	\$19,905

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

Executive Summary (continued)

Domestic Student Rates*	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Tuition	\$17,162	\$17,814	\$18,330	\$18,926	\$19,778
Room	7,902	8,140	8,392	8,728	9,032
Board	5,800	5,836	6,040	6,250	6,484
Fees	646	676	726	798	880
Total	\$31,510	\$32,466	\$33,488	\$34,702	\$36,174

Fundraising Activity

Cash to Endowment and Restricted Funds	\$907,640	\$1,165,293	\$1,346,832	\$1,335,420	**
Equipment and Software	\$29,243	\$65,599	\$140,990	\$0	**
Federal Funds Matched***	\$353,855	\$285,201	\$354,669	\$405,767	**



RIT's tiger mascot, RITchie, high-fives a new student during RIT's Tiger Walk, a hallmark of New Student Convocation.

* 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, and 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, and 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. Published at USPTO, August 5, 2021,

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):

Fiscal Year	Total Enrollment
2015	1,387
2016	1,413
2017	1,300
2018	1,262
2019	1,182
2020	1,129
2021	1,101
2022	1,166
2023	1,135
2024	1,128

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
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
2023	1,045	851	Target Not Met
2024	1,045	821	Target Not Met

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. Evidence cited included the transmission of VR resources out of state, and widely reported declines in community college enrollment across the country.

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
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
2023	388	463	851
2024	366	455	821

As seen in the above table, NTID experienced a decrease in the undergraduate enrollment of students who are deaf and hard of hearing from 851 students during AY 2022-2023 (FY 2023) to 821 students in AY 2023-2024 (FY 2024).

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
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
2023	140	144	Target Surpassed
2024	140	144	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 2024 (AY 2023-2024) is 144. 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
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
2023	95	140	Target Surpassed
2024	95	163	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 2024 (2023-2024 academic year), NTID had a total of 82 students in the MSSE program, 11 students in the Health Care Interpretation program, and 70 deaf and hard-of-hearing students in other RIT graduate programs. FY 2017 marked the first year where students enrolled in NTID's Master of Science in Health Care Interpretation were included.

Performance Indicators (continued)

Objective 2 of 4

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

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
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	75	63.9	Target Not Met
2019	75	65.1	Made Progress From Prior Year
2020	75	68.3	Made Progress From Prior Year
2021	75	70.2	Made Progress From Prior Year
2022	75	75.0	Target Met
2023	75	61.6	Target Not Met

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In November 2023, NTID reported to the Department the FY 2022 persistence rate of its sub-baccalaureate students who returned from the 2021-2022 academic year to their second academic year in 2022-2023. NTID additionally reported the same outcome, for sub-baccalaureate students who returned from the 2022-2023 academic year to their second academic year in 2023-2024.

Target Context: In 2023, NTID learned from the Department that the target for the persistence rate of NTID's sub-baccalaureate students had changed from 70.0 to 75.0, beginning in 2018, but the change had not been included in Department communications. In November 2023, NTID changed the targets from 2018-2022 to reflect these changes and made any resulting status changes. Comparisons with IPEDS data for two-year institutions indicate that NTID's two most recent persistence rates of 75.0% and 61.6% for sub-baccalaureate students are higher than the rates for these institutions. Two-year institutions have an average persistence rate of 61.2%.

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
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	90	80.7	Target Not Met
2019	90	93.3	Target Surpassed
2020	90	88.3	Target Not Met
2021	90	83.7	Target Not Met
2022	90	84.3	Made Progress From Prior Year
2023	90	89.8	Made Progress From Prior Year

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In November 2023, NTID reported to the Department the FY 2022 persistence rate of its baccalaureate students, including interpreter students, who returned from the 2021-2022 academic year to their second year in 2022-2023 academic year, along with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and interpreter education students. (Prior to FY 2008, this measure did not include interpreter education students.) NTID additionally reported the same outcome, for baccalaureate students who returned from the 2022-2023 academic year to their second academic year in 2023-2024.

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 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%
FY 2021	83.7%	82.1%	88.0%
FY 2022	84.3%	84.8%	80.0%
FY 2023	89.8%	88.2%	95.7%

Target Context: In 2023, NTID learned from the Department that the target for the persistence rate of NTID's baccalaureate students had changed from 87.0 to 90.0, beginning in 2018, but the change had not been included in Department communications. In November 2023, NTID changed the targets from 2018-2022 to reflect these changes and made any resulting status changes. Comparisons with IPEDS data for

Performance Indicators (continued)

four-year institutions indicate that NTID's most recent persistence rates of 84.3% and 89.8% for baccalaureate students are higher than the rates for these institutions. Four-year institutions have an average persistence rate of 80.6%.

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
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	53.2	Target Surpassed
2021	41	42.8	Target Surpassed
2022	41	44.4	Target Surpassed
2023	41	36.1	Target Not Met

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In November 2023, NTID reported to the Department the FY 2022 percentage of its sub-baccalaureate students (those who were initially enrolled in the 2016-2017 academic year), who graduated within 150% of the program-based length of time. NTID additionally reported the same outcome, for sub-baccalaureate students who initially enrolled in the 2017-2018 academic year.

Target Context: The target for the graduation rate of NTID's sub-baccalaureate students is 41%. Comparisons with IPEDS data for two-year institutions indicate that NTID's graduation rates of 44.4% and 36.1% for sub-baccalaureate students is higher than the rates for these institutions. Two-year institutions have an average graduation rate of 34.6%.

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.

Performance Indicators (continued)

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
2014	63	69.5	Target Surpassed
2015	64	76.2	Target Surpassed
2016	65	74.5	Target Surpassed
2017	65	70.3	Target Surpassed
2018	65	79.6	Target Surpassed
2019	76	80.6	Target Surpassed
2020	76	72.4	Target Not Met
2021	76	67.0	Target Not Met
2022	76	73.8	Made Progress From Prior Year
2023	76	63.9	Target Not Met

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In November 2023, NTID reported to the Department the FY 2022 percentage of its baccalaureate students (those who enrolled in the 2016-2017 academic year), including interpreter education 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 interpreter education students. NTID additionally reported the same outcome, for baccalaureate students who initially enrolled in the 2017-2018 academic year.

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 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%
FY 2021	67.0%	66.7%	68.0%
FY 2022	73.8%	73.3%	75.0%
FY 2023	63.9%	61.5%	72.2%

Target Context: In 2023, NTID learned from the Department that the target for the graduation rate of NTID's baccalaureate students had changed from 65.0 to 76.0, beginning in 2019, but the change had not been included in Department communications. In November 2023, NTID changed the targets from 2019-2022 to reflect these changes and made any resulting status changes. Comparisons with IPEDS data indicate that NTID's most recent baccalaureate student graduation rates of 73.8% and 63.9% compare favorably to those of other four-year institutions, which have an average graduation rate of 64.0%.

Performance Indicators (continued)

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.

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 2022, a total of 203 deaf and hard-of-hearing students graduated from NTID. Valid data existed one year later on 188 graduates. Of the 188 graduates, 112 students were employed (60%), 68 students were in higher education or training (36%), and eight students were not employed or in higher education or training (4%). Of the eight students not employed or in higher education or training, five were actively looking for work.

Category of Graduate	Count
Employed	112
Unemployed (Seeking Employment)	5
Not Seeking Employment	3
Education (Within RIT)	54
Education (Outside RIT)	14
Unknown	15
Total	203

Performance Indicators (continued)

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
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
2021	50	54	Target Surpassed
2023	50	60	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.

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
2013	94
2014	94
2015	94
2016	94
2017	96
2018	95
2019	95
2020	95
2021	96
2022	96

Performance Indicators (continued)

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
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
2021	45	41	Made Progress From Prior Year
2022	45	36	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.

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.

Performance Indicators (continued)

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
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
2021	5	5	Target Met
2022	5	4	Target Surpassed

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

In spring 2022, the Department proposed a new measure of operational efficiency in replacement of “Objective 4: Improve the efficiency of operations at NTID as defined by the cost per successful student outcome, where the successful outcome is graduation,” which was too reliant on enrollment (already measured in Objective 1) and federal appropriations (over which NTID has no control). The Department, in consultation with NTID, proposed a new measure to look at graduation rates supported by federal funding. In November 2023, NTID reported that information for the first time.

The percentage of students supported with NTID funding* who graduated.

Measure 4.1 of 1: The percentage of students supported with NTID funding* who graduated					
Cohort	Graduate within 100% of Normal Time	Graduate within 150% of Normal Time	Graduate within 200% of Normal Time	Still Enrolled	Not Enrolled
Associate	0.8% ¹	25.4% ²	43.2% ³	6.1% ³	50.7% ³
Bachelor	59.6% ³	67.0% ⁴	70.9% ⁵	0 ⁵	29.1% ⁵

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

Frequency of Data Collection: Annual

Data Quality: In November 2023, NTID reported to the Department the graduation rates associated with associate and bachelor first-time, full-time cohort students at different intervals and across multiple cohorts. Reported data are as most recently available at each interval, and further described in the following section. The cohort years reported in the table above are associated with students entering in: fall 2020¹, fall 2019², fall 2018³, fall 2015⁴, and fall 2013⁵.

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: At the cohort level, it is important to acknowledge the soonest available data as a function of greatest program length within the degree level reported, and at the time of reporting. NTID offers both two-year and two-and-a-half year programs, as well as a pathway categorized as associate degree-seeking but leads to the completion of a bachelor degree (pre-baccalaureate).

- Associate cohort students are considered graduates within 100% of normal time if they complete their degree requirements within the specified program length of time, which in the case of the fall 2020 cohort reported above, suggests an on-time graduate in a two-year program as having completed their degree requirements before the fall 2022 semester, and for two-and-a-half-year program students by the end of the fall 2022 semester.
- Associate cohort students are considered graduates within 150% of normal time if they complete their degree requirements in:
 - Three years for those in two-year programs; and
 - Four years for those in two-and-a-half-year programs.
 Please note that 150% of a two-and-a-half-year program results in three and three-quarter years, and NTID has rounded up to enable an even interval of measurement. In the case of the fall 2019 cohort reported above, the 150% graduation rate is the aggregation of those two-year program

* “Supported with NTID funding” is defined as a student who is supported, either partially or fully, by Federal funds made available under The Education of the Deaf Act.

Performance Indicators (continued)

students graduating before the fall 2022 semester, and for two-and-a-half-year program students before the fall 2023 semester.

- Associate cohort students are considered graduates within 200% of normal time if they complete their degree requirements in:
 - Four years for those in two-year programs; and
 - Five years for those in two-and-a-half-year programs.

In the case of the fall 2018 cohort reported above, the 200% graduation rate is the aggregation of those two-year program students graduating before the fall 2022 semester, and for two-and-a-half-year program students before the fall 2023 semester. All remaining students from the fall 2018 cohort are summarized as either still enrolled or not enrolled at RIT.

It also is important to acknowledge that associate cohort students may later pursue a bachelor's degree, though only after initial placement within an associate degree program. Their acceptance into the higher degree level *may* take place prior to the first degree certification and after their outcome has been reported above. This creates the possible scenario whereby a student is reported as a non-graduate in Measure 4.1, but a graduate in Measure 2.3 and is a result of the timeframe with which cohort students are reported.

NTID-supported students also enroll in other colleges at RIT and at the bachelor's degree level. RIT offers both four- and five-year programs.

- Bachelor cohort students are considered graduates within 100% of normal time if they complete their degree requirements within the specified program length of time, which in the case of the fall 2018 cohort reported above, suggests an on-time graduate in a four-year program as having completed their degree requirements before the fall 2022 semester, and for five-year program students by the end of the fall 2023 semester.
- Bachelor cohort students are considered graduates within 150% of normal time if they complete their degree requirements in:
 - Six years for those in four-year programs; and
 - Seven-and-a-half years for those in five-year programs.

In the case of the fall 2015 cohort reported above, the 150% graduation rate is the aggregation of those four-year program students graduating before the fall 2021 semester, and for five-year program students by the end of the fall 2022 semester.

- Bachelor cohort students are considered graduates within 200% of normal time if they complete their degree requirements in:
 - Eight years for those in four-year programs; and
 - Ten years for those in five-year programs.

In the case of the fall 2013 cohort reported above, the 200% graduation rate is the aggregation of those four-year program students graduating before the fall 2022 semester, and for five-year program students before the fall 2023 semester. All remaining students from the fall 2013 cohort are summarized as either still enrolled or currently not enrolled at RIT.

Strategic Planning



Greatness Through Difference, RIT's strategic plan for 2018-2025, as well as NTID's *Antiracism and Social Justice Plan*, are the primary guides for NTID's next strategic plan.

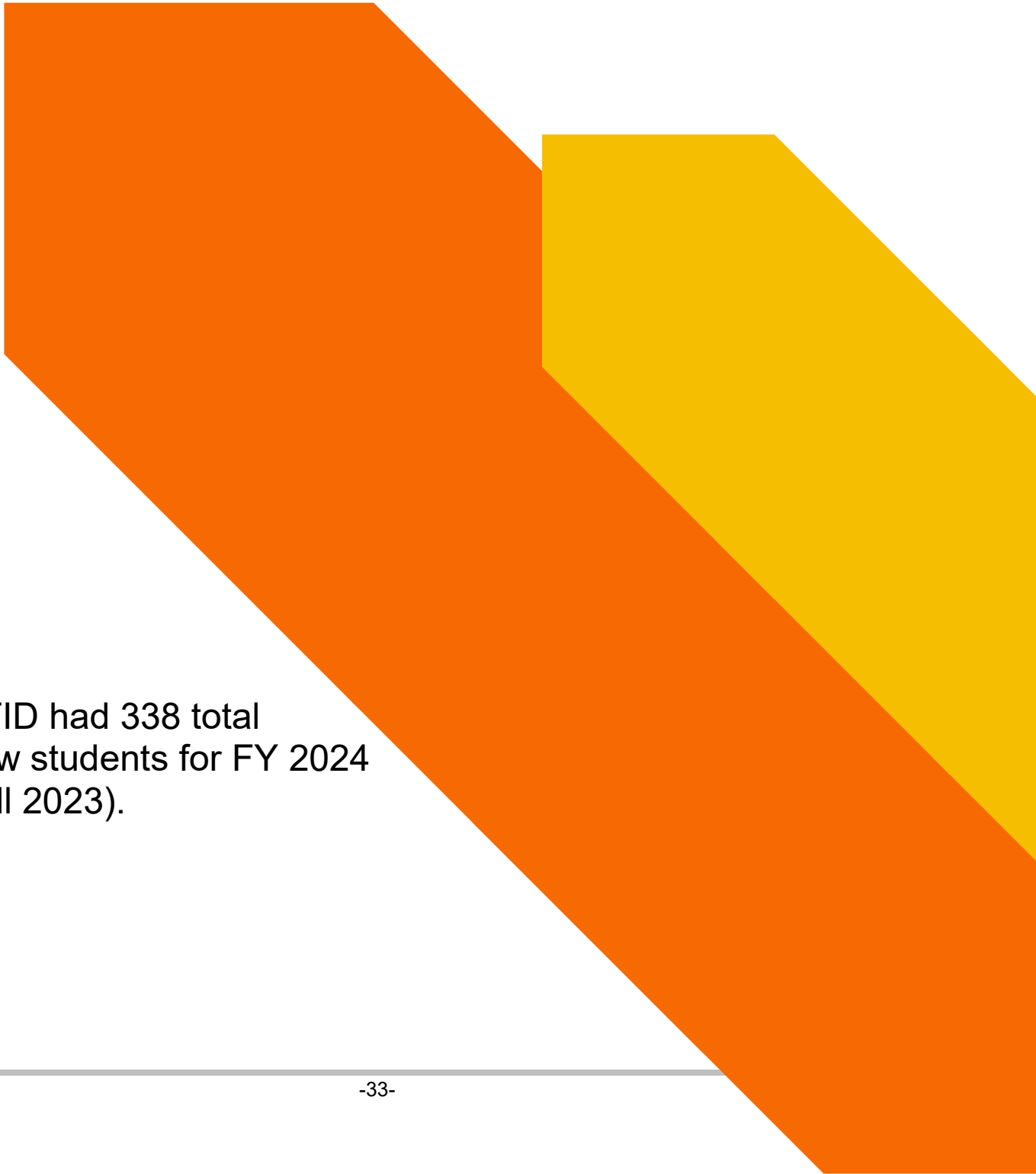
Strategic Planning

NTID is keeping track of RIT's revisions of its strategic plan: *Greatness Through Difference* (rit.edu/strategicplan/). Since NTID's plan needs to align with the timeline and objectives of the larger strategic plan for RIT, NTID is waiting 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.



Natnail Tolossa, a Computing and Information Technology major from Bethesda, Maryland, interacts with prospective employers at NTID's Career Fair.

Admissions and Enrollment



NTID had 338 total new students for FY 2024 (fall 2023).

Admissions and Enrollment Highlights

Fall 2023 recruitment cycle felt more like past cycles with 281 confirmed school visits, lower than the 10-year average of more than 400 schools, but much improved in comparison to the past two pandemic-impacted years (165 in 2022). NTID Admissions still experienced the lingering effects of the pandemic as well as nationwide school personnel issues. Student enrollment yield was positive, despite the challenges and is believed to be the result of NTID appeals and personalized connections with students, families, and stakeholders. Visits were positive with schools for the deaf and established deaf and hard-of-hearing programs, but not at schools where students were the only or among a handful of deaf and hard-of-hearing students. Schools were, for the most part, non-responsive or guarded about taking students out of the classroom for an individualized visit. Additional factors were confidentiality laws, the known shortage of itinerant teachers of the deaf and hard of hearing, gaps in student accessibility plans (i.e., 504, IEPs), and lack of awareness among students who do not necessarily identify as deaf or hard of hearing but are. Admissions continued to host webinars on a variety of topics (e.g., mini-open houses, campus/housing tours, Vocational Rehabilitation/financial aid and scholarships, and student panels). Videos of an admission presentation were sent to parents, schools, and students who could not attend the virtual events as well as to those students who did attend, to share with others along with links to the RIT/NTID website. On-campus events were at full strength with open houses and personalized visits.

The number of new* students entering NTID in fall 2023 was 338. The total included 230 deaf and hard-of-hearing first-year and transfer students, 48 deaf and hard-of-hearing graduate students (17 in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing [MSSE] and 31 in other RIT colleges) and 60 hearing students (41 in the ASL-English Interpretation program and 19 in the MSSE program).

Total enrollment was 1,129 compared to 1,135 for last year:

	Total
Undergraduate Programs	
Career Exploration Studies	16
Career-Focused Associate Programs	172
Associate+Bachelor's Programs and Pre-Baccalaureate	178
Baccalaureate (ASL-English Interpretation)	144
Baccalaureate (Community Development and Inclusive Leadership)	8
Programs in Other RIT Colleges	448
Subtotal NTID Undergraduate Programs	966
Graduate Programs at RIT	70
MSSE	82
MS Health Care Interpretation	11
Total Enrolled Students	1,129

NTID's student population remains strong in both ethnic and geographic diversity. Minority students represent 48% of this year's fall 2023 entering class, compared to 46% of the total NTID student body. Entering domestic students come from all over the country, with 21% from the West, 20% from the South, 13% from the Midwest, and 46% from the Northeast. In addition, NTID enrolled eight new international students. The total number of international students is 30, or 2.7% of the entire student population.

In summary, NTID registered 338 new* students and is serving a total of 1,129 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 69.8% of applications. Registrations were 275, achieving a yield rate of 62.5%.



	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Applicants	575	632	601	593	630
% Increase or Decrease from Previous Year	+7.9%	+9.9%	-4.9%	-1.3%	+6.2%
Accepted Applicants	418	458	438	415	440
% Increase or Decrease from Previous Year	+5.6%	+9.6%	-4.3%	-5.3%	+6.0%
Acceptance Rate (% of Total Applicants)	72.7%	72.4%	72.9%	70.0%	69.8%
Registrations	247	262	269	248	275
Yield Rate (Registrations as a % of Accepted Applicants)	59.0%	57.2%	61.4%	58.4%	62.5%

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

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 2023, and 152 continued on to register for fall semester 2023 (FY 2024).

	Number of Students*				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
SVP Students Accepted	261	269	241	214	240
SVP Students Registered at Start of Program	151	149	155	122	155
SVP Students Registered in Academic Programs for Fall Term	147	145	152	122	152



Of the 155 SVP students registered in summer 2022, 152 registered for classes at NTID in fall 2023.

* 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 (144), deaf, hard-of-hearing, or hearing students enrolled in the Master of Science program

in Secondary Education (82), or students enrolled in the Master of Science in Health Care Interpretation (11). 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 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%	*	*	*	842	+4.34%	-9.36%	335	0.00%	122	-19.74%
FY 23: Oct. 22-Sep. 23	906	-2.48%	*	*	*	793	-5.81%	-12.47%	287	-14.43%	152	24.59%
FY 24: Oct. 23-Sep. 24	890	-1.77%	*	*	*							

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, 94% 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 2020	FY 2021	FY 2022	FY 2023	FY 2024		
					Percent	Number	
						Full-Time	Total
Career Exploration	100%	100%	100%	100%	100%	16	16
Career-Focused and Associate+Bachelor's Degrees	94%	96%	97%	97%	96%	325	337
Pre-Baccalaureate	100%	94%	91%	100%	93%	14	15
Baccalaureate and Graduate	93%	93%	90%	87%	93%	482	516
ASL-English Interpretation	97%	96%	98%	98%	99%	142	144
Community Development and Inclusive Leadership	N/A	N/A	N/A	100%	100%	8	8
Master of Science in Health Care Interpretation	22%	9%	0%	0%	0%	0	11
Master of Science in Secondary Education (MSSE)	91%	100%	88%	90%	85%	70	82
Overall	94%	94%	92%	91%	94%	1,057	1,129

International Student Recruitment*

This year, applications from international students numbered 71 and, of those, 15 were accepted and six 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 2020	FY 2021	FY 2022	FY 2023	FY 2024
Africa	16	19	24	21	22
Asia	24	13	23	29	32
Australia/Oceania	0	0	0	1	0
Europe	2	4	6	2	1
North America	13	2	9	9	12
South America	0	1	1	1	4
Total Applicants	55	39	63	63	71
Accepted Applicants	22	9	22	15	15
Acceptance Rate (Percent of Total Applicants)	40%	23%	35%	24%	21%
New Registrations	4	6	5	8	6
Yield Rate (New Registrations as a Percent of Accepted Applicants)	18%	67%	23%	53%	40%
Returning International Students	39	25	25	18	19
Total Enrollment (Returning International Students plus New Registrations)	43	31	30	26	25

* 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 2024 remains consistent with the previous year's profile.*

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Characteristics of Entering Students					
Gender					
Male	50%	51%	52%	54%	56%
Female	50%	49%	48%	46%	44%
Mean Age at Entry					
	21	20	21	20	20
Origin of Entering Students					
United States by Region: 100% of U.S. students distributed across four regions					
West	17%	16%	14%	18%	21%
Midwest	12%	21%	12%	12%	13%
South	27%	23%	29%	26%	23%
Northeast	44%	40%	45%	44%	43%
Distribution of United States and International Students					
United States	98%	98%	98%	97%	98%
International	2%	2%	2%	3%	2%
School Background of Entering Students					
First Time in College	80%	80%	81%	85%	76%
Transfer from Other Colleges	13%	9%	8%	9%	12%
Graduate Students	7%	11%	10%	6%	12%

* 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 2024*		
	International	U.S.	Overall
Demographics			
Gender			
Male	74%	51%	52%
Female	26%	49%	48%
Program Area			
Career Exploration	0%	2%	2%
Career-Focused Associate Degrees	47%	20%	21%
Associate+Bachelor's Degrees	11%	22%	22%
Programs in Other RIT Colleges	42%	56%	55%
FY 2024 Status of Students Enrolled FY 2023			
Still Registered	73%	69%	69%
Withdrawn	9%	19%	18%
Graduated	18%	12%	12%



Truc Nguyen, second from left, from Viet Nam, and Surya Sahetapy, fourth from left, from Indonesia, show off their MS in Secondary Education of Students who are Deaf and Hard of Hearing degrees with visiting assistant professor Dr. David Meek, far right.

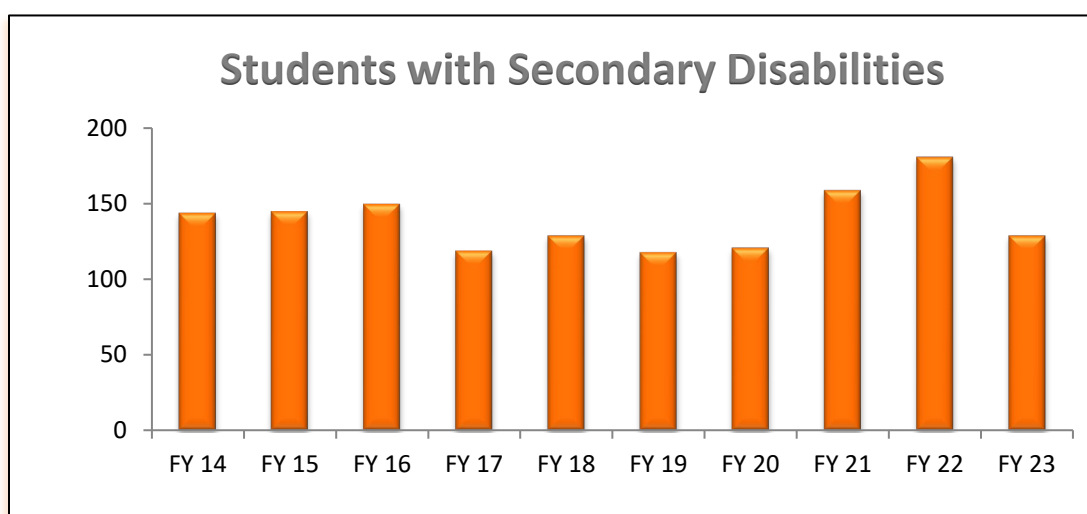
* Undergraduate students only. Figures reported do not include students in the ASL-English Interpretation program, the Master of Science program in Health Care Interpretation, or the Master of Science program in Secondary Education. Specific data on these students is reported in the section on Academic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

Students with Secondary Disabilities

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 2024 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.

Number and Percent of Students Receiving Secondary Disability Services			
Fiscal Year	Total Deaf Students*	Students with Secondary Disabilities	Percent
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%
2022	861	181	21%
2023	850	129	15%



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

Origin of Students

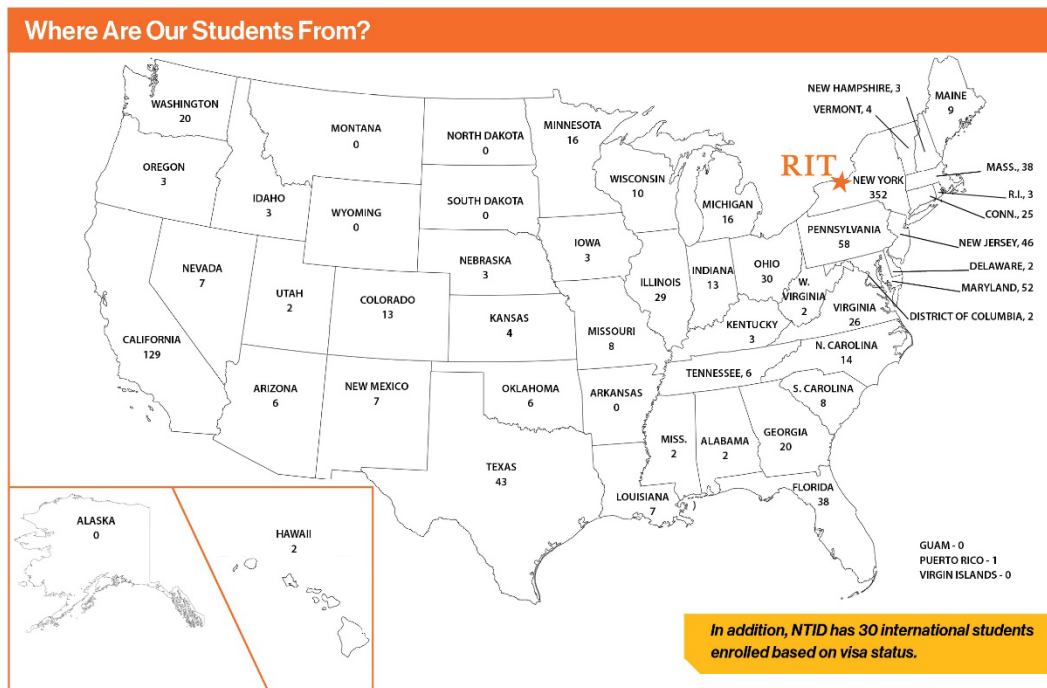
NTID students enrolled as of fall 2023 come from 45 states. A total of 12 countries are represented among current international students.

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 2024
Alabama	2
Alaska	0
Arizona	6
Arkansas	0
California	129
Colorado	13
Connecticut	25
Delaware	2
District of Columbia	2
Florida	38
Georgia	20
Guam	0
Hawaii	2
Idaho	3
Illinois	29
Indiana	13
Iowa	3
Kansas	4
Kentucky	3
Louisiana	7
Maine	9
Maryland	52
Massachusetts	38
Michigan	16
Minnesota	16
Mississippi	2
Missouri	8
Montana	0
Nebraska	3
Nevada	7
New Hampshire	3
New Jersey	46
New Mexico	7
New York	352
North Carolina	14
North Dakota	0
Ohio	30
Oklahoma	6

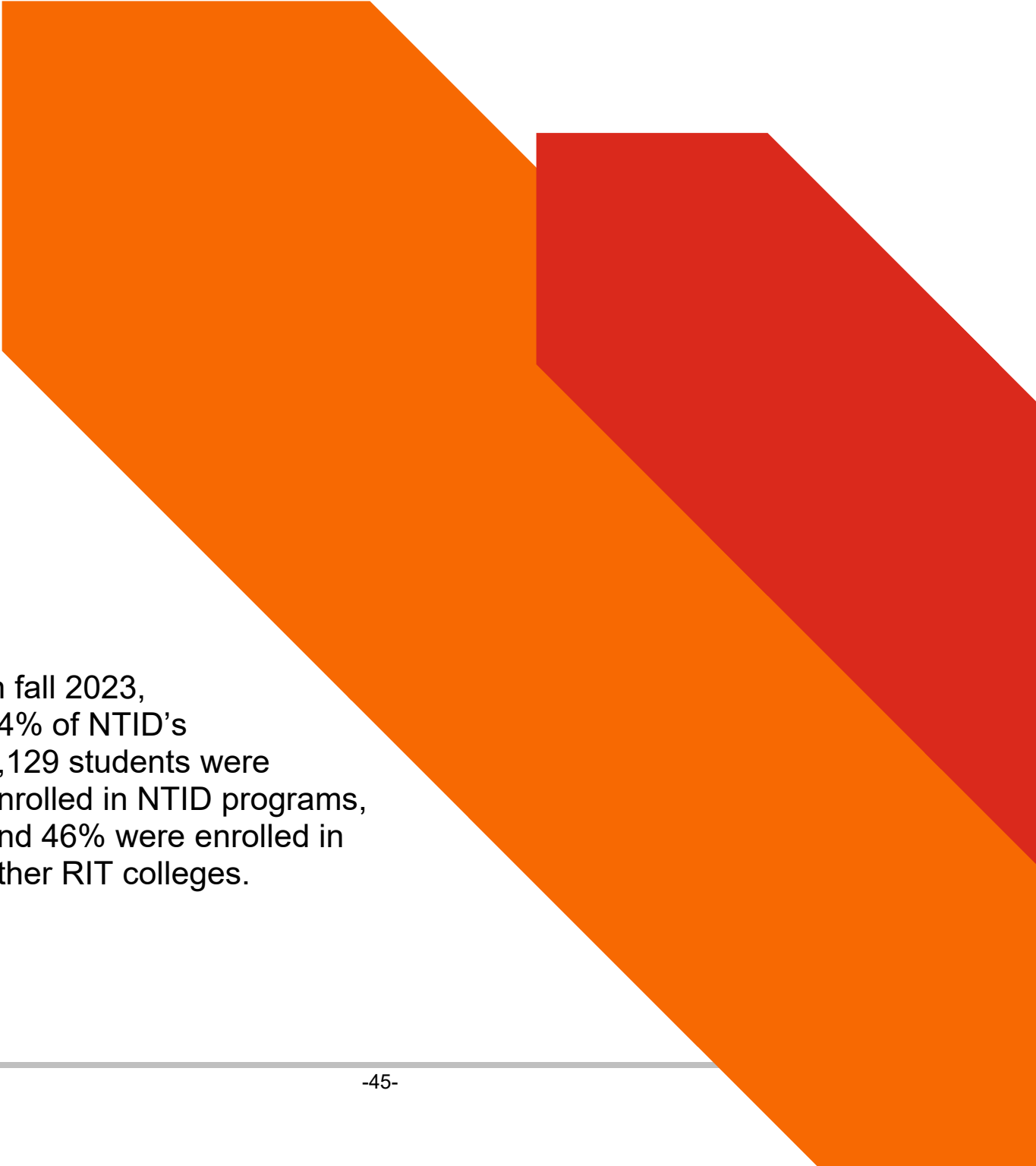
Origin of Students (continued)

Home State or U.S. Territory (Domestic Students)	Number in Student Body FY 2024
Oregon	3
Pennsylvania	58
Puerto Rico	1
Rhode Island	3
South Carolina	8
South Dakota	0
Tennessee	6
Texas	43
Utah	2
Vermont	4
Virgin Islands	0
Virginia	26
Washington	20
West Virginia	2
Wisconsin	10
Wyoming	0
Other*	3
Subtotal	1,099
International	30
Total	1,129



* U.S. citizens living in other countries or with unknown origin.

Academic Programs



In fall 2023,
54% of NTID's
1,129 students were
enrolled in NTID programs,
and 46% were enrolled in
other RIT colleges.

Academic Program Highlights

NTID continued its efforts to deliver responsive, relevant, and up-to-date technical and general education curricula during AY 2022-2023. As part of an ongoing investment in and expansion of the performing arts curriculum across RIT, new NTID courses have been implemented in the areas of theater design, dance, and ASL and Deaf culture in the performing arts. Courses on topics such as projection, media design, costuming, scenery, lighting, playwriting, and performance studies undergird NTID's new minor and general education immersion in Theatre Design and Stagecraft. To enhance NTID's existing dance curriculum, courses such as World Dance & Culture, Exploring Technology in Dance, African Dance, Movement Analysis & Expression, and Choreography for Performance have been developed. These offerings are central to NTID's new minor and general education immersion in dance. Additionally, courses with topics including Artistic Sign Language, ASL Musicality, History of Deaf Performance, and Theatrical Translation have been added to the curriculum. These courses not only serve as part of the college's new minor in ASL Performance but they also serve as additional options for students in the BS in ASL-English Interpretation program to satisfy their Deaf Cultural Studies requirement. Taking advantage of this enhanced undergraduate curriculum in the performing arts, a new program intent document for an Associate in Applied Science in Technical Theatre was developed and vetted through the NTID Faculty Congress. Subsequently, the RIT provost coordinated a university-wide faculty review that led to eventual approval for full program development. Work on this document is expected to start in AY 2023-2024.

Other new NTID degree programs are under consideration and development as well. A new program intent document for the proposed BS in Deaf and Hard-of-Hearing Education was developed and successfully vetted through the NTID faculty in spring 2023. Once fully implemented, this new bachelor's degree will serve as a pipeline for students with STEM backgrounds to enter the MS in Secondary Education of Students Who Are Deaf or Hard of Hearing. The concept paper will undergo full university review in the near future. Efforts also are underway to prepare the full program proposals for the AAS in Cybersecurity, AAS in Precision Machining Technology, and AAS in Applied Engineering Technology.

This past year also included efforts to update NTID's computer-related programming and to ensure its alignment with degree programs offered by RIT's Golisano College of Computing and Information Sciences (GCCIS). The two-semester introductory sequence Survey of Computational Problem Analysis I and II (NACA-120 and NACA-121, respectively) were designed as new computer-related general education offerings for NTID's AS in Applied Computer Technology and AAS in Mobile Application Development. Having these courses approved by RIT's General Education Committee ensures that they will be accepted in place of the general education-designated courses required in GCCIS baccalaureate programs such as the BS in Computing and Information Technologies and the BS in Human-Centered Computing. Given a required review by the New York State Education Department (NYSED) that occurred in summer 2023, these programmatic connections will be in place with updated articulation agreements in time for AY 2024-2025. In addition to the development of these two new courses, review of numerous existing NTID computing courses took place and NACT-253 Cloud Computing Concepts was also added to the curriculum.

A variety of other efforts also took place to update various degree programs and to provide additional new learning opportunities. A significant ongoing project involves the reconsideration of the general education components in all of NTID's Associate of Occupational Studies (AOS) offerings. Discussions with the faculty of each AOS-granting academic department were held in spring 2023 to describe proposed updates to NTID's developmental and college-preparatory English curriculum and related changes to the general education requirements for the college's AOS degrees. These modifications will ensure that all AOS students will satisfy the necessary proficiency in English literacy skills to support their performance in an academic major, that qualified AOS-admitted students will have a pathway to enter an Associate of Applied Science (AAS) program, and that the number of English-related credits that do not count toward the AOS degree will be reduced through the addition of general education elective opportunities as well as the streamlining of the NTID English curriculum. Preparation of the new English course offerings is underway in AY 2023-2024. As for other programs, modifications have been made at the undergraduate and graduate levels. Independent study, special topics, and undergraduate research options have been added to the BS in Community Development and Inclusive Leadership along with an introductory course in antiracism. A study abroad course has been added to the MS in Secondary Education of Students Who

Academic Program Highlights (continued)

Are Deaf or Hard of Hearing. NCOM-210 Fact or Fiction: Becoming a WISE Consumer of Digital Information, a course geared toward helping NTID-supported students to become more savvy users of social media platforms, was developed and will serve as a general education elective.

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 2023-2024, the enrollment percentages for deaf and hard-of-hearing undergraduates were 23% career-focused, 22% associate+bachelor's degree programs, and 55% bachelor's/master's/Ph.D. 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

Beginning with NTID's Summer Vestibule Program (SVP)/Orientation experience, First Year Experience (FYE) provides an array of courses and co-curricular programs, as well as personal and academic counseling, designed to help students successfully complete their first year of college. In summer 2023, 155 students attended SVP and participated in a variety of activities prior to their arrival on campus in August, including placement tests/assessments and 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, workshops, and off-campus activities to settle in and prepare themselves for their first year on campus.

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 2022-2023, CES served 26 students in the fall and 16 students in the spring.

Career-Focused Associate Degrees

At the beginning of AY 2023-2024, there were 188 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 Associate in Applied Science (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. Eleven students completed cooperative work experiences in AY 2022-2023. The AAS in Business Administration, which accepted its fourth cohort this year, continues to thrive. The department launched the college's first fully online AAS degree for Business Administration last academic year and continued with recruitment strategies to bolster enrollment. The curriculum for the AOS degree will be reviewed and changes are expected to be made. Changes include removing courses, developing new courses and modification to existing courses. This change is warranted given the changes in the employment sector.

The Department of Engineering Studies' (DES) career-focused programs, Architecture and Civil Drafting Technology (ACDT) and Precision Manufacturing Technology (PMT), are in their fourth cohort. The current enrollment of both programs, including those who matriculated in prior academic years is 12 (ACDT) and 26 (PMT). For AY 2023-2024, DES had an influx of first-year students in PMT (15). DES has four first-year students in ACDT.

In academic year 2022-2023, the Department of Information and Computing Studies (ICS) delivered all courses in person for both the Applied Computer Technology and Mobile Application Development programs, providing students the flexibility to access online learning as needed. A significant number of ICS students successfully secured co-op and full-time positions, engaging in diverse roles ranging

Academic Program Highlights (continued)

from technical support to app development on virtual reality platforms. To enhance the curriculum, ICS updated course materials across several subjects, aligning them closely with industry standards to better equip students for obtaining relevant certifications.

Throughout the academic year 2022-2023, ICS consistently offered the CompTIA A+ certification course to both current students and alumni, resulting in numerous individuals successfully passing both parts of the CompTIA A+ certification exam. This certification stands as the “gold standard” for establishing a career in the IT field, augmenting students' preparedness for entering the workforce.

In the past year, ICS established a Cybersecurity Industry Leadership Group, consisting of nine members from various sectors related to cybersecurity who serve as stakeholders in ongoing cybersecurity program development. This group has played a pivotal role in offering direction and advice, facilitating the creation of a robust and cutting-edge cybersecurity education program tailored to the unique needs of deaf and hard-of-hearing students.

The Department of Liberal Studies (DLS) continued to offer general education courses in composition, primarily focusing on developmental reading and writing skills. Department faculty also initiated discussion and planning for curriculum revisions to better support the academic and programmatic goals of students in associate degree programs. In summer 2023, DLS sent 20 students abroad to study the lives and culture of Deaf communities in South Korea, a first since the lifting of COVID-19-related travel restrictions.

The Department of Science and Mathematics' Laboratory Science Technology offers two associate degree programs of study: an AOS/AAS in Lab Science Technology (LST) and an AS in General Science. All students in the LST program are required to complete a co-op activity the summer following their second year of studies. Seven students had successful summer 2023 co-op activities on-site at the locations of their internships. Students completed this degree requirement in summer research programs held at Tufts University, James Madison University, and University of Massachusetts Amherst. LST awarded three AAS degrees, had a 75% first-year persistence rate in that degree track, and had a combined 73% graduation rate for both AOS and AAS degree tracks, which includes COVID-impacted 2020.

The General Science (GS) degree program challenges its students with a mixture of NTID-taught coursework and coursework taught in other RIT colleges. Over the last academic year, GS awarded five degrees for this program and experienced a 67% persistence rate. Part of the persistence rate is influenced by students matriculating out of the program back into NTID-focused LST studies or occasionally into early acceptance to a BS program. Graduation rate data for this degree program is not yet available due to the nascency of the program.

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). In fall 2023 the department has continued to thrive with 75 undergraduate students pursuing their AOS and AAS degrees. Additionally, 79 cross-registered students are enrolled in the College of Art and Design. This significant enrollment attests to the department's commitment to fostering an inclusive and collaborative environment where students from various backgrounds converge to engage in a shared pursuit of knowledge. As part of the AOS and AAS degree requirements, 21 students completed cooperative work experiences in AY 2022-2023. This is a welcomed increase from the unusually low number of only six co-ops last year, which was a direct result of the COVID-19 pandemic.

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 2023-2024 academic year, 178 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. Three students were accepted to Saunders College of Business during AY 2022-2023. The Administrative Support Technology, Accounting Technology, and Business Administration 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 2022-2023. Current department numbers show 55% of students are in AS and BS degree programs and 45% 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 enrollment for fall 2023 is five students in (AMT). Civil Technology is fluctuating currently but has a few students. The AMT articulation agreement with RIT's College of Engineering Technology is being updated during AY 2023-2024 to reflect the revised course numbers and make the course selections adaptable between the different BS level programs including Mechanical Engineering Technology, Mechatronics Engineering Technology, and Robotics & Manufacturing Engineering Technologies.

The Information and Computing Studies (ICS) department provides opportunities for associate and bachelor's degrees in Human-Centered Computing, Computing and Information Technologies, and Web and Mobile Computing. In summer 2023, students transitioning from these programs to the bachelor's degree program secured co-op and full-time job opportunities with reputable companies such as PNC Financial Services, Lockheed Martin, Fidelity, and Amazon. Continuing to capitalize on these programs, students consistently leverage these opportunities to secure full-time employment upon graduation.

The Department of Liberal Studies' AS in Applied Liberal Arts (APPLA-AS) remains one of the largest A+B degree programs at NTID, with 18 students. In the 13th year of the program, 11 APPLA-AS students successfully graduated with an AS degree. Nine have embarked on different academic journeys in RIT's College of Liberal Arts, with five in Psychology-BS and each of the remaining graduates studying History-BS, Communication-BS, Sociology/Anthropology-BS, and Criminal Justice-BS. In addition, two are pursuing the LEAD-BS through the department.

In the Science and Mathematics department, most students in both the Laboratory Science Technology AAS program and the General Science AS program matriculate into bachelor's degree programs offered by RIT's College of Science (COS) and College of Health Sciences and Technology (CHST). Although these students are no longer under an NTID degree program of study, they remain "cross-registered" through the department's academic support resources that offer Deaf-friendly and accessible co-instruction (tutoring) of their coursework. Over the past year, 12 cross-registered students were awarded COS/CHST BS degrees and two cross-registered graduate students were awarded MS degrees. Anna Kasper, a standout cross-registered Biology BS student, was recognized as an Outstanding Undergraduate Scholar, which requires a minimum 3.85 GPA. Additionally, Anna was selected to serve as the College of Science undergraduate delegate and deliver the 2023 undergraduate student delegate address at RIT's commencement convocation. She now works for Merck and serves as an adjunct biology tutor for NTID's Science and Mathematics department.

In support of BS degree-seeking students, the department provided approximately 4,500 hours of tutoring output during the academic year (see Support Services: Tutoring Hours).

There is a long history of students successfully making the transition from NTID's Visual Communications Studies: Design & Imaging Technology AAS degree program into an RIT College of Art and Design BFA or BS program outside of formal A+B degrees. As a department VCS is beginning to explore the establishment of new articulation agreements with the College of Art and Design, as these are a

Academic Program Highlights (continued)

testament to the commitment to providing students with a seamless educational pathway and expanding opportunities for interdisciplinary collaboration. By establishing a bridge between programs, VCS aims to create a dynamic synergy that allows students to seamlessly transfer credits, fostering a more flexible and holistic approach to their education. This partnership not only enhances the academic offerings available to VCS students but also strengthens the ties between colleges, laying the foundation for a collaborative and innovative future.

Community Development and Inclusive Leadership (LEAD)

In August 2022, the Department of Liberal Studies officially began its baccalaureate degree program in Community Development and Inclusive Leadership (LEAD). This is the first BS degree offered by NTID for both deaf and hearing students. At the time of this report, there were eight students enrolled in the major. Faculty continue to develop courses for the major, many of which satisfy general education requirements in addition to the immersions and minors in Dialogues in Diversity and Deaf Leadership. A total of 260 students, both hearing and deaf, took various LEAD courses.

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, Certificate in Deaf 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 NTID's Department of Liberal Studies, and courses offered by NTID's ASL Training and Evaluation department. ASLIE has 18 faculty, four staff, two tutors, and 12 adjuncts. ASLIE has taught at least 822 RIT and NTID students.

BS in ASL-English Interpretation Program

The BS in ASL-English Interpretation (BSI) program enrolled 42 new students in Fall 2023, bringing the total number of students in Fall 2023 to 144.

Total number of students enrolled in AY 2023-2024:

AY 2023-2024	Enrollment
First Year	27
Second Year	28
Third Year	37
Fourth Year	52
Total	144

Twenty-nine students graduated with a BSI degree in AY 2022-2023. According to senior satisfaction survey results, 90% of the 22 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. The program received accreditation from the Commission on Collegiate Interpreter Education (CCIE), joining 13 other accredited bachelor's degree programs nationwide. In order to obtain accreditation, ASLIE implemented some curricular changes to satisfy CCIE standards. For example, the number of practicum field hours students are required to satisfy before graduation were increased, necessitating the increase of 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.

Academic Program Highlights (continued)

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 DeafBlind 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

ASLIE offered online instruction to BS in ASL-English Interpretation students:

FY 2023 Summer Enrichment Courses	Enrollment
INTP-489 ST: ASL VII Summer Enrichment (1 section)	4
INTP-489 ST: ASL VII Summer Enrichment (1 section)	4
INTP-489 ST: Interpreting II Enrichment (1 section)	11

MS in Health Care Interpretation Program

ASLIE's MS in Health Care Interpretation program enrolled five students in the seventh cohort beginning Summer 2023. For AY 2023-2024, the total enrollment is 11. 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 13th year. Taught exclusively online, the nine-month program accepted 16 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.

Academic Program Highlights (continued)

Certificate in Educational Interpreting Program

The Certificate in Educational interpreting (CEI) is in its third year. Taught exclusively online, the nine-month program accepted 14 new students this year. The feedback from program graduates has been overwhelmingly favorable. The program will continue to use pre- and post-certificate surveys to gather feedback.

Certificate in Deaf Interpreting

The seven-month Certificate in Deaf Interpreting (CIDI) is in its second year with 16 students. The program is delivered through online synchronic format.

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 2022-2023, the MLC program had an enrollment of 270 students in the fall semester, and 197 students in the spring semester. During the summer, ASLIE offered Beginning ASL I online; 16 students took this summer course. In fall 2023, 35 students were enrolled in the ASL and Deaf Cultural Studies minor, while in spring 2023, 40 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 interested in a basic introduction to ASL and Deaf Culture. In AY 2022-2023, the Introduction to ASL and Deaf Culture program had an enrollment of 22 students in the fall semester and 15 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 2022-2023, in the fall semester, four students were enrolled in ASL I and eight students were enrolled in ASL II. Eleven students were enrolled in Beginning Mexican Sign Language and three students were enrolled in Structure of ASL in the in the fall semester. Two students were enrolled in ASL I, seven students were enrolled in ASL II, four students were enrolled in ASL III, and one student enrolled in Strategies for Teaching ASL in the spring semester.

Beginning Russian Sign Language was not offered in spring 2023.

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 Curriculum Content Methods of Instruction in ASL course was offered in the fall semester and the Structure of ASL and English course was offered in the spring semester. In AY 2022-2023, ASLIE served five MSSE students.

New Signers Program

In addressing one of the *SD 2020* initiatives, ASLIE offered for the 12th 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 second time, NSP was offered as a four-credit course that is counted toward a student's degree. In summer 2023, 24 incoming first-year and transfer students participated in this three-week hybrid program. Three sections were offered. The first two weeks of the program were taught online. Each section had its own instructor, who taught new material for part of the day. Later in the day, all sections reconvened to practice in guided activities with both instructors. After

Academic Program Highlights (continued)

giving students ample time to travel to campus, all students convened in-person on campus for eight days to receive further instruction and practice. In addition, students participated in activities every evening 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.

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 28 students during AY 2022-2023, its 29th 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 a Teacher Performance Assessment 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.

In AY 2023-2024, the MSSE program has an enrollment of 82 students, of whom 48% are deaf or hard of hearing and 42% are members of underrepresented populations. Of these students, 38 are anticipating graduation from the program during AY 2023-2024. 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 2022-2023, the program served five international students from Vietnam, Tanzania, China, and Indonesia. In fall 2023, MSSE welcomed two incoming international students from Uganda and Canada.

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), 2022-2027. As a result of recommendations from CAEP, an advisory group has been established for the MSSE program composed of administrators, teachers, and program stakeholders to further inform the scope of changes needed for continuous program improvement.

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 72 credit hours of instruction for 252 students in AY 2022-2023.

CSS offers several courses that cover a variety of topics geared toward workplace success: Problem Solving, Interpersonal Relationships, Dialogue on Black Perspectives, 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 requirements, allowing students to focus on their post-NTID academic goals. In recent years, CSS has worked to broaden the delivery format of its for-credit courses. The department now offers students a wider variety of learning environments to accommodate variances

Academic Program Highlights (continued)

in learning styles and scheduling preferences. Students may choose from CSS course offerings that are conducted in-person, online, and in hybrid formats.

Other areas where direct instruction is provided are the Master of Science in Secondary Education (MSSE) and the ASL-English Interpretation programs. 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 provides clinical services in the Audiology Center and Speech & Language Center, including appointment-based and walk-in opportunities. Faculty and staff provided 3,151 hours of audiology services to 629 students and other members of the RIT community, and 2,522 hours of individual speech-language instruction to 141 students. During AY 2022-2023, 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 included homework, communication apps, executive function, group conversation, and gender-affirming communication. Faculty and staff within CSS serve as liaisons and advisors to student-centered initiatives such as the Vision Support Committee and the University's Women, Gender, and Sexuality Resource Center (WGSRC). 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.

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.

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, including 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, including 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, and is available whenever the NLC is open. First-time users are required to participate in an orientation to the recording/editing equipment. Faculty and staff can reserve the lab using the EMS reserve system, while students can reserve it by contacting the NLC staff assistant.

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,

Academic Program Highlights (continued)

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, as well as collaborates with on-campus partners implementing new programs for non-matriculated students. Once again, the NTID Office of Online Learning worked closely with ASLIE to support the development of the Certificate in Trilingual Interpreting (CITRI), which launched in August 2023, and is supporting the development of ASLIE’s upcoming Certificate in Translation scheduled to launch in 2024. The NTID Office of Online Learning is working with a number of departments planning additional non-credit bearing certificates for working professionals and deaf and hard-of-hearing adults in a variety of disciplines. These distance-learning tools and delivery systems allow deaf and hard-of-hearing learners opportunities to learn anywhere, anytime.

In fall 2023, the NLC opened the NTID PearsonVUE Test Center (PVTC) for the Deaf and Hard of Hearing. As the first and only PVTC of its kind in the world, the NLC is able to schedule and proctor CompTIA certification exams for deaf and hard-of-hearing NTID-supported students, staff, and alumni in a Deaf-friendly environment. Expansion to include other certification exams is being planned.

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 2023-2024, 448 students (48% 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.

NTID Educational Effectiveness Assessment

NTID conducted student learning outcomes assessments (OA) for all academic programs and affiliated departments during AY 2022-2023. These annual faculty-led reviews measure the degree to which specific course- and program-level goals have been achieved during the academic year, leading to an intentional full-circle opportunity for curriculum design, implementation, assessment, review, and updating based on a variety of factors. These assessments provide a basis for the identification not only of areas of demonstrated success and ongoing improvement, but also aspects of programs where program faculty feel that adjustment needs to be considered. Where programs find a need to improve over the following academic year, as part of the OA reporting process they are expected to provide a Progress Report with specific details about at least one area of attention identified as needed from the prior year’s submission. As such, academic degree programs also completed RIT Progress Reports based on their AY 2021-2022 results. Having completed the yearly assessment cycle, faculty may add program-determined areas that need future review and improvement and can remove items that do not need regular ongoing attention thanks to the flexibility of the university’s overall OA implementation.

The data reporting process for RIT’s AY 2022-2023 Progress Report cycle was completed in November 2023. It employed a web-based reporting format for 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 2021-2022 Outcomes Assessment Plans.

Academic Program Highlights (continued)

NTID's response rate was 100%, with 18/18 programs completing the report. NTID contributed favorably toward the RIT rate of 100% of programs completing assessments. Additionally:

- As determined from the prior year's aggregate report that was shared with the RIT Provost, Board of Trustees, all college deans, and RIT's Student Learning Outcomes Assessment Committee (SLOAC), in AY 2021-2022, 100% of NTID programs met or exceeded established benchmarks for at least one student learning achievement, compared to the RIT level of 99%.
- During AY 2022-2023, each program's AY 2021-2022 Progress Report was evaluated for evidence of continuous improvement by the RIT Educational Effectiveness Assessment Office.
- One-hundred percent of NTID programs indicated use of assessment results to guide program planning improvements, compared to RIT's 96%.

As a result of a comprehensive review and AY 2021-2022 report by its program faculty, NTID's ASL and Interpretation Education (ASLIE) program was the 2023 recipient of the annual Excellence in Student Learning Outcomes Award that recognizes an academic degree program that is committed to best practices in assessment, improving student learning, and continuous program improvement. To qualify for the award, the program must involve stakeholders in assessment, establish effective assessment planning and implementation processes, and demonstrate continuous improvement. ASLIE has done significant work over the years to make improvements to the assessment practices in order to prepare their students to become qualified entry-level sign language interpreters.

Highlights from the AY 2022-2023 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 every student received overall positive evaluations on co-op employer assessments, with 100% being appraised as demonstrating effective job performance in terms of aptitude, quick learning, and the application of technical knowledge, a result that is considered to be outstanding.

ASL and Interpreting Education (ASLIE)

- **ASL-English Interpretation BS:** Performance exceeded expectations on eight out of the 10 assessed outcomes this year. In the Community Presentation Evaluation, 81% of students received ratings of satisfactory or higher for their overall American Sign Language (ASL) competency. In the Issues in Interpreting course, 100% of students achieved success in creating poster presentations and research papers, showcasing their critical thinking and problem-solving skills. The proficiency in ASL to English interpretation remained consistent at 100% from the previous year. In Interpreting III, 88% of interpreting students demonstrated successful English to ASL interpreting competency, reflecting an improvement from the prior year. On the "Ethical Reasoning" rubric, 72% of students received a rating of satisfactory or better, indicating a 7% decrease. Practicum supervisors rated 93% of students as demonstrating satisfactory entry-level work habits, a slight decrease from the 100% rating in the previous year. Despite this, 91% of seniors expressed satisfaction with the programs, and 100% of students seeking employment after graduation were successfully employed.
- **Health Care Interpretation MS:** The Health Care Interpretation program's master's degree began reporting outcomes five years ago. Similar to the previous year, this year's results indicate that students exceeded expectations on all four course-based outcomes and achieved the program assessment criteria. All students, without exception, received a rating of satisfactory or higher for their independent investigation on a topic related to their interests, specifically within the realms of research and science. They effectively summarized their findings in both academic ASL and English. Additionally, every student earned satisfactory grades on their two empirical projects. Results from the graduate satisfaction survey reveal that, once again, 100% of graduates expressed satisfaction with the program and acknowledged its positive impact on advancing their careers, aligning with last year's rating of 100%.

Business Studies

- **Accounting Technology AAS:** Exceeded the benchmark for three outcomes in the current year. Students met or exceeded a level of satisfactory performance on their co-op activities with 100%

Academic Program Highlights (continued)

being assessed as exhibiting satisfactory job performance in terms of aptitude, quick learning, and the application of technical knowledge.

- **Administrative Support Technology AAS:** Students exceeded the benchmark for two direct course-based assessments and achieved the benchmark for one course-based outcome. Every student demonstrated the ability to type with speed and accuracy, achieving a satisfactory rating of 40+ net words per minute with five errors or less. Beyond course-based assessments, all students received overall positive evaluations from their supervisors in co-op placements, indicating their proficiency in quick learning, applying technical knowledge on the job, and transferring theory to employment situations. One hundred percent of students who sought employment after graduation successfully secured positions.
- **Business Administration AAS:** Six benchmarks were exceeded, while two outcomes were not achieved. Specifically, the outcomes associated with the Essentials of Business Communications and Fundamentals of Marketing courses were not met this year, indicating a decline compared to the previous year. To address this faculty-determined outcome in the Essentials of Business Communications course, program faculty are actively engaged in updating the Job Portfolio assignment and rubric in areas where students struggled. The update will focus on adding descriptors for each performance level that will be clear, concise, and free from ambiguity so it is accessible and easily understood by students. Students in Fundamentals of Marketing are expected to participate in a project that forces them to apply marketing concepts in real-world scenarios. Students fell short with completing this project; however, it has been recommended that the project continue to be divided up in components using a scaffolding approach. Despite these challenges, all outcomes linked to the co-op supervisor's assessment of overall performance and technical skills were exceeded.
- **Business AS:** Criteria were exceeded for three out of the four outcomes, while one other outcome fell short. Every student, without exception, demonstrated appropriate interpersonal business skills and teamwork. In the Managerial Accounting course, all students achieved a score of at least 70% on their Learning Assessment Test, showcasing their proficiency in performing the functions of the accounting cycle for service, merchandising, and manufacturing businesses. Unfortunately, the benchmark for describing the interrelatedness of social, cultural, and business factors shaping the global business environment was once again not met. This benchmark was not met because Global Business Environment, one of the two courses being assessed, is a course offered by Saunders College of Business, which makes it difficult for the program coordinator to truly assess the student learning outcome based on the final grade. It should be emphasized that tutoring is provided for Global Business Environment but not mandatory. On a positive note, the bachelor's program at the Saunders College of Business admitted all three students who graduated and applied for admission to their program.
- **Business Technology AOS:** Every student achieved satisfactory ratings on the rubrics for the e-Portfolio, reaching a 100% success rate. However, the benchmarks for the Integrated Document Production's "Ten 5-minute Timed Writings" and the Fundamentals of Marketing Project were not met, indicating a decline from the previous year's performance. It should be noted that the Integrated Document Production course has been deactivated, and this assessment method will be replaced with a project in Advanced Document Production course to stay on trend. All students met or exceeded a level of satisfactory performance on their co-op activities from their supervisors during co-op placements. They also were rated in their ability to learn quickly, apply technical knowledge, and transfer theory to employment situations. Further, every student who sought employment secured a position.

Engineering Studies

- **Applied Mechanical Technology AAS:** Benchmarks were exceeded for two outcomes, achieved for two outcomes, and fell short for two outcomes. In the Mechanical Design and Fabrication course, students exceeded expectations in receiving a grade of C or better on the final project but did not meet the criteria for receiving a grade of C or better on the written test. Seventy-five percent of students earned the required grades in key courses, preparing them to apply for enrollment in RIT's MCET bachelor's degree program. This reflects a decline from the previous year's 83%. As a result, the department intends to re-evaluate the assessment method. Final grades are being assessed and this is generally not an appropriate method; it has been

Academic Program Highlights (continued)

encouraged that an individual project or assignment of substance be used. Among the graduates, two students obtained an Applied Mechanical Technology AAS (AMECHT) degree and earned a bachelor's degree in either Mechanical Engineering Technology (MCET) or Mechatronics Engineering Technology (MECA). Additionally, four students graduated with AAS degrees, with two transferring to the bachelor's program in MECA, one to the bachelor's program in Psychology, and one to the bachelor's program in MCET.

- **Architectural and Civil Drafting Technology AOS/AAS:** All benchmarks were exceeded for identifying issues related to sustainability in the construction industry. The benchmarks were exceeded for tasks such as preparing student portfolios, engaging productively in a collaborative team project, completing the final project in the Advanced Construction course, and performing in the final exam in Construction Materials and Methods II class. Benchmarks related to technical drawing practical assignments were met. In terms of co-op placement performance, 100% of students received satisfactory overall ratings from their supervisors. However, one course, Data Collection and Analysis (NCAD-108), was not offered due to a lack of enrollment. Overall, all students expressed satisfaction with the program.
- **Precision Manufacturing Technology AOS:** Criterion levels were exceeded for six outcomes and achieved for six assessed outcomes, reflecting an improvement from the previous year when only two outcomes were exceeded. All benchmarks were successfully met, including those related to using CAD/CAM software, observing and practicing industry safety rules and regulations, utilizing precision measuring instruments and computers for quality control, writing comprehensive inspection reports, identifying characteristics of various industrial materials, producing machined parts and optical elements to exact specifications, and developing skills and knowledge for the safe operation of conventional machines and tools, among other automatic equipment. However, the faculty-determined benchmark for passing competency-based projects in the CNC courses and competency-based final exams in the Precision Optics Manufacturing I course was not met. Program faculty will be reviewing the final exam to determine if the competency exam should be provided in alternate format. Despite this, 100% of students received positive evaluations from their co-op supervisors, and all students successfully passed their final exam in the PMT IV course.
- **Civil Technology AAS:** This year, the benchmark for satisfactory completion of the Strength of Materials course was not achieved, mainly due to low enrollment, marking a deviation from the previous year. There were no eligible students among the Civil Technology AAS graduates for acceptance into the RIT Civil Engineering Technology bachelor's degree program this year as they are continuing their studies in the AAS program. Despite these circumstances, 100% of students expressed satisfaction with the program on their satisfaction survey.

Information and Computing Studies

- **Applied Computer Technology AS:** The criteria for completing tasks, including drivers and application programs, as well as demonstrating fundamental programming and web skills, were met this year, marking a shift from the previous year when the criteria were exceeded. A plan is in place to closely monitor this assessment to assess whether the evaluation method needs revision. Out of the 25 students surveyed, the majority expressed satisfaction with the program.
- **Applied Computer Technology AOS/AAS:** The findings revealed that benchmarks were either met or exceeded for all 13 assessed outcomes. For instance, every student, without exception, could restore a PC to working condition and successfully completed hands-on projects related to HelpDesk support. Ninety-two percent of students passed their final technical presentation evaluation. Additionally, every student demonstrated the ability to select and use the appropriate application to address client needs or solve problems encountered by IT support specialists. The benchmark associated with the ability to connect, configure, manage, secure, and troubleshoot a small intranet peer-to-peer or client/server network aligns with last year's results.
- **Mobile Application Development AAS:** No findings were obtained this year as there were no enrolled students in courses corresponding to the outcomes. The department will focus on action items throughout the academic year 2023-2024.

Academic Program Highlights (continued)

Liberal Studies

- **Applied Liberal Arts AS:** In one writing course, 81% of students successfully passed the written English competency, indicating an improvement from the previous year's assessment. Likewise, 81% of students passed the General Education perspective courses, marking a slight enhancement from the 76% rating in the previous year. In terms of earning a grade of "C" or better in Professional Elective courses within each student's field of study, 72% of students exceeded the benchmark, reflecting a slight improvement from last year's 71%.
- **Community Development and Inclusive Leadership BS:** This marks the first year of reporting outcomes for the program. Among the six evaluated outcomes, only one was not met, primarily arising from a discrepancy in course outcomes resulting from enrollment in two courses meant to be sequential. The particular outcome emphasized a final grade rather than a substantial assignment. The program currently is engaged in refining the measured data to ensure ongoing program improvement.

Master of Science in Secondary Education

- **Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing:** Criteria were exceeded for six measures, met for four, and not met for two. Ninety-three percent of students fulfilled the nine areas of dispositions, reflecting a slight decrease from the previous year's rating of 98%. Similarly, 96% of teacher candidates passed the Sign Language Proficiency Interview (SLPI) with a rating of intermediate or higher and/or the American Sign Language Proficiency Interview (ASLPI) with a rating of 2.5 or higher, marking a slight decline from the previous perfect score of 100%. Demonstrating their knowledge of technology during student teaching activities, 93% of students achieved this, showing a slight improvement from the previous year's 92%. All students received a satisfactory grade on their micro-teaching assignment, a notable increase from the 82% reported the previous year. Ninety percent of students formulated an assessment plan as part of their final project. Additionally, 93% of students successfully created their student teaching portfolio and produced a literature review related to Deaf and hard-of-hearing education-specialized topics. The MSSE program did not meet two of its self-assigned outcomes, with one focusing on the student teaching evaluation and the other on student teaching reflection rubric. The department has recommended retiring these two outcomes due to insufficient data as these assessment methods have not been assessed since the pandemic. The decision to retire these outcomes stems from the instructor opting for alternative methods that emphasize reflective thinking and growth for teacher candidates. Simultaneously, the department will explore different benchmark options that can effectively capture the significance of student teacher evaluation. Overall, one of the program's strengths lies in the self-reflection activities offered to prepare students for real-world teaching experiences.

Science and Mathematics

- **Laboratory Science Technology AOS/AAS:** Nine assessed general skills and technical competency areas, employment, and placement benchmarks were exceeded, while two criteria were not met. Every student, without exception, demonstrated competency in the use of various analytical instrumentation. Additionally, outcomes related to performing the final laboratory project in the Analytical Chemistry course and executing proteomic and genomic manipulation techniques were exceeded this year. The outcome associated with performing distillation techniques was also exceeded. One of the two benchmarks not met specifically aimed for 80% of the students to achieve a grade of 80% or better on the holmium oxide quality control lab report. It is important to note that this assignment was conducted outside of the classroom and required essential skills, including English writing and formatting proficiency. It has been suggested that additional assessments should be introduced in alternate formats, ensuring a comprehensive evaluation of students' grasp of quality control and minimizing potential misunderstandings related to the assignments. The second benchmark not met, aimed for 80% of students to achieve 80% or better on the course exams that covered proteins, nucleic acids, carbohydrates, and lipids. A recommendation has been made to better gear the content to this laboratory technician program and integrate it with other chapter topics. The expectation is to enhance student understanding of the content at hand by emphasizing it more through the program

Academic Program Highlights (continued)

curriculum. All survey respondents expressed satisfaction with the overall program. The department will persist in evaluating the series of courses for their impact on this assessment.

- **General Science AS:** Entering its fourth year of outcomes assessment, this program saw two benchmarks exceeded, five met, and two not met. Seventy-six percent of students successfully passed the college-level algebra final exam, marking an improvement from the previous year's 70% although the benchmark was not met. It was revealed that students were placed in Advanced Mathematics without the appropriate math skills due to the pandemic, a type of challenge that has been noted elsewhere at RIT and at other institutions. In General & Analytical Chemistry II, only 63% of students earned a C or better, falling short of the 80% benchmark. While tutoring for this course is encouraged, it is essential to note that participation is not mandatory. On a positive note, every student, without exception, excelled in the General & Analytical Chemistry I lab activities and final exams. The General Science Program witnessed the successful graduation of six students. Notably, every graduate from this program gained acceptance to RIT's bachelor's degree programs. Benchmarks for the professional elective science/math courses were met this year, signifying an improvement from the previous year.

Visual Communications Studies

- **Design and Imaging Technology AOS/AAS:** Four outcomes exceeded benchmarks, two were met, and three were not met this year. Every student, 100%, met the criteria for creating a portfolio, writing a cover letter, composing a resume, and performing in interviews. Out of the three benchmarks not met, two yielded statistically insignificant data for analyzing student co-op experiences. The department has initiated plans to improve communications with NTID's Co-op and Career Center and encourage more cross-departmental participation in sharing information. Although the department did not prioritize their alumni survey, with no data collected this year, there are plans to improve the survey questions and distribute them within the next two years. For co-op students, 84% received outstanding evaluations for overall performance and satisfaction, demonstrating competitiveness in the job market, while the remaining group remains "pending."
- **3D Graphics Technology AAS:** The program was put on hold two years ago, and no data was collected this year. However, the program resumed in the academic year 2023-2024.

These individual, program-specific assessments demonstrate that NTID faculty members in all departments are actively engaged in identifying the aspects of their curricula that are preparing students well and those where the program faculty have self-identified a desire to improve based on measurable criteria. This process shows that NTID's faculty are not only continuously reflective on the content of their curriculum, but are responsive to the needs of stakeholders including students, instructors, co-op supervisors, and future employers. The overall exemplary evaluations provided by students' co-op supervisors show that NTID's programs are preparing students well for the world of work and that faculty are focused on continuous improvement to ensure that students are meeting and exceeding goals.

Enrollment by Degree Programs

In fall 2023, 54% of NTID's 1,129 students were enrolled in a broad array of programs within NTID. Forty-six percent were enrolled in other colleges of RIT, including 70 students in graduate programs. Of the 1,129 students, 930 are deaf and hard-of-hearing students, including 39 students in the

MSSE program. In fall 2023, 44% (412/930) of NTID's deaf and hard-of-hearing students were enrolled in NTID programs, and 56% (518/930) 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)	10
Subtotal	16
NTID Career-Focused	
Applied Computer Technology (AAS)	14
Applied Computer Technology (AOS)	21
Architectural and Civil Drafting Technology (AAS)	8
Architectural and Civil Drafting Technology (AOS)	4
Business Technology (AOS)	28
Design and Imaging Technology (AAS)	36
Design and Imaging Technology (AOS)	26
Engineering Technologies (UND)	1
Laboratory Science Technology (AOS)	8
Precision Manufacturing Technology (AOS)	26
Subtotal	172
Associate+Bachelor's Degrees	
3D Graphics Technology (AAS)	7
Accounting Technology (AAS)	6
Administrative Support Technology (AAS)	4
Applied Computer Technology (AS)	34
Applied Liberal Arts (AS)	18
Applied Mechanical Technology (AAS)	14
Business (AS)	16
Business Administration (AAS)	21
Civil Technology (AAS)	2
General Science (AS)	7
Laboratory Science Technology (AAS)	29
Mobile Application Development (AAS)	5
Subtotal	163

Enrollment by Degree Programs (continued)

	Number of Students
NTID ASL-English Interpretation	
ASL-English Interpretation (BS)	144
Health Care Interpretation (MS)	11
Subtotal	155
Other NTID Undergraduate Programs	
Community Development and Inclusive Leadership (BS)	8
Subtotal	8
NTID Master of Science in Secondary Education (MSSE)	
Secondary Education of Students who are Deaf or Hard of Hearing (MS)	82
Subtotal	82
NTID Pre-Baccalaureate Students	
Pre-Baccalaureate Engineering (UND)	5
Pre-Baccalaureate Liberal Arts (UND)	2
Pre-Baccalaureate Science (UND)	3
Pre-Baccalaureate Visual Communication (UND)	5
Subtotal	15
NTID Subtotal	611
Undergraduate Students in Other RIT Colleges	
College of Engineering Technology	
Civil Engineering Technology (BS)	12
Computer Engineering Technology (BS)	6
Electrical Engineering Technology (BS)	3
Electrical/Mechanical Engineering Technology (BS)	1
Engineering Technology Exploration (UND)	3
Environmental Sustainability, Health and Safety (BS)	2
Mechanical Engineering Technology (BS)	23
Mechatronics Engineering Technology (BS)	4
Packaging Science (BS)	2
ROBOTICS Manufacturing Engineering Technology (BS)	2
Subtotal	58

Enrollment by Degree Programs (continued)

	Number of Students
Saunders College of Business	
Accounting (BS)	9
Business Exploration (UND)	1
Finance (BS)	9
Global Business Management (BS)	4
Hospitality and Tourism Management (BS)	1
Management Information Systems (BS)	9
Marketing (BS)	6
Subtotal	39
College of Science	
Applied Mathematics (BS)	2
Applied Statistics and Data Analytics (BS)	2
Biochemistry (BS)	3
Biology (BS)	4
Biotechnology and Molecular Bioscience (BS)	2
Chemistry (BS)	3
Environmental Science (BS)	7
Imaging Science (BS)	1
Neuroscience (BS)	2
Subtotal	26
College of Art and Design	
3D Digital Graphics (BFA)	4
Art Exploration (UND)	1
Film and Animation (BFA)	13
Graphic Design (BFA)	6
Illustration (BFA)	10
Industrial Design (BFA)	6
Interior Design (BFA)	7
Medical Illustration (BFA)	3
Motion Picture Science (BS)	1
New Media Design (BFA)	11
Photographic and Imaging Arts (BFA)	8
Photographic Sciences (BS)	1
Studio Arts (BFA)	4
Subtotal	75

Enrollment by Degree Programs (continued)

	Number of Students
College of Liberal Arts	
Advertising and Public Relations (BS)	5
Applied Modern Language and Culture (BS)	1
Communication (BS)	4
Criminal Justice (BS)	9
Economics (BS)	1
English (BS)	6
History (BS)	2
Humanities, Computing, and Design (BS)	3
Political Science (BS)	1
Psychology (BS)	23
Public Policy (BS)	1
Sociology and Anthropology (BS)	3
Subtotal	59
Kate Gleason College of Engineering	
Biomedical Engineering (BS)	4
Chemical Engineering (BS)	3
Computer Engineering (BS)	6
Electrical Engineering (BS)	1
Engineering Exploration (UND)	3
Industrial Engineering (BS)	2
Mechanical Engineering (BS)	19
Subtotal	38
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (BS)	25
Computing Exploration (UND)	2
Computing and Information Technologies (BS)	17
Computing Security (BS)	9
Game Design and Development (BS)	15
Human-Centered Computing (BS)	3
New Media Interactive Development (BS)	3
Software Engineering (BS)	11
Web and Mobile Computing (BS)	6
Subtotal	91

Enrollment by Degree Programs (continued)

	Number of Students
School of Individualized Study	
Applied Arts and Sciences (BS)	31
University Exploration (UND)	2
Subtotal	33
College of Health Sciences and Technology	
Biomedical Sciences (BS)	16
Diagnostic Medical Sonography (BS)	6
Echocardiography (CT)	1
Exercise Science (BS)	2
Nutritional Science (BS)	1
Physician Assistant (BS)	2
Subtotal	28
Non-Degree Student (NON)	1
Subtotal	1
Subtotal Undergraduate Students in Other Colleges	448



Department of Liberal Studies Assistant Professor Dr. Corinna Hill teaches classes in Deaf history and culture, as well as offers courses in NTID's Community Development and Inclusive Leadership BS program.

Enrollment by Degree Programs (continued)

	Number of Students
Graduate Students in Other RIT Colleges	
College of Engineering Technology	
Construction Management (MS)	1
Manufacturing and Mechanical Systems Integration (MS)	3
Subtotal	4
Saunders College of Business	
Accounting and Analytics (MS)	1
Business Administration (MBA)	10
Finance (MS)	1
Service Leadership and Innovation (MS)	2
Technology Innovation Management and Entrepreneurship (MS)	1
Subtotal	15
College of Art and Design	
Film and Animation (MFA)	2
Fine Arts Studio (MFA)	1
Visual Arts – All Grades (MST)	1
Visual Communication Design (MFA)	2
Subtotal	6
College of Liberal Arts	
Communication (MS)	1
Experimental Psychology (MS)	4
School Psychology (MS)	2
Subtotal	7
College of Science	
Astrophysical Science and Technology (MS)	1
Bioinformatics (MS)	1
Environmental Science (MS)	3
Subtotal	5
Kate Gleason College of Engineering	
Computer Engineering (MS)	2
Electrical Engineering (MS)	2
Mechanical Engineering (MS)	1
Sustainable Engineering (MS)	1
Subtotal	6
Golisano Institute for Sustainability	
Architecture (M.Arch.)	1
Subtotal	1

Enrollment by Degree Programs (continued)

	Number of Students
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (MS)	4
Computing and Information Science (Ph.D.)	1
Computing Security (MS)	1
Data Science (MS)	3
Health Informatics (MS)	1
Human Computer Interaction (MS)	5
Information Technology and Analytics (MS)	2
Software Engineering (MS)	3
Subtotal	20
College of Health Science and Technology	
Health Systems Management (MS)	1
Physician Assistant (MS)	1
Subtotal	2
School of Individualized Study	
Professional Studies (MS)	4
Subtotal	4
Subtotal Graduate Students in Other Colleges	70
Total	1,129

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 2022-2023	
	Fall	Spring
3D Graphics Technology	4.0	N/A
Accounting Technology	9.2	5.8
Administrative Support Technology	6.2	5.9
Applied Computer Programming	5.5	2.5
Applied Computer Technology – Technical Computing	5.2	5.4
ASL/Deaf Culture	11.0	15.0
ASL-English Interpretation	10.3	8.6
Career Development	10.3	7.7
Communication Studies	9.7	12.3
Community Development and Inclusive Leadership	10.1	10.6
Computer-Aided Drafting Technology	4.5	4.0
English	11.3	9.0
General Business	6.7	6.1
General Engineering Studies	12.0	9.7
General Visual Communications	8.5	8.3
Graphic Design	8.9	10.2
Graphic Production	7.4	3.8
Health Care Interpretation	6.0	6.0
Humanities & Social Sciences	24.0	29.0
Laboratory Science Technology	8.5	7.6
Liberal Studies	7.0	18.0
Master of Science in Secondary Education	13.2	10.7
Mathematics	9.9	8.8
Mobile Application Development	3.5	2.2
Performing Arts	15.3	14.2
Precision Manufacturing	3.8	5.4
Science	9.2	8.8
Sign Languages	6.5	3.5
Overall Average	9.2	8.6

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 2023 credit-bearing courses.

	Number of Sections	Number of Students	
		Deaf or Hard-of-Hearing	Hearing
Saunders College of Business			
Computer-Based Analysis	8	17	141
Subtotal	8	17	141
College of Art and Design			
Color Management Technology	1	3	7
Digital Bootcamp	1	0	2
The Fine Print Workflow	2	0	10
Subtotal	4	3	19
College of Engineering Technology			
Machine Tools Lab	5	4	56
Subtotal	5	4	56
College of Liberal Arts			
Abnormal Psychology	1	7	0
Advanced American Sign Language I	1	3	1
Advanced American Sign Language II	1	2	0
American Deaf History	1	12	19
Beginning American Sign Language I	18	19	252
Beginning American Sign Language II	7	15	87
Communication	1	10	0
Deaf Culture in America	1	6	26
Deafness and Technology	1	7	25
Developmental Psychology	1	6	0
Intermediate American Sign Language I	2	5	25
Intermediate American Sign Language II	1	5	9
Introduction to Criminal Justice	3	26	38
Introduction to Psychology	2	21	0
Introduction to Visual Arts	1	11	0
Linguistics of American Sign Language	2	3	25
U.S. History Since 1945	1	12	0
Women and the Deaf Community	2	10	22
Subtotal	47	180	529

Educational Support: Teaching (continued)

	Number of Sections	Number of Students	
		Deaf or Hard-of-Hearing	Hearing
College of Science			
Advanced Chemistry Research	2	2	0
Applied Calculus	1	11	0
Biochemistry for Health Sciences	1	1	38
College Algebra	1	4	30
Independent Study	1	0	1
Introduction to Statistics I	4	38	0
Organic Chemistry Lab I	4	4	68
Organic Chemistry Lab II	4	1	53
Research and Thesis	4	0	4
Solar System Astronomy Lab	3	2	37
Stars and Galaxies Lab	3	0	44
Subtotal	28	63	275
Interdisciplinary Studies			
Critical Reading and Writing	2	11	4
Intro Leadership Theory Practice	1	1	24
Multidisciplinary Life	3	15	88
Writing Seminar	9	125	0
Subtotal	15	152	116
B. Thomas Golisano College of Computing and Information Sciences			
Web and Mobile I	1	1	28
Subtotal	1	1	28
Total	108	420	1,164

American Sign Language and Interpreting Education Programs

The degree program in ASL-English Interpretation graduated 29 students in AY 2022-2023. Forty-two new students matriculated into the program in September 2023. Currently, 26% of total enrollment are students from ethnic minority backgrounds.

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Fall Applicants	137	135	146	103	112
Accepted	67	71	74	58	66
Registrations	51	48	48	41	42
Enrollment					
BS	152	170	168	144	144
MS in Health Care Interpretation	9	11	13	12	11
Non-Matriculated	3	0	0	0	0
Total Enrollment	164	181	181	156	155
Employment Report					
Graduates					
BS	23	30	44	29	*
MS in Health Care Interpretation	8	5	4	8	*
Employment Rate	100%	100%	100%	*	*
In addition to the interpreting program, ASL and Interpreting Education faculty also provided the following:					FY 2023 Enrollment
ASL courses in RIT's College of Liberal Arts					483
ASL courses for deaf students, NTID					40
New Signers Program, NTID					24
Introduction to ASL and Deaf Culture, NTID					37
Total					584

* As of the writing of this report, the employment information for FY 2023 and FY 2024 and graduation information for FY 2024 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 29th year. One hundred percent of the FY 2022 graduates are employed 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.

Fifty-three applications for admission for fall 2023 were received. Forty-seven were offered admission. Of those, 36 matriculated into the program. For AY 2023-2024, the MSSE program has a total enrollment of 82 students: 46 returning students and 36 first-year students. Of the 82 matriculated students, 48% are deaf or hard of hearing and 42% are minority.

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Fall Applications	14	31	40	54	53
Acceptances	12	31	36	49	47
New Registrations	8	21	28	38	36
Deaf and Hard-of-Hearing Enrollment	10	20	37	40	39
Total Enrollment	22	34	56	72	82
Employment Report					
Graduates	10	6	19	28	*
Employment Rate	100%	100%	100%	*	*

* As of the writing of this report, the employment information for FY 2023 and FY 2024 and graduation information for FY 2024 is incomplete.

Cooperative Work Experiences

Cooperative work experience is an integral part of academic programming at NTID. Employment specialists assist students in securing cooperative work experiences that augment their studies. 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 2023, 204 students were enrolled in cooperative work experiences, and 51 academic programs had students on cooperative work experiences.

Number of Students Involved in Cooperative Work Experiences*					
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Sub-Baccalaureate					
NTID	54	47	57	48	58
Percent of Total Co-op Enrollment	23%	26%	26%	23%	28%
Baccalaureate/Master's					
College of Engineering Technology	50	21	38	38	47
Saunders College of Business	19	27	23	16	12
B. Thomas Golisano College of Computing and Information Sciences	42	32	43	56	40
Kate Gleason College of Engineering	31	22	17	24	23
College of Health Sciences and Technology	1	0	3	2	0
College of Art and Design	23	16	9	2	7
College of Liberal Arts	9	16	20	20	15
College of Science	3	0	8	3	2
Subtotal	178	134	161	161	146
Percent of Total Co-op Enrollment	77%	74%	74%	77%	72%
Total Co-op Enrollment	232	181	218	209	204

* 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 eight 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 maintain 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 therapy services are provided to deaf, hard-of-hearing, and hearing students on campus at RIT's Counseling & Psychological Services (CaPS). Mental health counselors fluent in American Sign Language provide services for deaf and hard-of-hearing students. Interpreters are available. CaPS, in collaboration with the Student Health Center, also provides psychiatry services for medication consultation. Mental health crisis intervention is available 24 hours a day. In addition to individual therapy services, students can participate in group therapy and skill-building workshops with CaPS staff. In AY 2022-2023, 192 deaf and hard-of-hearing students were seen for CaPS services.
- Personal and career counseling and academic advising. NTID Counseling & Academic Advising Services (CAAS) supports the academic, personal, and career growth of all NTID-supported students. CAAS services include, but are not limited to:

Academic Advising: CAAS provides developmental and proactive advising to help students navigate degree requirements and achieve on-time graduation.

Transitional Counseling: CAAS serves as a confidential site to help students address personal concerns and access resources.

Career Counseling: CAAS administers and reviews career assessments to help students identify interests and skill sets.

Student Support Services Highlights (continued)

Freshman Seminar: CAAS acts as facilitators for a first-year course to help students transition to the RIT community through experiential opportunities and dialogue models.

Title IX Confidential site: CAAS serves as a Title IX confidential resource for students who have experienced sex or gender discrimination, sexual misconduct, sexual harassment, sexual assault, stalking, and dating and domestic violence (also known as intimate partner violence).

CAAS collaboratively works with the RIT community to prioritize diverse, inclusive, and equitable services, and partners with campus resources and community services to enhance student experiences. RIT's University Advising Office, Office of Financial Aid and Scholarships, NTID Student Financial Services, Department of Access Services, Disability Services Office, academic departments, vocational rehabilitation counselors, and families also support student success and retention.

CAAS prioritizes antiracism and social justice initiatives through facilitation of White Affinity and Counseling & Academic Advising Diversity & Inclusion (CAADI) focus groups. These groups help CAAS deepen understanding of racism and identify strategies for leading anti-racist and social justice practices in their work with students and the greater RIT community.

- The Student Life Team (SLT) continued its tradition in FY 2023 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 central resource for deaf and hard-of-hearing students who participate in varsity athletics, club and intramural programs, and wellness classes. The NTID Athlete Development Program runs the Deaf Basketball Association and Deaf Volleyball Association, two NTID-centered sporting leagues. NTID Athlete Development is a point of contact for anyone interested in participating in a sport or activity, but is not sure where to begin. The NTID Athlete Development Program coordinates community-wide events such as Deaf Culture Night with the

Student Support Services Highlights (continued)

Rochester Red Wings baseball team, ASL Night with RIT men's hockey, and Tiger Festival with NTID students. The NTID community continues to thrive through athletic competition.

- Financial aid for domestic students was provided in FY 2023 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, 717 students received NTID scholarships, 231 received RIT scholarships, 891 received NTID-endowed scholarships, and 76 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 2023, 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 realizes 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. There also was ample opportunity for peer interaction and fun. SVP is a memorable experience as students create bonds and make friends, while 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. Twelve sections were offered with an average class size of 11 students in fall 2023. 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 2022-2023, CES served 26 students in the fall and 16 students in the spring.
- 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 NTID-supported deaf and hard-of-hearing undergraduate students registered in the other colleges of RIT.

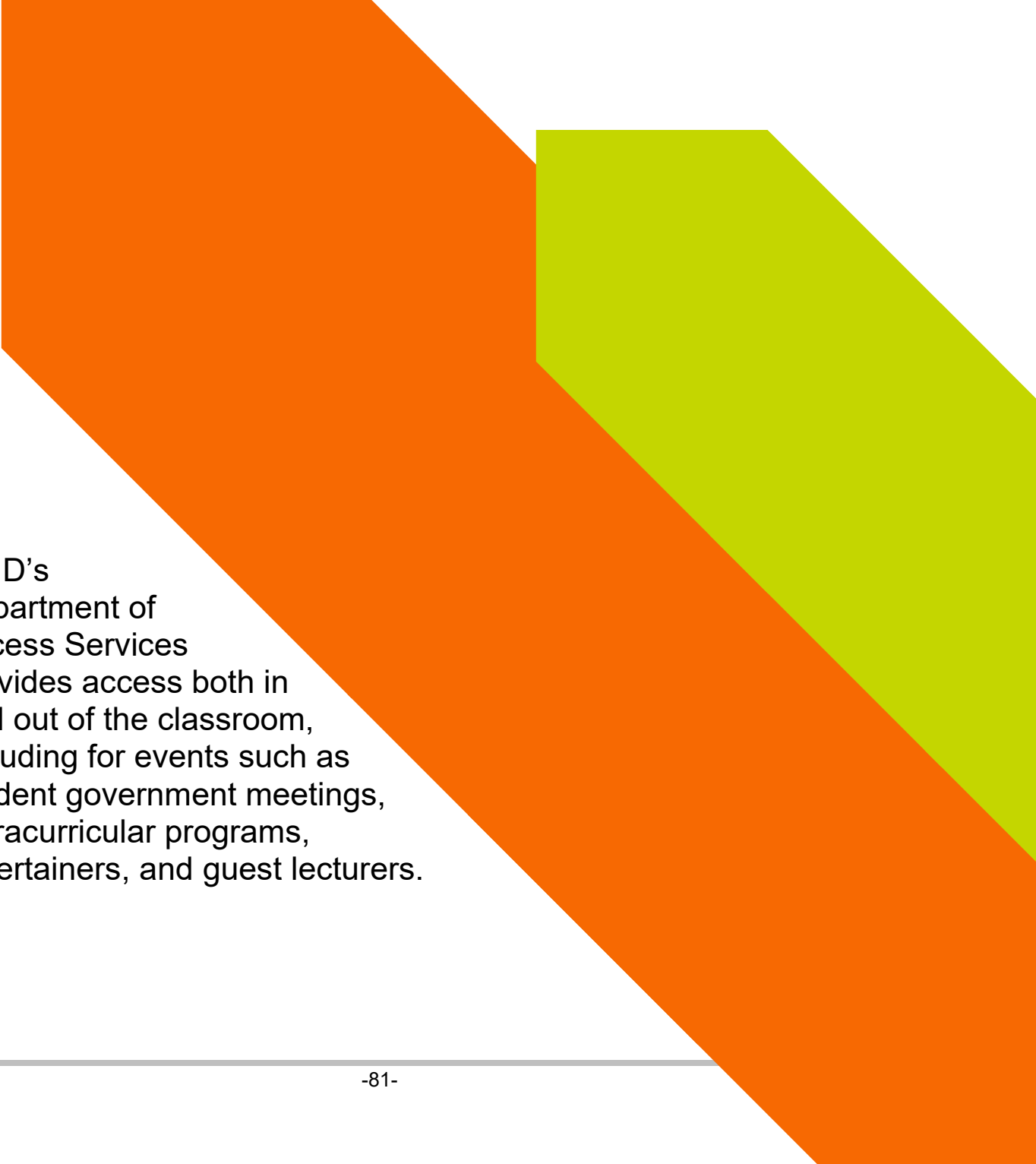
	AY 2022-2023		
	Tutoring Hours	Class Sections Served	Total Student Registrations
College of Engineering Technology (CET)	*	219	416
College of Art and Design (CAD)	1,705	406	726
Saunders College of Business (SCB)	659*	121	425
Kate Gleason College of Engineering (KGCOE)	810*	150	227
College of Liberal Arts (CLA)	701	429	1,458
College of Health Sciences and Technology (CHST)	271	88	276
College of Science (COS)	4,167*	404	1,210
B. Thomas Golisano College of Computing and Information Sciences (GCCIS)	641*	275	610
School of Individualized Study (SOIS)	**	73	293
Golisano Institute for Sustainability (GIS)	***	1	1
Total	8,954	2,166	5,642

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

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

*** Hours for GIS are reported under KGCOE.

Student Access Services

A decorative graphic consisting of two overlapping, slanted rectangular shapes. The larger shape on the left is orange, and the smaller one on the right is lime green. Both shapes are slanted downwards from left to right.

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, with the largest staff of professional interpreters and real-time captionists of any college program in the world. Educational access services that NTID offers for deaf and hard-of-hearing students at RIT include:

- **Sign language interpreting** provided by 135 staff members, 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. 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 also is provided for special events, student meetings, clubs, and guest presentations as well as other out-of-classroom needs.
- **Classroom notetaking services** are provided by more than 500 trained student notetakers, one of the largest contingents of student employees on campus. Notes are uploaded to 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 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 real-time captioning services, which began in the 1990s, 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 and real-time captionists with expanded professional development efforts. The growth of a formalized apprentice program already has benefited 163 developing interpreters from 32 discrete training programs in transitioning from school to effective professional interpreting. Of the 163 NTID apprentices, 53 have been hired by NTID into staff interpreting positions.

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

Student Access Services Highlights

specialists in post-secondary education increasingly is 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 of 190 access providers in recent years.



Interpreting and captioning are provided for all major campus events. Above, NTID Associate Interpreter Bea Hogan translates the speaker's comments into American Sign Language during RIT's Academic Convocation, and below, live captioning is provided during RIT President David Munson's presentation at an RIT Open House.

Access Services: Interpreting, Real-Time Captioning, and Notetaking

Interpreting, real-time captioning, and notetaking 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 Art and Design	19,856	2,710	6,478	327
College of Engineering Technology	3,951	1,532	2,723	158
College of Health Sciences and Technology	2,638	1,404	1,464	65
College of Liberal Arts	13,307	5,744	9,810	392
College of Science	14,154	5,459	10,530	364
B. Thomas Golisano College of Computing and Information Sciences	8,833	3,413	5,237	232
Golisano Institute for Sustainability	0	43	41	1
School of Individualized Study	1,310	283	613	52
Kate Gleason College of Engineering	1,875	2,116	2,133	97
NTID	11,025	635	174	187
Saunders College of Business	7,265	2,668	4,080	172
Student Affairs Division	2,321	263	239	106
FY 2023 Total Hours	86,535	26,270	43,522	2,153

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 2023	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	43,638	75%	726	9,289	16%	5,251	9%	58,178	100%
Spring	42,082	75%	655	10,625	19%	3,572	6%	56,279	100%
Summer	815	8%	24	5,765	57%	3,527	35%	10,107	100%
FY 2023 Total	86,535	69%	1,405	25,679	21%	12,350	10%	124,564	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%
FY 2021 Total	82,474	70%	1,563	23,013	20%	12,344	10%	117,831	100%
FY 2022 Total	91,075	69%	1,471	28,703	22%	12,399	9%	132,176	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*, *Strategic Decisions 2020*, and increasing demand for real-time captioning, support is being allocated to increase the supply of real-time captioning. Students who benefit from a text-based service may request real-time captioning as their means of real-time access.

Real-time captioning is provided via specialized software allowing the provider to type in shortcuts thus captioning what the speaker says in real-time. Captioning is used in classroom and other settings on campus such as student clubs, activities, meetings, and presentations, in order to support equal access for deaf and hard-of-hearing students.

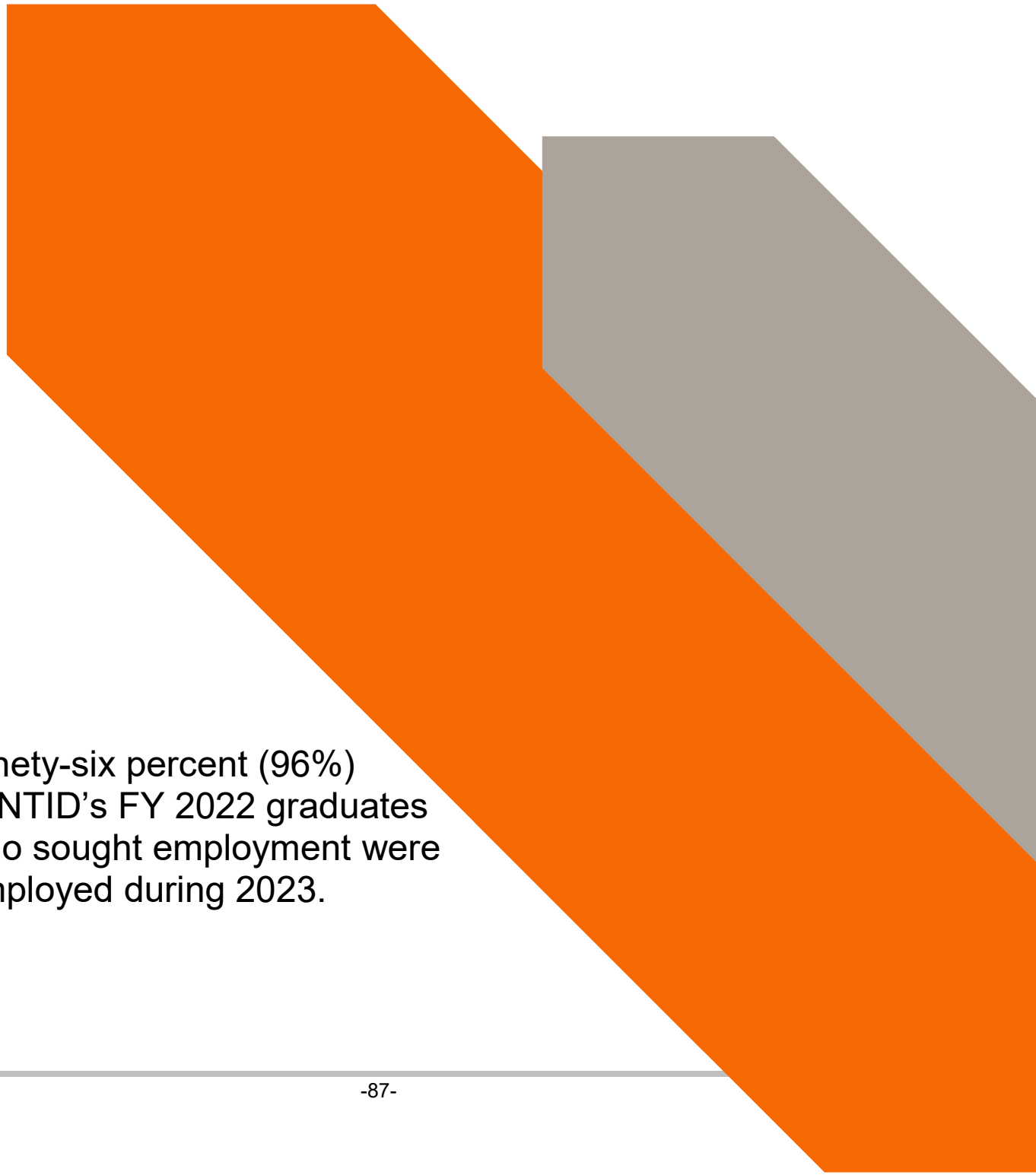
FY 2023	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	13,301	98%	376	239	2%	45	0%	13,585	100%
Spring	12,807	97%	348	274	2%	92	1%	13,173	100%
Summer	162	18%	8	543	62%	171	20%	876	100%
FY 2023 Total	26,270	95%	732	1,056	4%	308	1%	27,634	100%
FY 2013 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%
FY 2021 Total	25,235	91%	883	1,946	7%	563	2%	27,744	100%
FY 2022 Total	28,051	87%	866	3,823	12%	443	1%	32,317	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, and Employment



Ninety-six percent (96%) of NTID's FY 2022 graduates who sought employment were employed during 2023.

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 2022 graduates show that 96%, or 112 of the 117 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 evaluate 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 offerings in our Multicultural Student Program for first-year African American, Asian/Pacific Islander, Latino/Hispanic, or 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 2022-2023, 277 degrees were awarded. Of those, 25% were sub-baccalaureate degrees, 51% were bachelor's degrees, and 24% were graduate degrees. Thirty-eight percent of graduates were students from minority backgrounds.

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 609 students who were first-time, full-time, degree-seeking in the years 2020, 2021, and 2022. Data in the table below indicate that for the most recent three-year period, 76% of new students persisted to the second year. Rates by degree level 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
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%
2019, 2020, 2021	604	457	75%
2020, 2021, 2022	609	460	76%

* 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 82%. This compares to an 86% persistence rate for first-year NTID students across four-year degree programs. The table below also indicates that NTID's

graduation rates (43% for students admitted into sub-baccalaureate programs and 67% 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	61%	34%
NTID Sub-Baccalaureate**	69%	43%
Four-Year Institutions	82%	64%
Other RIT Colleges (NTID Baccalaureate)**	86%	67%



In May 2023, Raihiem Marshall, from Boynton Beach, Florida, graduated with an AAS in Business Administration. Marshall is enrolled currently at RIT in an individualized BS program.

* Source of national estimates: nces.ed.gov

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

Degrees Granted: FY 2019 to FY 2023

During the past five years, NTID has awarded an average of 280 degrees annually. The number for FY 2023 was 277. In FY 2023, 99 of the 271 graduates (38%) were 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.

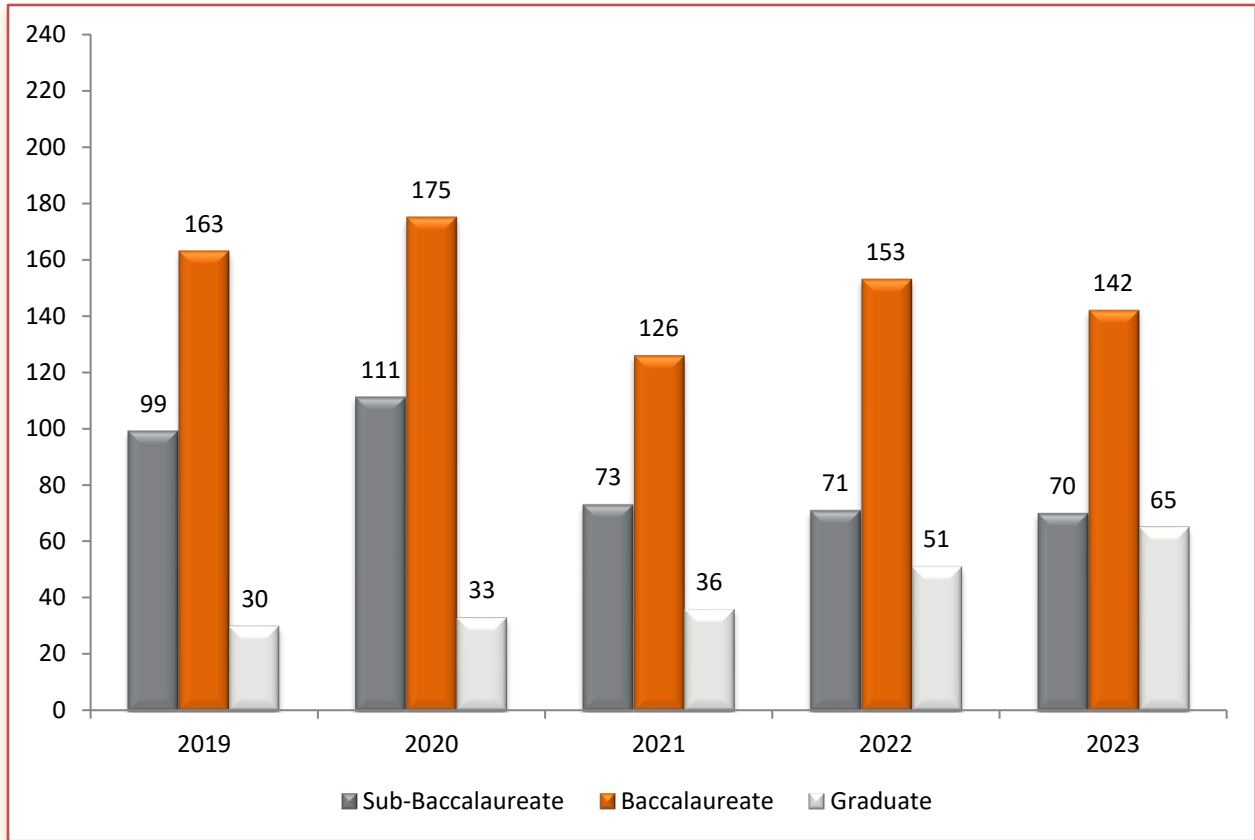
Bachelor's/Master's Degrees and Advanced Certificates

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 *Doctor of 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.

Degrees Granted: FY 2019 to FY 2023 (continued)



	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Sub-Baccalaureate	33.9%	34.8%	31.1%	25.8%	25.3%
Baccalaureate*	55.8%	54.9%	53.6%	55.6%	51.3%
Graduate**	10.3%	10.3%	15.3%	18.6%	23.4%

* 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 2023, 49% were through programs offered by NTID and 51% through the other colleges of RIT.

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

	FY 2023	
	Number of Graduates	Percentage of Graduates
NTID		
Career-Focused and Associate+Bachelor's Degrees	68	25%
ASL-English Interpretation	29	11%
Master of Science in Health Care Interpretation	8	3%
Master of Science in Secondary Education	28	10%
Subtotal NTID	133	49%
Other Colleges of RIT*		
College of Engineering Technology	14	5%
Saunders College of Business	18	7%
B. Thomas Golisano College of Computing and Information Sciences	32	12%
Golisano Institute for Sustainability	0	0%
Kate Gleason College of Engineering	5	1%
College of Health Sciences and Technology	6	2%
College of Art and Design	18	7%
College of Liberal Arts	19	7%
College of Science	8	3%
School of Individualized Study	18	7%
Subtotal Other Colleges	138	51%
Total	271	100%

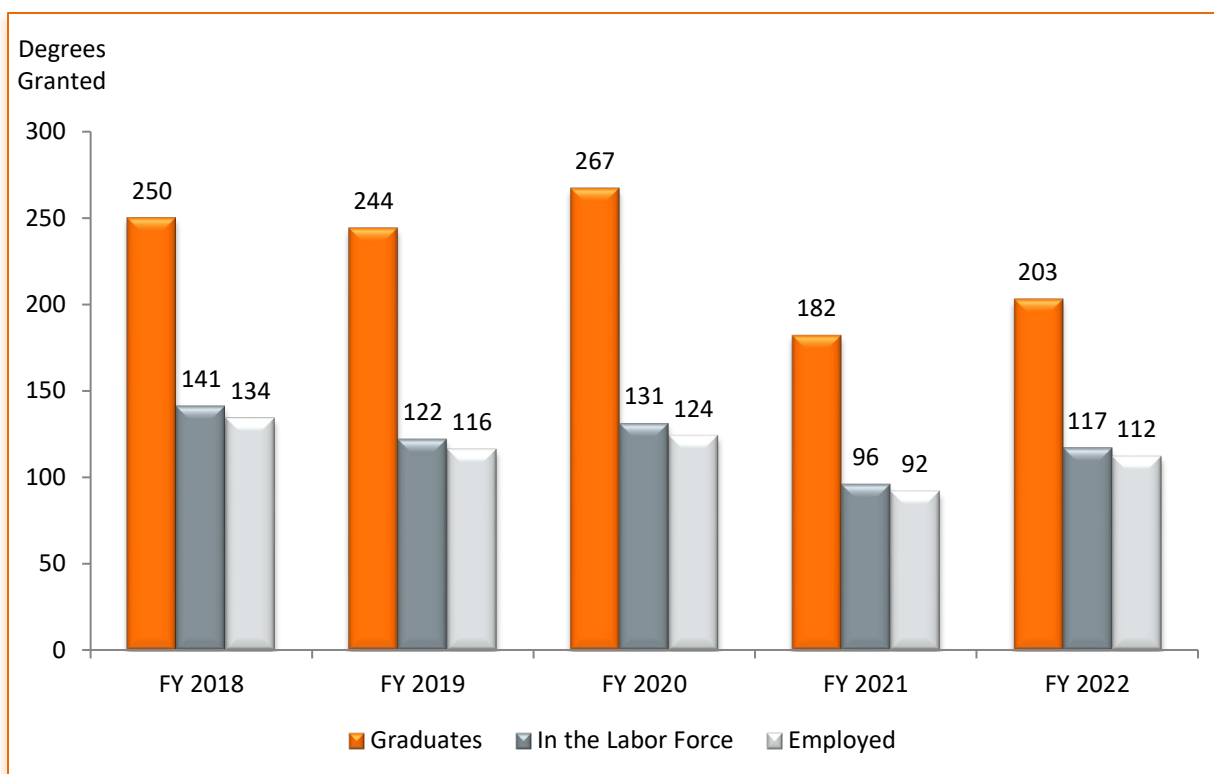
* Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as some associate degrees.

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 2022*, 203** deaf and hard-of-hearing students graduated, and 117 chose to enter the labor force. One hundred and twelve were employed, while five were unable to find employment. Therefore, 95.72% (112/117) found employment. NTID's employment rate over the past five years as calculated above is 95%. Of the 86 remaining graduates from 2022, 68 are continuing their education toward advanced degrees either at RIT or elsewhere, three are not looking for employment, and 15 have an unknown status.



* As of the writing of this report, the employment information for 2023 is incomplete; therefore, NTID reports employment rates of 2022 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) 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 2023:

- NCCC personnel appeared as guest presenters to discuss the job search process in nine sections of various technical and academic programs.
- Two faculty and three engineering students went to San Diego, California, to participate in the Solar Turbines Training Academy in October 2022. The students gained valuable engineering experience through an assigned case study project which represents an example of a real-world problem.
- Three faculty and seven engineering students went to Washington, D.C., to participate in the Deaf in Department of Defense (DoD) Research Symposium in November 2022.
- Hosted a successful Alumni Roundtable Discussion in March 2023 for 40 engineering, science, and liberal arts students. The students met with three alumni to gain a better understanding of building a rewarding career.
- As part of the Disability:IN conference in Orlando, Florida, two students participated in the Next Gen Leaders program. Students were matched one-on-one with mentors from corporate partners across all industries like Google, JPMorgan Chase, Microsoft, Boeing, and Pfizer.
- NCCC consulted with 96 alumni for job search assistance and providing employment opportunities for our students and recent graduates.

The Dow Chemical Company recruits NTID students for co-ops and employment opportunities at NTID Co-op and Career Center's annual Career Fair.



Where Recent Graduates Are Working

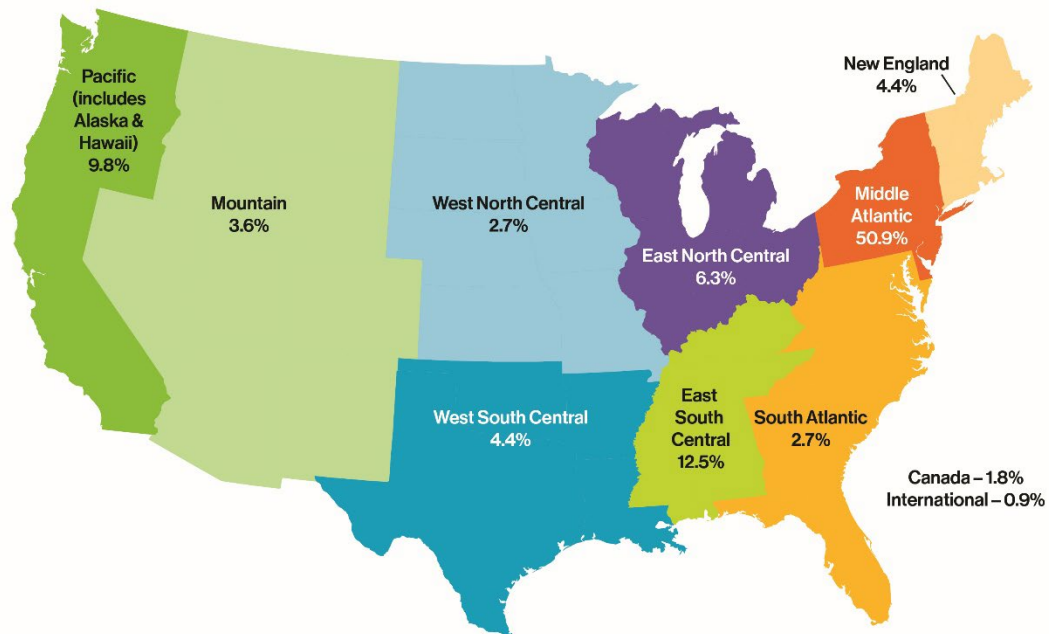
In FY 2022, 52% of U.S. NTID graduates accepted jobs in their home states as their first jobs after graduation, while 23% found employment in the Rochester area and 25% in other areas of

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 2018	FY 2019	FY 2020	FY 2021	FY 2022*
Rochester	29%	28%	15%	11%	23%
Home State	39%	36%	56%	65%	52%
Other	32%	36%	29%	24%	25%
Total	100%	100%	100%	100%	100%

Number of Graduates Employed	134	116	124	92	112
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FY 2022 Graduate Employment by Region**



* Employment numbers for FY 2023 graduates are incomplete and will be reported next year.

** Unknown locations are excluded.

Employment by Sector of the Economy

Of the last cohort of graduates tracked for employment, 67% have acquired jobs in business and industry, 24% in education/non-profit, and 9% in government.

Sector	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022*
Business/Industry	65%	77%	72%	67%	67%
Education/Non-Profit	15%	16%	21%	25%	24%
Government	20%	7%	7%	8%	9%
Total	100%	100%	100%	100%	100%



Ethan Nunez, a Computer Science major from Del Valle, Texas, surveys co-op and job opportunities at NTID's Career Fair.

* Employment numbers for FY 2023 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

13 categories. Percentages among the various categories are different than seen in the *FY 2022 Annual Report*. This year shows moderate changes over many occupational categories.

Occupations of Working 2022 Graduates*	%**	Sample Job Titles of 2022 Graduates within Category
Architecture and Engineering	17.8%	Mechanical Engineer, Associate Data Engineer, Civil Analyst, Design Engineer, Industrial Engineer, Process Engineer, Traffic Engineer, Field Engineer.
Arts, Design, Entertainment, Sports, and Media	16.8%	Digital Marketing Specialist, Cinematographer, Creative Director, Photographer, Multimedia Content Producer, Senior Graphic Designer, Animator
Computer and Mathematics	10.3%	IT Analysis, Software Engineer, Systems Admin, Software Developer, Technology Development Program Analyst
Education, Training, and Library	10.3%	Teacher's Aide, Tutor, Special Education Teacher, Project Assistant, Career Counselor
Production	7.5%	3D Modeler, CNC Operator, Installation Technician, Machine Operator, Machinist, Technician II
Sales and Related	7.5%	Sales Account Specialist, Retail Associate, Account Manager, Associate Technical Designer, Front Desk Assistant
Business and Financial Operations	5.6%	Accounting Assistant, Associate DTRV Investment Strategist, Business Analyst, Business Development
Healthcare Practitioners and Technical	5.6%	Component Laboratory Technician, Drug Manufacturing Technician, Lab Clinical Support Tech III, IPD Assistant
Food Preparation and Serving	4.7%	Food Delivery Driver, Product Selector, Barista
Life, Physical, and Social Science	3.7%	Research Specialist, Biological Sciences Technician
Management	3.7%	Technical Project Manager, Senior Marketing Communication Assistant, Leasing Manager, Communications Director
Office and Administrative Support	2.8%	Assistant Producer, Office Assistant
Building and Grounds Cleaning and Maintenance	0.9%	Incoming Rooms Operations Voyager
Personal Care & Service	0.9%	Concierge
Protective Service	0.9%	Public Safety Guard
Transportation and Material Moving	0.9%	Trapeze Handler
Total	100%	

* Five of the FY 2022 employed graduates had unknown job titles.

** Percentages may not sum to 100% due to rounding.

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.

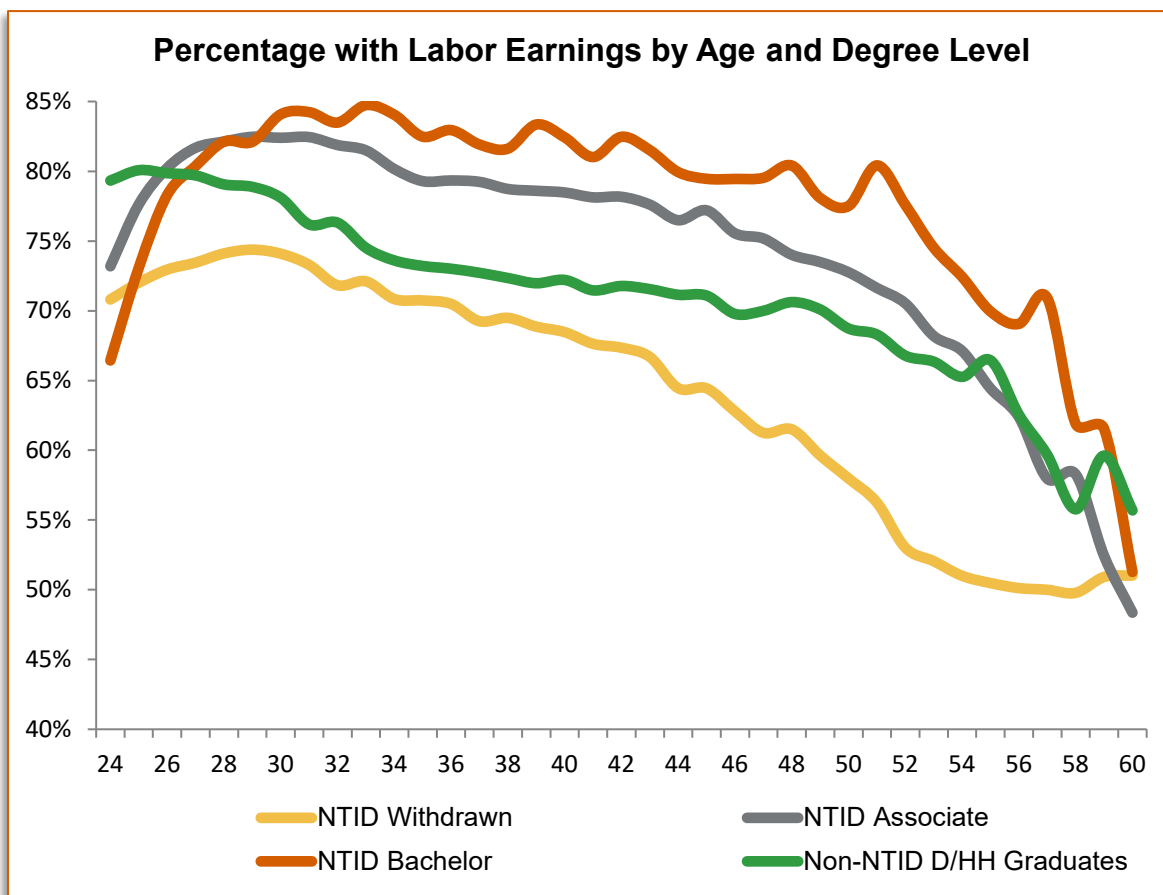
Occupations of Working Alumni*	%	Sample Job Titles Held by Alumni within Category
Education, Training, and Library	20.8%	Assistant Professor, Life Skills and Literacy Instructor, Paraprofessional, Special Education Teacher
Community and Social Services	15.5%	Family Service Program Coordinator, Lead Employment 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. Only the top 15 categories are reported.

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.

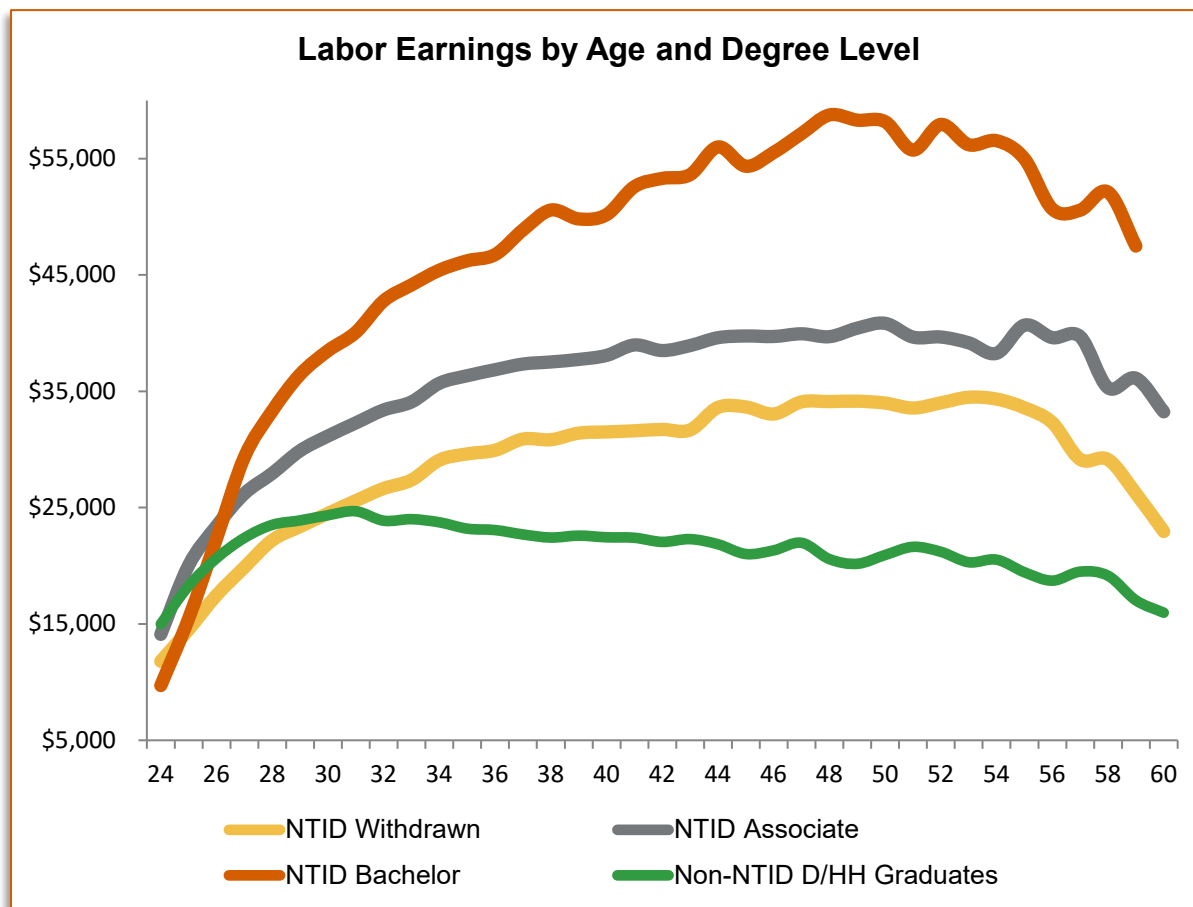


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and 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.

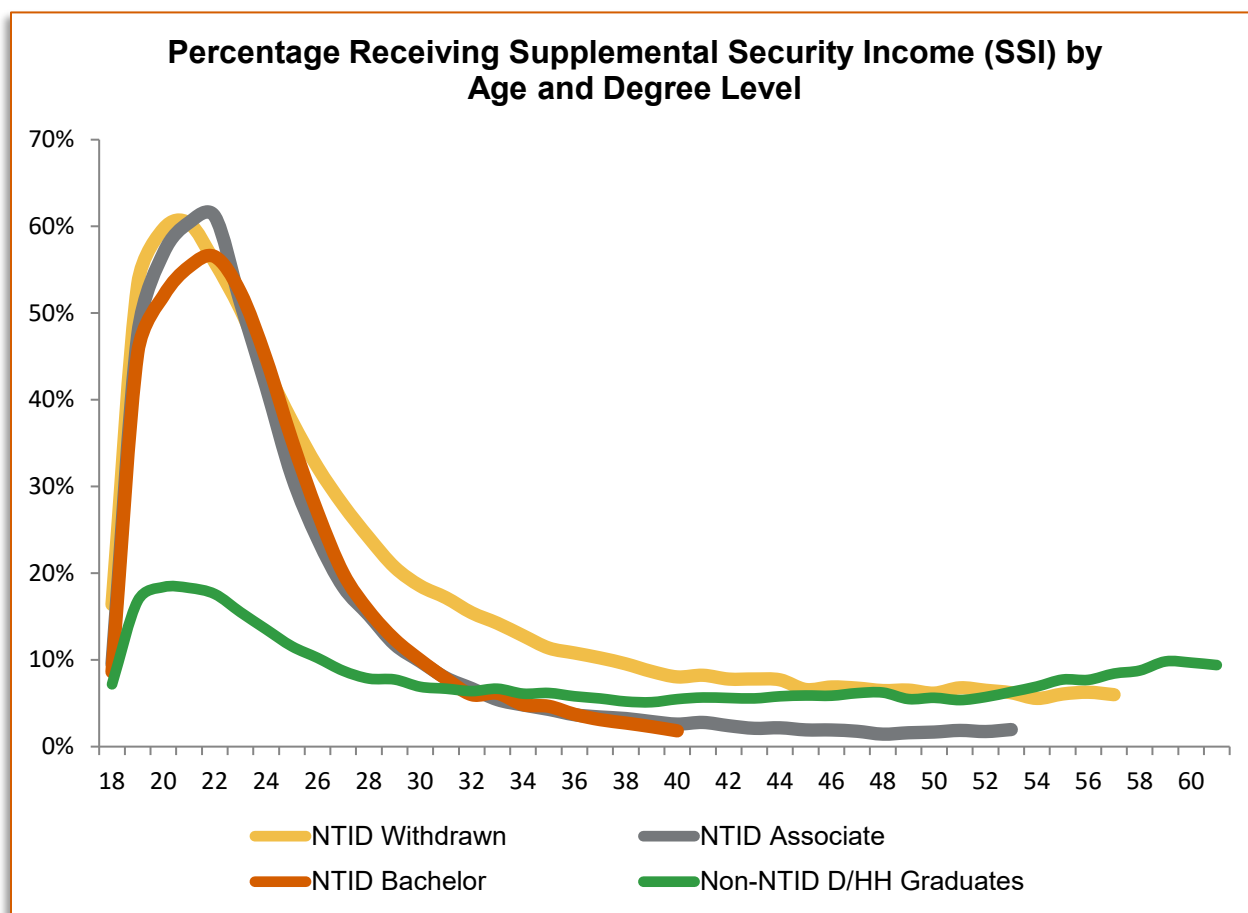


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and 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.

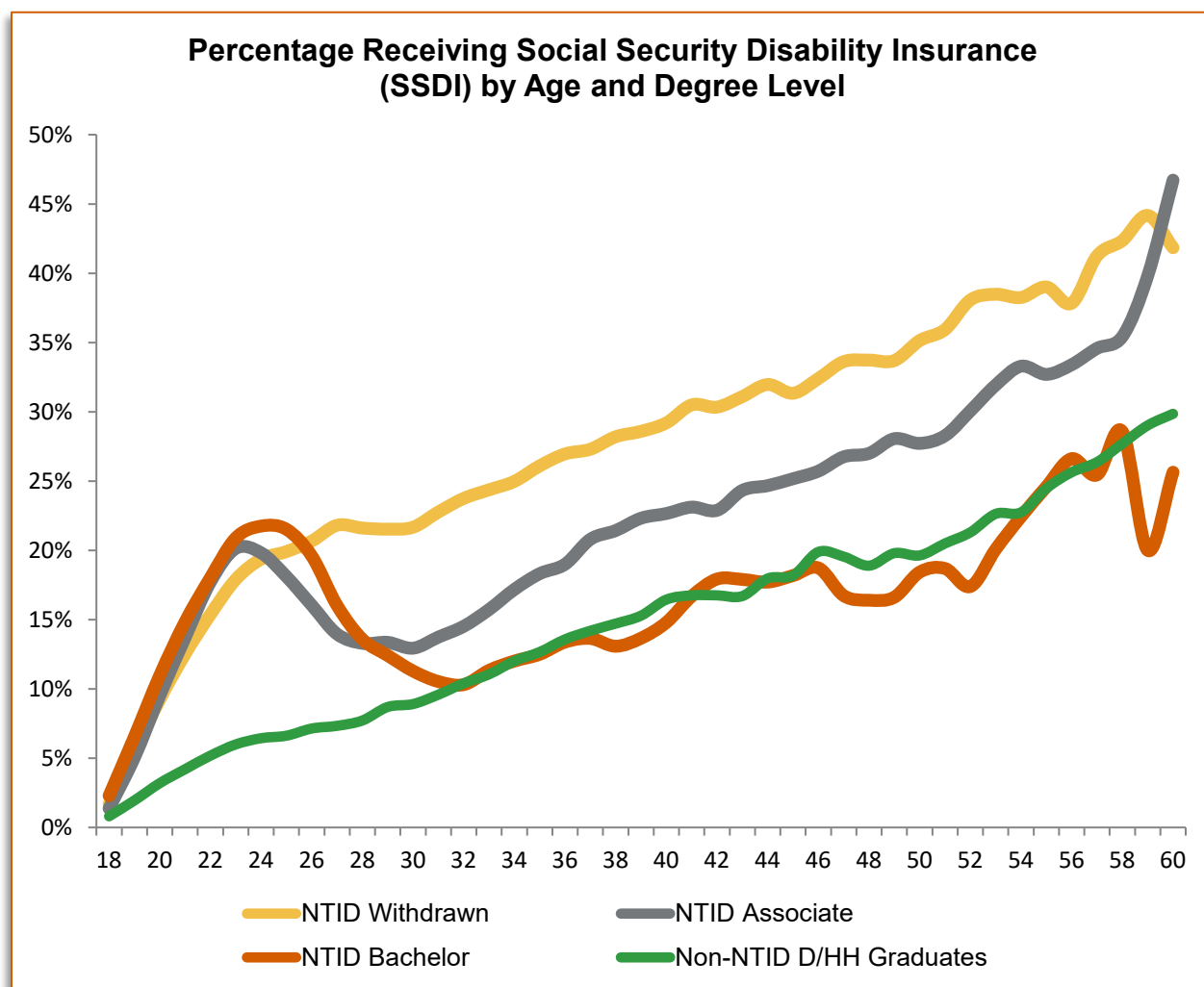


Note: From a 2012 collaborative research study conducted with the Social Security Administration and Cornell University. To accomplish this, NTID forwarded a data file with approximately 16,000 cases to the Social Security Administration. Four study groups were defined by degree attainment: 1) Deaf and 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)

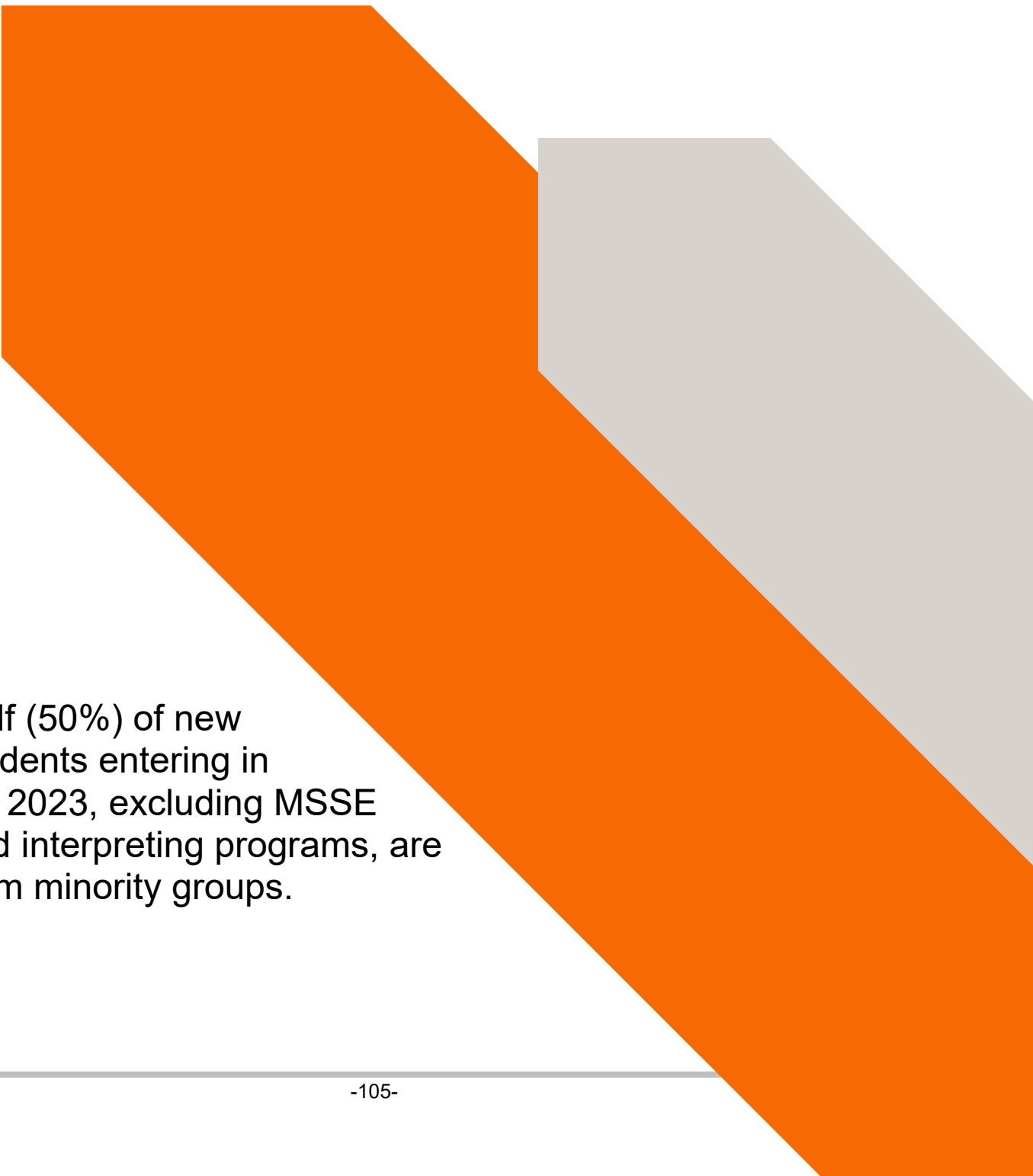
While a smaller percentage of deaf and hard-of-hearing students collect SSDI in their collegiate years, by age 50, 18% of NTID deaf and hard-of-hearing bachelor's degree graduates collect SSDI, as compared with 20% of deaf and hard-of-hearing

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



Half (50%) of new students entering in fall 2023, excluding MSSE and interpreting programs, are from minority groups.

Diversity and Inclusion Highlights

Students

As of fall 2023, deaf and hard-of-hearing students at NTID totaled 890.* Diversity highlights for this population follow:

- Fifty-one percent (51%) of the entering class is from minority groups. The percentage of the total enrolled student body is 50%, which is more than triple what it was 20 years ago.

Of all NTID-supported students, deaf, hard-of-hearing, and hearing, and across all programs, 46% 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 125 employees from ethnic minority populations, 47 are Black or African American, 48 are Hispanic/Latino, and 30 are other minorities.

Of 581** total number of employees, 172 are deaf or hard of hearing.

Of the 256 employees who are deaf or hard of hearing or are members of a minority group, 161 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, 69% of all hires were either minority individuals or individuals who are deaf or hard of hearing.



Biverly Huff, a Laboratory Science Technology major from Solano, California, Casey Riddel, an individualized program bachelor's student from Clearwater, Kansas, and Brandon Seaton, an Applied Computer Technology major from Frederick, Maryland, provide information about NTID's Asian Deaf Club at Apple Festival, an annual event at the beginning of each academic year.

* 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 581 employees, 534 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, knowledge, and 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.

Diversity continues to be a priority in higher education. NTID's *Antiracism and Social Justice Plan* has made significant gains. It focuses 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. NTID's Diversity and Inclusion Executive Team, along with NTID's Administrative Council and individuals who have lead responsibility for specific action steps, have successfully completed some of the actions. To date, there are 32 Action Steps on the plan and 10 were completed, 16 are ongoing, three are RIT-led and three are future priority. NTID increased the NTID Faculty Fellowship (NFF) program reserved for ALANA faculty members from three to six positions, and MSSE and ASLIE scholarships were awarded in the fall to students from disadvantaged economic backgrounds. An example of an ongoing action step is when NTID increased ALANA representation among administrators and managers from 10% to 14%. NTID also has ongoing work to create culturally responsive first-year academic programming (e.g., STP, SVP, Freshman Seminar, etc.) that provides skills and strategies to improve student persistence. NTID partners with RIT on the RIT-led initiative to fully participate in RIT's *Action Plan for Race and Ethnicity* that includes action steps like working in consultation with RIT Human Resources Department to review hiring process and practices and ensure that progress towards the 2025 ALANA faculty, staff, and administration goals are being made. NTID also works with RIT Division of Diversity and Inclusion to identify specific diversity and anti-bias training that will be required for all faculty, staff, and administrators at NTID to complete as part of their professional development plan. Recently, RIT launched a new tradition in fall 2022 known as Together RIT: Day of Understanding, Solidarity, and Racial Reconciliation. On this day, the RIT community engaged in intentional and honest dialogue about race, ethnicity, and racism. It allowed for members of the RIT and NTID community to come together in person and share work, passions, and ideas. NTID continues to be dedicated and committed to ensuring a sense of belonging and inclusion and seeing success was evident from both RIT and NTID's action plans.

NTID Office of Diversity and Inclusion (continued)

RIT/NTID's Office of Diversity and Inclusion hosted and participated in a variety of events in 2023 including:

- An ODI-led panel on audism and intersectional identity during RIT's first Together RIT: Day of Understanding Solidarity and Racial Reconciliation
- The annual Johnnie "JB" Brown Black History Month luncheon
- Hosted a private, captioned viewing at Regal Cinema at Marketplace of the movie "Black Panther: Wakanda Forever"
- Hired Crystal Peloquin in July as our new NTID ALANA Staff Retention Specialist
- Continued partnerships with Rochester community organizations including 540WMain, Police Accountability Board (gave DEI workshops), supported Every Child Matters and Indigenous Day events, and the 19th Amendment Women's Emporium
- Secured safe space for the NTID community from all backgrounds to come and explore social justice issues, learn about varying intersecting identities, and provide educational programming/professional development workshops
- The NTID Faculty Fellowship (NFF) grew and expanded fellowship positions, and hired a new faculty mentor, Colin Allen, an NFF alumnus
- Hosted Antiracist Curriculum development 1.0 and 2.0 workshops
- Sponsored the National Black Deaf Advocates conference where NTID faculty, staff, and students participated, and Faculty Women of Color conference, where ODI covered registration for 11 women faculty of color from NTID to attend



Nelson Palacios, center, a 3D Digital Design major from Hayward, California, joins fellow RIT cheerleaders in greeting new RIT students.

Admissions Activity by Ethnicity*

Fifty-three percent (294) of this year's 630 deaf and hard-of-hearing applicants were students from minority backgrounds. The FY 2024 entering class of deaf and hard-of-hearing students included 130 minority students, who represent 51% of the newly admitted deaf and hard-of-hearing students.

	FY 2020*	%	FY 2021*	%	FY 2022*	%	FY 2023*	%	FY 2024*	%
Total Applicants	520		593		601		593		630	
Non-Minority	241	47%	252	43%	239	45%	243	47%	260	47%
Minority	271	53%	336	57%	296	55%	279	53%	294	53%
Acceptances	396		449		438		425		440	
Non-Minority	201	52%	206	46%	197	48%	202	51%	206	49%
Minority	188	48%	240	54%	217	52%	194	49%	214	51%
Registrations	247		262		269		237		260	
Non-Minority	131	54%	124	48%	123	47%	114	51%	123	49%
Minority	111	46%	133	52%	138	53%	111	49%	130	51%

NTID New Student Orientation Leaders are a vital part of welcoming new RIT Tigers to campus.



* 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 2024 entering class included 157 minority students, who represent 48% of the entire incoming class. The FY 2024 entering class of deaf and

hard-of-hearing students included 129 minority students, who represent 51% of the newly admitted deaf and hard-of-hearing students.**

	FY 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority	FY 2023	Percent Minority
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	0	0.0%	0	0.0%	0	0.0%	2	0.9%	3	1.2%
Asian	31	13.6%	31	12.7%	37	14.2%	36	16.0%	35	13.9%
Black or African American	21	9.2%	34	13.9%	29	10.9%	18	8.0%	27	10.7%
Hispanic/Latino	43	18.9%	48	19.7%	53	20.3%	44	19.6%	51	20.2%
Native Hawaiian or Other Pacific Islander	0	0.0%	1	0.4%	0	0.0%	0	0.0%	0	0.0%
White	122	53.5%	117	48.0%	125	47.9%	114	50.7%	123	48.8%
Two or More Races	11	4.8%	13	5.3%	17	6.5%	11	4.9%	13	5.2%
Non-Resident Alien (International)	4		4		5		7		6	
Unknown Race/Ethnicity	14		0		7		5		1	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	106	46.5%	126	51.6%	136	52.1%	111	49.3%	129	51.2%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	246		248		273		237		259	
	FY 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority	FY 2023	Percent Minority
Other Enrollments										
ASL-English Interpretation	51	15.7%	48	29.2%	48	39.6%	41	24.2%	42	22.0%
Community Development and Inclusive Leadership	N/A		N/A		N/A		0	N/A	1	***
Master of Science in Secondary Education	8	0%	22	36.4%	28	21.7%	38	29.7%	36	54.5%
Total Minority Enrollments	120		154		162		130		157	
Total Enrollments	305		318		349		316		338	
Overall Percent Minority		39.9%		47.5%		48.2%		42.9%		48.0%

* 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.

*** Suppressed to avoid disclosure of confidential information.

Ethnicity of Enrolled Students

Minority enrollment at NTID has steadily increased from 8% in FY 1988 to 46.1% in FY 2024, 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 2020	Percent Minority	FY 2021	Percent Minority	FY 2022	Percent Minority	FY 2023	Percent Minority	FY 2024	Percent Minority
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	3	0.3%	2	0.2%	1	0.1%	2	0.2%	4	0.5%
Asian	109	12.4%	115	13.6%	135	15.3%	133	15.4%	139	16.3%
Black or African American	84	9.6%	88	10.4%	95	10.8%	87	10.1%	84	9.9%
Hispanic/Latino	143	16.3%	143	16.9%	155	17.6%	164	19.0%	154	18.1%
Native Hawaiian or Other Pacific Islander	1	0.1%	2	0.2%	1	0.1%	1	0.1%	1	0.1%
White	508	57.9%	458	54.2%	452	51.2%	437	50.6%	428	50.2%
Two or More Races	30	3.4%	37	4.4%	44	5.0%	39	4.5%	42	4.9%
Non-Resident Alien (International)	38		31		30		29		25	
Unknown Race/Ethnicity	27		10		16		12		7	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	370	42.1%	387	45.8%	432	48.9%	426	49.4%	424	49.8%
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	943		886		929		904		884	
Other Enrollments										
ASL-English Interpretation	155	18.1%	170	22.5%	168	26.8%	144	22.4%	144	24.6%
Community Development and Inclusive Leadership	N/A		N/A		N/A		3	*	8	75.0%
Master of Science in Secondary Education	22	10.0%	34	23.5%	56	25.5%	72	26.2%	82	41.6%
Master of Science in Health Care Interpretation	9	22.9%	11	27.3%	13	25.0%	12	36.4%	11	50.0%
Total Minority Enrollments	401		436		492		482		502	
Total Enrollments	1,129		1,101		1,166		1,135		1,129	
Overall Percent Minority		38.0%		41.2%		44.2%		44.4%		46.1%

* Data not reported due to small cell size.

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 Students* Three-Year Moving Averages

Fall 2020-2022 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	69	83	125	6	285
Persisted to Second Year	48	68	88	5	220
First to Second Year Persistence Rate	70%	82%	70%	83%	77%

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

Fall 2015-2017 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	69	64	126	18	372
Graduated Within Six Years	22	46	48	12	205
Six-Year Graduation Rate	32%	72%	38%	67%	55%

* 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 2023 Number of Graduates		
	Minority	Non-Minority	Total**
NTID			
Career-Focused and Associate+Bachelor's Degrees	38	29	68
ASL-English Interpretation	4	25	29
Master of Science in Secondary Education	5	19	28
Master in Health Care Interpretation	2	6	8
Other Colleges of RIT*			
College of Engineering Technology	6	7	14
Saunders College of Business	6	11	18
B. Thomas Golisano College of Computing and Information Sciences	12	18	32
Golisano Institute for Sustainability	0	0	0
Kate Gleason College of Engineering	2	3	5
College of Health Sciences and Technology	0	6	6
College of Art and Design	9	7	18
College of Liberal Arts	7	12	19
College of Science	2	6	8
School of Individualized Study	6	10	18
Total	99	159	271

* 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 2023						
	Total Employees	Female	Black or African American	Hispanic /Latino	Other Racial/ Ethnic Categories*	Deaf and Hard-of-Hearing
Faculty**	141	76	11	9	10	68
Percent		54%	8%	6%	7%	48%
Exempt Staff**	150	96	18	6	6	59
Percent		64%	12%	4%	4%	39%
Executive/ Administrative Manager**	59	32	7	1	1	26
Percent		54%	13%	2%	2%	46%
Non-Exempt Staff						
Real-Time Captionist	57	43	0	1	1	0
Percent		75%	0%	2%	2%	0%
Interpreter	132	109	10	22	6	2
Percent		83%	8%	17%	5%	2%
Technical/ Clerical	101	74	8	10	7	43
Percent		73%	8%	10%	7%	43%
Total***	581	398	47	48	30	172
Percent		69%	8%	8%	5%	30%

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

** Of the 55 executive/administrative managers, 21 are included on the faculty line, and 35 are included on the exempt staff 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 581 employees, 534 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 2023

	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	13	73	36	2	7	12	20	3
Exempt Staff	42	342	200	32	46	32	89	12
Non-Exempt Staff**	71	834	525	119	139	85	149	41
Total	125	1,249	761	153	192	129	258	56

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

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

Diversity Report: Faculty and Staff Hiring Results

During FY 2023, individuals from an ethnic minority or who were deaf or hard of hearing totaled 67% of all new hires and women totaled 75% of all new hires. Individuals may appear in more than one category.

FY 2023

	Total New Employees	Female	Black or African American	Hispanic /Latino	Other Racial /Ethnic Categories*	Deaf and Hard-of-Hearing
Faculty	6	2 33%	0 0%	1 17%	1 17%	3 50%
Exempt Staff	19	15 83%	0 0%	2 12%	3 18%	9 50%
Non-Exempt Staff**	52	35 78%	4 9%	9 20%	5 11%	17 38%
Total	77	52 75%	4 6%	12 18%	9 13%	29 42%

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

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

Diversity Report: Faculty and Staff Termination Results

During FY 2023, 22% of terminations were individuals from ethnic minorities and 78% were women. In the chart below, individuals may appear in more than one category.

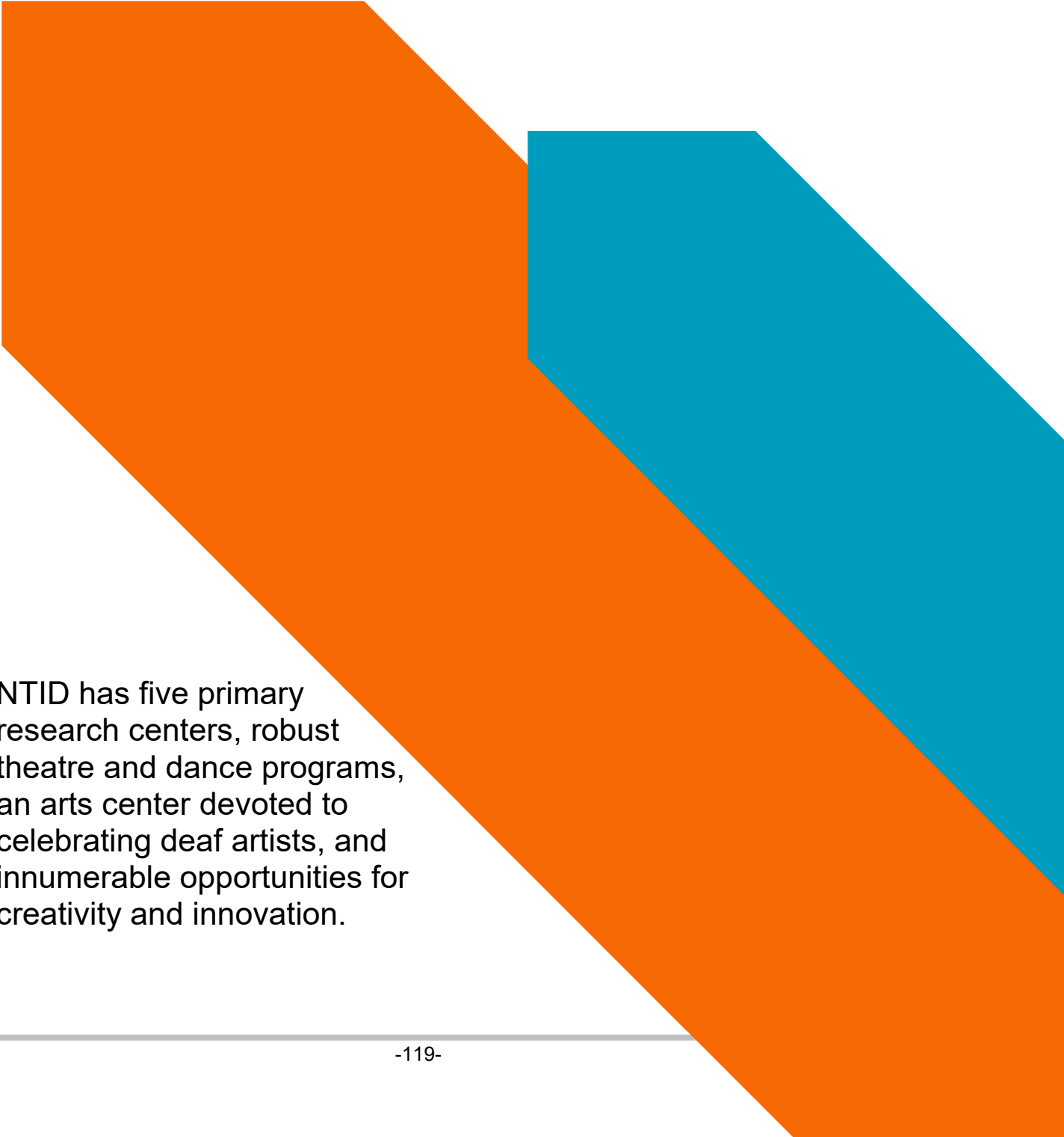
FY 2023

	Total Terminated Employees	Female	Black or African American	Hispanic /Latino	Other Racial /Ethnic Categories *	Deaf and Hard-of-Hearing
Faculty	9	5 56%	0 0%	0 0%	0 0%	2 22%
Exempt Staff	11	6 60%	1 10%	0 0%	1 10%	4 40%
Non-Exempt Staff**	56	43 86%	6 12%	4 8%	3 6%	7 14%
Total	76	54 78%	7 10%	4 6%	4 6%	13 19%

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

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

Research, Innovation, and Creativity



NTID has five primary research centers, robust theatre and dance programs, 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. The NTID Research Enhancement Committee (NREC) provided NTID 15 recommendations in January 2022 on ways the college can advance faculty scholarship and meet the rising expectations of RIT for faculty to receive sponsored program funding and produce scholarship that shows the world our faculty are experts in their disciplines. NTID faculty conduct research on special institutional projects established in response to immediate needs identified by NTID's administration. The research interests of NTID faculty, often in combination with faculty of other RIT colleges and/or institutions outside of RIT, contribute to the college's research activities. In addition to strategic research and special projects that typically focus 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 consistently involved in faculty research, providing valuable learning experiences and skills development to 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)

At the time of publication, the associate dean of research position was vacant. In FY 2023, the interim associate dean stepped out of the role, and the initial search to fill the position was unsuccessful. While the search continues, the OADR staff, as well as NTID's Associate Vice President for Academic Affairs, Gary Behm, continue to provide support for NTID research as described below.

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 the 15 NREC recommendations in FY 2023 while providing fiscal and administrative support for research projects, professional development for principal investigators (PIs), and publicizing the research accomplishments of faculty and staff. In this annual report, three broad areas are described to illustrate what the OADR provides.

a. Support for researchers and research initiatives

The OADR's Scholarship Portfolio Development Initiative (SPDI) provides intramural grants to meritorious applicants proposing innovative research, outreach initiatives, or other types of scholarly projects. In FY 2023, SPDI offered intramural funds of up to \$12,000 for one- or two-year projects. Applicants may request an additional \$3,000 to support the involvement of collaborators from other colleges and institutions, another priority of the program. In FY 2023, two new SPDI proposals were funded for a total of \$30,000. Three SPDI projects that were funded in prior fiscal years remain active at this time.

Research (continued)

Initial Piloting of Good Phones in Rochester, NY

05/01/2023-04/30/2024

\$15,000

PI: Eric Kunsman

Mentor: Stephen Jacobs

The goal of this project is to address the lack of basic communication access affecting many throughout the region. This project will draw upon an existing partnership between NTID, RIT Libraries, and two outside organizations in Rochester: On the Ground Research, a community-based social science research firm, and Independent Good, a consultancy focused on making positive community impact.

Through a partnership with key stakeholders and Los Angeles-based Littlejohn Communications, the project aims to achieve four goals:

1. Install and pilot four free Good Phones in Rochester, New York, in strategic locations;
2. Understand how payphones currently are being used;
3. Conduct focus groups with key stakeholders and community members;
4. Lay the foundation for 2024-2025 applications for extramural funding.

RxASL: A Mobile Application Providing Medication Engagement for Deaf Individuals

05/01/2023-04/30/2024

\$15,000

PI: Mariam Paracha

Mentor: Wendy Dannels '98, '99, '00, '05

The goal for this project is to develop a working prototype of a deaf-friendly mobile app, called RxASL, which will provide medication engagement for the Deaf community.

RxASL will provide this important information by having ASL videos deliver key medication information. Leveraging the perspectives of community pharmacists, we will identify the best solution to facilitate a high-quality service for deaf and hard-of-hearing individuals' understanding of their prescriptions.

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 are new or existing NTID 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 eight. 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 RIT's College of Science (COS) was launched in FY 2020. 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 the oft-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 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.

Research (continued)

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.

b. Professional development

In FY 2023, OADR successfully completed its fifth year of *PI Prime Time*, a professional development program designed to enhance faculty success in applying for extramural funding, improving 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. Three workshops were offered during the fall 2022 semester, and two workshops were offered during the spring 2023 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. 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 2023, the Associate Dean of Research recruited and funded two 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 2023, 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. Additionally, OADR works with NTID's Communications, Marketing, and Multimedia Services department to develop press releases for dissemination to appropriate news outlets.

Research (continued)

RESEARCH CENTERS

This section summarizes the activities and accomplishments of each NTID Research Center during FY 2023. 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 2022, SPaCE Center faculty and staff published five peer-reviewed journal articles, two book chapters, and presented at virtual and in-person academic conferences.

SPaCE currently encompasses four 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 executive brain functions. During FY 2023, the deaf *x* laboratory continued work on three major research projects:

- Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Experience
National Institutes for Health: NIDCD R01DC016346 7/1/2017–6/30/2024
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 2023, the team continued data collection activities and presented initial results. In the coming year, data collection will continue and dissemination activities will begin.

- Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution
National Science Foundation: BCS-1749376 7/1/2018–12/31/2023
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 automatically can extract information contained in 2D videos 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.

Research (continued)

- A Comparative Modeling Approach to Exploring Speech Processing in the Human Visual System
URMC Del Monte Institute Pilot Project Program 7/1/2021–6/30/2023
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.

Book Chapter

Hirshorn, E.A., Dye, M.W.G., Hauser, P., Supalla, T., & Bavelier, D. (2022). Reading in deaf individuals: Examining the role of the visual word form area. In A. Newman, & G. Grossi (Eds), *Changing Brains: Essays on Neuroplasticity in Honor of Helen Neville* (Chapter 7). Routledge.
<https://www.routledge.com/Changing-Brains-Essays-on-Neuroplasticity-in-Honor-of-Helen-J-Neville/Newman-Grossi/p/book/9780367358693>

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 2023, the PLAY Laboratory continued work on three research projects:

- Deaf Preschoolers' Exploratory Behaviors and Parent Guidance during Shared Museum Experiences
National Institutes for Health: NIDCD R15DC021349 8/1/2023–7/31/2026
PI: Rain Bosworth \$428,054

Compelled by curiosity and a desire to learn, children naturally explore. Hands-on object exploration is important for building knowledge about how the world works, especially during shared discovery with caregivers who often provide guidance. Among children who are born deaf, the majority are born to hearing parents who struggle to provide early accessible language. It is likely that language deprivation early in life impacts how children explore and learn about their surroundings. It is also likely that for deaf children who have deaf parents, sign language exposure from birth changes exploratory behaviors in ways that are adaptive for deaf children and different from hearing children. During a museum visit, we 1) describe deaf children's exploratory behaviors, 2) investigate how individual differences in age and quantity of sign language exposure relates to quality of exploratory behaviors, and 3) uncover the ways parents support their deaf children.

- 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 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.

Research (continued)

- 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 this 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 established a PLAY Laboratory located on the RSD campus. This space enhances recruitment and participation of children and families from RSD and elsewhere and allows the conduct of studies employing the specialized equipment and other child-friendly amenities present in this new space.

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.

- Early Word Learning in Deaf Children Acquiring ASL: The Role of Input and Attention
National Institutes for Health: NIDCD 2R01DC015272 6/1/2022–5/31/2024
PI: Allison Fitch [subaward] \$101,091

Deaf children learning American Sign Language (ASL) perceive both linguistic input and the visual environment in the same modality, and therefore must learn to divide their attention between them. Most deaf children also are born to hearing parents who lack expertise in ASL and have little experience structuring interactions in the visual mode. Thus, deaf children must learn to strategically allocate their visual attention to map language onto the surrounding world, but parents may not have optimal strategies to scaffold their deaf child’s learning. These factors place deaf children at risk for delay in development of both language and visual attention, which can have cascading consequences for children’s ability to manage complex visual and linguistic environments they may encounter. The current proposal uses experimental and observational approaches to understand how deaf children develop attentional skills and how parents support children’s developing attention.

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

4. Research on Interpretation and Translation Education (RITE) Laboratory

Kierstin Muroski, Ph.D., principal investigator

Established in FY 2022, the mission of the RITE lab is to perform socially conscious research on the education of signed language interpreters including a broad focus on students, faculty, curricula, assessment, history, and institutions. The goal of the lab is to create inquiry-based scholarship to inform improvements to the discipline of interpreter education and improve the quality of services to the Deaf community.

Research (continued)

- The Profession of Signed Language Interpreting: Digital Database & Historical Timeline
NTID Scholarship Portfolio Development Initiative (SPDI) 5/1/2022–4/30/2023
PI: Kierstin Muroski \$12,000

This grant project will develop the current prototype website into an online resource of material that will be open access, use rich metadata to allow for flexible searching and filtering, and include links to material that can be viewed by timeline, media type, age/date, subject matter, or content/context. This online collection of information about resources related to the profession of signed language interpreting will offer a central location for interpreters, interpreting students, and interpreter educators to access materials. The abundance of data shared in an open format will contribute resources for interpreter education, promote information sharing, supply data to inform a wide-array of research initiatives, and offer a framework of historical context – all showcased within an RIT/NTID online platform. This will be a rich, significant, and first-of-its-kind “born digital” publication that catalogues the wealth of material available to the profession.

Selected Publications

Cooley, F. G., & Quinto-Pozos, D. J. (2023). Examining speech-based phonological recoding during reading for adolescent signers. *Journal of Experimental Psychology: General*, 152, <https://doi.org/10.1037/xge0001362>

Dye, M. W. G., & Terhune-Cotter, B. (2023). Development of visual sustained selective attention and response inhibition in deaf children. *Memory & Cognition*, 51, <https://doi.org/10.3758/s13421-022-01330-1>

Langdon, C., Kurz, C., & Coppola, M. (2023). The importance of early number concepts for learning mathematics in deaf and hard of hearing children. *Perspectives on Early Childhood Psychology and Education*, 5, <https://doi.org/10.58948/2834-8257.1061>

Lieberman, A. M., Fitch, A., & Borovsky, A. (2022). Flexible fast-mapping: deaf children dynamically allocate visual attention to learn novel words in American Sign Language. *Developmental Science*, 25, <https://doi.org/10.1111/desc.13166>

Center on Access Technology (CAT)

Gary Behm '78, '81, director; Spencer Montan '16, associate 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 research and development 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 Five
Federal Communications Commission / MITRE Corporation \$703,744
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.

- PopSign
Google \$50,000
PI: Spencer Montan '16

The Center on Access Technology (CAT) is partnering with Google and Georgia Institute of Technology to develop a mobile application, PopSign, aimed at teaching hearing parents American Sign Language (ASL) and helping them communicate with their deaf and hard-of-hearing children. The app is supported by sign language recognition technology, and teaches more than 500 ASL signs based on the vocabulary from the MacArthur-Bates Communicative Development Inventories. The developments will make the mobile application a more interactive learning experience that parents can utilize anywhere and anytime.

NTID Research Center on Culture and Language (CCL)

Peter C. Hauser, Ph.D., director; Joseph Hill, Ph.D., associate director; Jason Listman, '07, '09, Ed.D., associate director; Jessica Contreras, M.S., '12, '16, research program coordinator

In FY 23, CCL's deaf health-related research laboratories and biomedical science mentorship programs became the new NTID Deaf Health Care and Biomedical Science Hub (see below). Although for a portion of FY 23 those research activities were under CCL's oversight, those activities are described in the Deaf Hub's section. The remaining CCL laboratories disbanded, and the faculty, staff, and students of those laboratories began working together as one cohesive unit. CCL's mission was revised to reflect the new aim of the center which is *to promote sign language access and education through research, development, and mentorship focusing on communities of sign language users' cultural and linguistic characteristics and processes*. The CCL projects described below were fully or partially funded by NTID as a part of one of the institute's four Strategic Research Areas (Sign Language Communication) and the current administration's commitment to providing state-of-the-art, top-notch faculty ASL skill evaluations, ASL teaching, and interpreter education.

The CCL project ideas and research questions are formulated based on a combination of: a) what deaf and hard-of-hearing community members, students, and professionals have expressed as priorities; b) what sponsored programs list as priorities in their request for proposals; and, c) what fits in RIT's and NTID's missions. For projects that were fully or partially funded by sponsored programs, the funding source was mentioned in the project descriptions provided below. Otherwise specified, the remaining projects are funded by NTID's operating budget allocations to CCL. In FY 23, these funds covered the cost of hiring 17 student research assistants and provided them research opportunities because academic and scholarship mentoring is CCL's priority. These student research assistants were given leadership roles and experiences to prepare them for higher education and research careers. Funds for research participants were provided for student-led or student-faculty partnered projects.

Under the NTID's Sign Language Communication Strategic Research Area, in FY 23 CCL had 20 projects that covered the Center's four broad research areas: 1) Deaf Culture; 2) ASL Documentation;

Research (continued)

3) ASL Assessment; and 4) ASL Teaching and Learning. The specific projects CCL had in FY 23 are described below under their corresponding broad research area. In FY 23, CCL produced 19 scholarly products that are listed at the end of CCL's section.

1. Deaf Culture

1.a. Black Deaf Families

NTID Internal Funding

PI: Joseph Hill; Students: Janel Excell and Talayah Delis

Much of what is known about Deaf Culture, particularly in the United States of America, has been based on the lives and experiences of white deaf signers. In fact, in the past, schools for the deaf were segregated and schools for Black Deaf children did not use the white variant of ASL. To learn more about the Black Deaf experience, CCL has been conducting a study of Black Deaf families. Stories of older Black Deaf families from archival video interviews of the members of Black Deaf families are being analyzed. This study addresses the gap in the literature on families of African-American Deaf and hard-of-hearing Americans and to explore the community and familial contexts of Black ASL. In FY 23, interview transcripts of individuals who identified themselves as part of Black Deaf families and the transcripts of Black Deaf participants who participated in a workshop discussion about Black Deaf families were coded. The literature on African-American families and deaf families was collected and categorized. Analyses will continue to be performed to discover thematic relationships among the codes in academic year 2023-24.

1.b. Language Evaluation of Signing Avatars

NTID Internal Funding

PI: Joseph Hill; Students: Ragib Mahmood, Molly Envoy, Chehally Soto, Gigi Zheng, and TK Sylvester

Recently, ASL standards have been developed for the use of ASL in K-12 education, which is similar to the teaching standards of the American Council on the Teaching of Foreign Languages (ACTFL). However, Deaf community members are still debating about what looks "right" in ASL, and ASL teachers have different ideas about the "right way" to sign. Whatever language ideologies they uphold, they express them through their evaluative statement or judgments, which are called language attitudes in sociolinguistics. Language attitudes are challenging to study because the attitudinal components (cognition, affect, and behavior) are not always aligned with each other and language attitudes often reflect their opinions or beliefs about social groups.

In this CCL study, people's attitudes toward ASL signed statements are reproduced by animated signing avatars with identifiable racial and gender markers. In other words, real people and their ASL productions can be masked with different races and genders and the goal of language evaluation methods is to indirectly capture subjects' underlying attitudes about target language samples. Speech samples can be obtained without any visual markers that betray the target speakers' social identities. However, with signed language varieties, there are so few studies on language attitudes about variation in signed languages (Hill, 2012). Since the goal of language evaluation methods is to capture subjects' attitudes indirectly, it is quite difficult to discern whether their attitudes are a response to the signer's linguistic cues or identities. Sign language is expressed through face and body and it cannot be easily disembodied as it can be done with speech samples on audio recordings. With current motion capture and animation technology, it is possible to separate signing motion from the human signer's appearance by employing animated avatars. The aim is to determine whether the differences in participants' perception and evaluation of the signing production could be observed due to the presence of racial and gender markers of the avatars.

In FY 23, this study's participants were asked to view original cartoon videos for comprehension before they watched an ASL retelling of the cartoon in the signing avatar videos. The participants were then asked to evaluate the signing production of five different signing avatars. The avatars differed by gender and race based on the phenotypical features: one black female, one black male, one white female and one white male. The other human-like avatar was intentionally designed to be gender and racially

Research (continued)

ambiguous with blue skin to serve as a control. All avatars were based on a single human signing model; the signing production, including the facial expressions and body movements, was identical for all avatars, and the participants were not informed of this fact. Despite the computer-animated appearance of the avatars, the participants showed their preferences for the certain avatars based on their comments about the appearance, signing production, facial expressions, and personality. This indicates that the use of signing avatars is a useful tool in addressing the challenge of visual-kinetic modality in masking the actual signer's identity and in eliciting participants' true feelings. A faculty-and-student-led (Hill and Mahmood) presentation of the preliminary results of this study was disseminated at the High Desert Linguistic Society conference in Albuquerque, New Mexico. In summer 2023, student assistants transcribed the recorded interviews in preparation for a complete qualitative analysis of evaluative judgments toward the signing avatars.

1.c. Audism in the United States of America

NTID Internal Funding

PIs: Peter Hauser and Jordan Wright; Students: Tiana Hose, Hayden Orr, and TK Sylvester

CCL has developed the third prototype of the Implicit Association Test (IAT, see <http://implicit.harvard.edu>) to measure audism (negative bias towards deaf and hard-of-hearing people) known as the IAT-Audism. This version of the IAT-Audism addressed technical and methodological issues that were weaknesses of the previous versions. The preliminary findings were presented at the 2019 Audism Conference in Paris, France, which showed that 87% of the general public (N = 1084) has negative biases towards deaf and hard-of-hearing people. These findings are consistent with the RIT FY 23 Campus Climate Survey findings that faculty, staff, and students have high frequent interactions with deaf and hard-of-hearing people, but feel uncomfortable around them. In FY 23, the IAT-Audism was adapted to function on Qualtrics, one of RIT's licensed survey tools. This version of the IAT-Audism, in collaboration with the Deaf Hub, was distributed nationally to collect information on how deaf individuals perceive themselves (self-stigma) and the impact, if any, it may have on their health and well-being. Data still is being collected and will be analyzed in 2023. This project was partially funded by a previous NSF grant.

2. American Sign Language Documentation

2.a. Documenting Individual Variation in American Sign Language (DIVA)

NTID Internal Funding

PI: Joseph Hill; Students: Ragib Mahmood, Hayden Orr, Talayeh Delis, Samuel Brown, David Vector, and Simaniah McClary

The objectives of the DIVA study are to: 1) describe the natural variation of ASL signers with diverse backgrounds based on video data collected from RIT/NTID students; 2) evaluate ASL users' perceptions of non-standard varieties; and 3) develop a framework and preliminary data for a sponsored programs proposal that will further explore the role of variation in educational and interpreting situations involving deaf individuals. In collaboration with NTID staff developers, a web-based sociolinguistic crowdsourcing website prototype was created and shared with Open@RIT, Research Computing, and Google to explore what is needed for the platform to work and the infrastructure required to maintain it. Data was collected from NTID students, and CCL research assistants have been organizing and coding signed items on SooSL, an electronic dictionary reference. In FY 23, two of four student assistants were assigned to transcribe the interviews for language ideology, and the other two were assigned to code and manage ASL variants on a spreadsheet. In FY 24, a research assistant is working on developing a database system that manages the ASL signed data and demographic data. Also, we have started a collaboration projection based on DIVA to collect more ASL data.

Research (continued)

2.b. Second Language Learners of ASL Database of Canary Row Cartoon Reproduction

NTID Internal Funding

PIs: Peter Hauser, Kim Kurz '93, '95, and Geo Kartheiser, '09; Student: Tiana Hose

In collaboration with the NTID Sign Language Assessment and Resource Center (NSLARC), CCL developed a sequential longitudinal study of RIT students who enrolled in ASL college courses to satisfy their second language requirements. This database of over 100 undergraduate students includes reproductions of the Canary Row cartoon as well as measures of cognitive functions that are known to be malleable and enhanced in deaf signers. This database is currently available for studies and in FY 23, as described in section 4 below. The students' reproductions of the cartoon clips continued to be coded in ELAN (linguistics coding software) in FY 23 based on different sign language linguistic features that are currently discussed in second language learning research internationally.

2.c. Open Source Ecosystem for ASL Video Data

NTID Internal Funding

PIs: Joseph Hill and Peter Hauser; Student: Hayden Orr

CCL is the place where documentations of ASL variations across the country are collected, stored, and maintained. Most of the major spoken languages have corpus data available for scientists to use to conduct language science studies, to develop assessment tools, or to inform the instruction of the language for first and second language users. Similarly, many signed languages from Europe and Oceania have been documented and are available to researchers and practitioners. There are some lexical databases (e.g., ASL-LEX, SignBank) that have information about specific signs (primarily signed by white older deaf adults) but there are no community-based databases that document the natural variation of ASL across North America except for the one that CCL continues to develop. Currently, CCL is exploring collaborations with external partners to expand the database infrastructure and to seek external funding to support the sustainability and accessibility of ASL data.

3. American Sign Language Assessment

3.a. Fingerspelling and Number Comprehension Test (FaNCT)

NTID Internal Funding

PIs: Peter Hauser and Jason Listman '07, '09; Students: Ella Stuck and Sari Schuman

There are no ASL skill, competency, or fluency measures available for purchase for individuals who learn the language as a second language (L2) such as university professors, teachers, and interpreters. Recently, CCL developed the Fingerspelling and Number Comprehension Test (FaNCT) that was standardized on NTID adult L2 learners of ASL. In FY 23, the test development and psychometric data (reliability and validity) was submitted to, and accepted by, the journal "Language Testing" (2022 Impact Factor = 3.89). In the article, the authors describe how the FaNCT is the most sensitive test of L2 sign language learning. Six alternative forms of the test were developed with psychometric data demonstrating each test is able to equally predict an individual's ASL comprehension skills. Currently, CCL is administering the FaNCT, along with NTID's other ASL assessment instruments, to document how signers perform across multiple tests, supporting each tests' concurrent validity. External funding will be sought to redevelop the FaNCT for first language (L1) ASL signers (e.g., children of deaf parents and children born deaf).

3.b. American Sign Language Online Vocabulary Exam (ASL-OVE)

NTID Internal Funding

PIs: Peter Hauser and Jason Listman '07, '09; Students: Ella Stuck and Sari Schuman

The ASL-OVE was developed by CCL to measure the ASL vocabulary achievement of second language learners. The test was developed to illustrate videos of different signers signing an ASL vocabulary word and test-takers were to pick one of four line drawings that corresponded with the video. Preliminary

Research (continued)

results revealed that the test was too easy for beginner signers to be able to be sensitive enough to variation in ASL vocabulary achievement. In FY 23, CCL decided to reformat the test using an open-answer format rather than a recognition format where they are provided with four multiple choices. The protocol for collecting new data for this version of the ASL-OVE was completed and data collection should occur in 2023.

3.c. Classroom Sign Language Assessment (CSLA)

NTID Internal Funding

PIs: Peter Hauser and Kim Kurz '93, '95; Student: Chehally Soto

The CLSA was developed by NTID over two decades ago to supplement the Sign Language Proficiency Interview (SLPI). At that time, faculty were concerned that the SLPI does not measure what happens in the classroom and wanted a classroom-based ASL assessment tool. In FY 23, the CSLA was reviewed and revised by CCL and NSLARC to reflect current knowledge related to sign language linguistics and assessment. In 2023, the CSLA will be pilot tested with a sample of NTID faculty to ensure appropriate inter-rater reliability can be achieved.

3.d. Cross-validation of NTID ASL Assessment Measures: SLPI, ASL-DT, and FaNCT

NTID Internal Funding

PIs: Peter Hauser, Jason Listman '07, '09, and Kim Kurz '93, '95; Students: Ella Stuck and Sari Schuman

The SLPI, ASL Discrimination Test (ASL-DT), and the FaNCT all have their own published data on the test properties demonstrating good reliability and validity, individually, as a measure of ASL skill development. However, there are no data demonstrating the concurrent validity of these three tests together and what ASL-DT and FaNCT score levels are expected for Advanced SLPI signers. This cross-validation project protocol was developed in FY 23 and data collection is to begin in 2023.

3.e. Validity of Clinical Measures of Memory and Executive Function in Deaf ASL-English Bilinguals

NTID Internal Funding

PI: Peter Hauser; Students: Tiana Hose, Surya Sahetapy, and Chehally Soto

In collaboration with the University of Michigan School of Medicine, CCL completed an NIH RO1-funded (UM primary institute) large-scale nationwide study of deaf ASL signers' and hearing non-signers' physician health, health literacy, and cognitive health. In FY 23, CCL analyzed the use of a clinical executive function assessment tool (Color Trail Making Test) that was administered to 450 deaf and 450 hearing individuals, and the results of this study will be disseminated in 2023. Also, in FY 23, in collaboration with the University of California–San Diego and San Diego State University, CCL helped to develop new ASL-English bilingual language and memory measures that will be pilot-tested with young deaf and hard-of-hearing adults in 2023.

4. American Sign Language Teaching and Learning

4.a. Trajectory of Interpreter Education Students' ASL Learning as a Second Language

NTID Internal Funding

PI: Jason Listman '07, '09; Students: O'Ne O'Neill and Ella Stuck

One of the major challenges in the instruction of ASL to adult L2 learners is that there are very few empirically based scholarly studies guiding instruction. The lack of such research is partially due to the lack of assessment instruments, as mentioned earlier. CCL currently is testing all students who enter NTID's Department of ASL and Interpreter Education (ASLIE) Bachelor of Science degree program in Interpreting (henceforth, BSI). This new multi-cohort longitudinal study will help us learn the language development trajectory of L2 ASL learners and set the baseline for future studies. These results also will

Research (continued)

help the BSI program set benchmarks as ASLIE's accreditation from the Conference of Interpreter Trainers (CIT) requires BSI students to graduate with Advanced ASL skills as their minimum acceptable competency qualification. In FY 23, this BSI benchmark study was developed, and data will be collected in 2023.

4.b. BIPOC Interpreting Students' Perspective on Interpreting Training Program

NTID Internal Funding

PI: Jason Listman '07, '09; Student: Manjot Sidhu

There is a significant lack of BIPOC interpreters in the field of Interpreting, and there are limited white interpreters who possess both cultural and linguistic competence to effectively serve BIPOC Deaf consumers (Wessling, 2020). This study aims to provide a better understanding of the perspectives held by current and former interpreting students of color regarding the IEP. Data for this research was gathered throughout FY 23. The findings were presented at CIT. The team currently is in the process of preparing a manuscript for submission to the International Journal of Interpreter Education (IJIE).

4.c. Training Programs and Job Opportunities for Deaf Interpreters

NTID Internal Funding

PI: Jason Listman '07, '09; Students: O'Ne O'Neill and Ella Stuck

Deaf interpreters (DIs) are Deaf individuals who serve as interpreters for members of their own community. They play diverse roles, leveraging their unique Deaf Extra Linguistic Knowledge (DELK), which some hearing interpreters may lack (Adam, et al., 2014; Boudreault, 2005; Forestal, 2011; Kanapell, 1993). Approximately five years ago, there was limited data available regarding the job market for DIs. However, the COVID-19 pandemic has highlighted the pressing need for accessible communication for Deaf and hard-of-hearing communities worldwide. This study seeks to address questions such as: 'In what types of work do Deaf Interpreters engage? In what settings? How many hours? What kind of training is necessary to become a professional DI?' through a comprehensive survey. Data collection is ongoing and a manuscript is in preparation. The team has presented their findings at the CIT, the National Association for the Deaf Biennial Conference, and their paper has been accepted at the World Federation for the Deaf Congress (WFD).

4.d. Students Perception of the Learning Assistant Model in Interpreting Program Courses

NTID Internal Funding

PI: Jason Listman '07, '09; Student: O'Ne O'Neill

Many Interpreter Education Programs (IEPs) have recognized that even a four-year baccalaureate program may not provide sufficient time to adequately prepare future interpreters. The present study advocates for the implementation of the Learning Assistant (LA) model as a potential strategy to enhance the quality of interpreters entering the field. Through the use of mixed methods, this study aims to further explore which LA responsibilities students in the American Sign Language and Interpreter Education Program at Rochester Institute of Technology's National Technical Institute for the Deaf perceive as most beneficial in supporting their learning. The findings from this study were presented at the CIT in FY 23, and a manuscript is in preparation and aims to be submitted by the end of 2023 to the IJIE.

4.e. Landscape of ASL Education

NTID Internal Funding

PI: Jason Listman '07, '09; Students: O'Ne O'Neill and Ella Stuck

The scholarship of ASL education is in its growing stage, and there is limited insight into the perspectives of ASL professionals within this field. A team of four deaf ASL pedagogy scholars conducted a qualitative study engaged in focus group discussions with 13 ASL professionals who have dedicated their careers

Research (continued)

to ASL education. The goal is to gain a deeper understanding of ASL education as a discipline, including its strengths, challenges, and future directions. The manuscript was accepted in *Foreign Annals* in 2022. Currently, the study is in its second phase, wherein a survey has been developed based on the qualitative findings and is slated for data collection throughout FY 24. The goal is to complete the data collection and finalize a manuscript for submission by summer of 2024.

4.f. Types of Feedback in ASL Classroom

NTID Internal Funding

PI: Jason Listman '07, '09; Students: O'Neill and Ella Stuck

CCL and a faculty member from the University of Vermont, Burlington, are collaborating with the goal of building a better understanding of how ASL instructors evaluate their students' language performance in the classroom. In FY 23, the plans for this project and its methodology were developed. In FY 24, the survey will be developed and distributed widely. It will contain 15 questions, each of which shows an intentional error in ASL. The survey participants will then choose one of the five common types of corrective feedback, which shows how an error should be corrected, that best fits their daily practice. The survey will be distributed to more than 200 ASL professionals throughout the United States.

4.g. ASL Second Language Learners Use of Classifiers and Constructed Action

NTID Internal Funding

PIs: Peter Hauser and Kim Kurz '93, '95; Student: Chehally Soto

This study investigated the acquisition of depicting signs (DS) among students learning a signed language as their second-modality and second-language (M2L2) language. Depicting signs, broadly described, illustrate actions and states. This study sample includes 75 M2L2 students who were recruited from college-level American Sign Language (ASL) courses who watched and described three short clips from "Canary Row" the best they could in ASL. Four types of DS were coded in the students' video recorded retellings: (1) entity depicting signs (EDS); (2) body part depicting signs (BPDS); (3) handling depicting signs (HDS); and (4) size-and-shape specifiers (SASS). Results revealed that SASS and HDS increase in instances as students advance in their ASL learning and comprehension. However, EDS expressions did not have a relationship with their ASL comprehension. ASL 2 students produced less DS than the ASL 1 students but did not differ from the ASL 3+ students. There were no differences in instances of BPDS among the three groups of L2 learners although their ability to produce BPDS was correlated with their ASL comprehension. This study is the first to systematically elicit depicting signs from M2L2 learners in a narrative context. The results have important implications for the field of sign language pedagogy and instruction. Future research, particularly cross-sectional and/or longitudinal studies, is needed to explore the trajectory of the acquisition of DS and identify evidence-based pedagogical approaches for teaching depicting signs to M2L2 students. In FY 23, this study was accepted for publication in *Frontiers in Communication*.

4.h. ASL Second Language Learners use of Character and Observer Viewpoints

NTID Internal Funding

PIs: Peter Hauser, Geo Kartheiser '09, and Kim Kurz '93, '95; Student: Tiana Hose

Studies of co-speech gestures in spoken languages (use of gesture while talking) has shown that two different viewpoints are often portrayed in gestures. Speakers' gestures in retelling often reflect a character's perspective or an observer's perspective. Interestingly, in sign language research, these gesture characteristics are often referred to as classifiers and construct action. Using NTID's database of second language learners' reproduction of the "Canary Row" cartoons (see 2.b above), student research assistants were trained on how to review and code different viewpoints. The coding continued in FY 23 as well as additional coding for reliability analyses. In FY 24, the analyses will be completed, and results will be submitted for publication.

Research (continued)

4.i. ASL Second Language Learners' Spatial Perspective Taking Skills

NTID Internal Funding

PIs: Peter Hauser, Geo Kartheiser '09, and Kim Kurz '93, '95; Student: Tiana Hose

Studies of the cognitive skills of Deaf signers have shown that spatial cognition is important for ASL signers' spatial perspective taking skills. These unique skills of sign language users have been studied among native signers of ASL and British Sign Language but not among those who learn a sign language later in life. It is not clear if the spatial cognition skills, that are required for this linguistic task, can be developed later in life as an adult learns a second language in a different modality, not spoken but spatial. In collaboration with the Laboratory for Language and Cognitive Science, San Diego State University, CCL has collected cross-sectional and longitudinal data of college students' cognitive skills before, during, and after different levels of ASL undergraduate courses. In FY 23, data was analyzed, and the results of this study demonstrated that these adult learners can use similar spatial linguistic skills that have been found in Deaf signers who have used ASL throughout their education. In FY 24, a manuscript for publication will be prepared and submitted.

Selected FY 23 CCL Publications (CCL authors in bold, students underlined>)

Chapelle, C. A., **Hauser, P. C.**, Lee, H.-W., Rathmann, C., & Schönström, K. (2022). Discussion of Validation Issues in Second Language Assessment. In T. Haug, W. Mann, & T. Knoch (Eds.), *Handbook of Language Assessment across Modalities* (pp. 295-300). New York: Oxford University Press.

Hauser, P. C., Cherry, N. D., Hauser, A. B., & Poe, M. S. (2022). Deaf Professional/Designated Interpreter Paradigm Revisited. In C. Stone, R. Adam, R. Müller de Quadros, & C. Rathmann (Eds.), *The Routledge Handbook of Sign Language Translation and Interpreting* (pp. 296-310) London: Taylor & Francis Group.

Hill, J. C. (2022). Overrepresentation of Whiteness Is in Sign Language as Well: A Commentary on "Undoing Competence: Coloniality, Homogeneity, and the Overrepresentation of Whiteness in Applied Linguistics." *Language Learning*, 5. <https://doi.org/10.1111/lang.12540>

Hill, J. C., Isakson, S. K., & Nakahara, C. (2022). Infusing Social Justice in Interpreting Education. In L. Swabey & R. E. Herring (Eds.), *Signed Language Interpreting Pedagogy: Insights and Innovations from the Conference of Interpreters Trainers* (1st ed., Vol. 13, pp. 394-407). Gallaudet University Press.

Kurz, K. B., Kartheiser, G., & **Hauser, P. C.** (in press). Second language learning of depiction in a different modality: The case of sign language acquisition. *Frontiers in Communication*, 7, 896355.

Lucas, C., Bayley, R., **Hill, J. C.**, & McCaskill, C. (2022). Segregation and desegregation of the Southern schools for the deaf: The relationship between language policy and dialect development. *Language*, 98(4), e173-e198. <https://doi.org/10.1353/lan.2022.0027>

Ochino, C., Lidster, R., Geer, L. C., **Listman, J.**, & **Hauser, P. C.** (2023). Development of the American Sign Language Fingerspelling and Numbers Comprehension Test (ASL FaN-CT). *Language Testing*. <https://doi.org/10.1177/02655322231179494>

Pirone, J., Pudans-Smith, K., Ivy, T., & **Listman, J. D.** (in press). The landscape of ASL education. *Foreign Language Annals*, 56(2). <https://doi.org/10.1111/flan.12679>

Schönström, K., **Hauser, P. C.**, & Rathmann, C. (2022). Validation of sign language tests for adult L2 learners. In T. Haug, W. Mann, & T. Knoch (Eds.), *Handbook of Language Assessment across Modalities* (pp. 285-294). New York: Oxford University Press.

Silvasi, P. M., Bell, D., **Contreras, J.**, Rothman-Marshall, S. F. A. G., Ernest, J. L., & Edlund, J. E. (2023). Miranda Warning Comprehension: The Influence of Verbal Aptitude and Hearing Status. *Psychological Reports*, 126(1), 361-379.

Research (continued)

Selected FY 23 CCL Presentations (CCL authors in bold, students underlined)

Hill, J.C. (March 2023). Why History Matters: The Impact of Educational and Research Decisions on Black ASL. *Black Deaf Studies Symposium*. Gallaudet University. Washington, DC.

Hill, J.C. (December 2022). Bring Black ASL to Light: Preservation and Practice. *Liberatory Letters: Language as Resistance*. Center for the Study of Race and Ethnicity in America at Brown University. Providence, RI. [Panelist]

Hill, J.C. (November 2022). Black ASL: Racism and Audism as the Origins of Variation. *Languages and Lives in Deaf Communities*. Konservatorium Bern, Switzerland.

Hill, J.C. & Mahmood, R. (November 2022). Perceiving and evaluating computer animated avatars' signing: An exploratory study. *High Desert Linguistics Society (HDLS 15)*, Albuquerque, NM. [Poster, Onsite] <https://osf.io/5p9d4/>

Hill, J.C. (October 2022). Navigating as a Deaf Scholar of Color in the Academy. *Deaf, DeafBlind, and Hard-of-Hearing Education and Research at UConn*. University of Connecticut. Storrs, CT [Keynote]

Hill, J.C. (October 2022). *Same but Different: What Sociolinguistic Lessons Can We Find in the Study of Sign Languages?* New Ways of Analyzing Variation. San Jose, CA. [Keynote presentation, Onsite]

Kaur, M., Harris, T., Rodrigues, J., **Hill, J.C.**, & **Listman, J. D.** (2023, April). Black Indigenous People of Color Interpreting Students' Perspective on Interpreter Training Programs. *NTID's Sixth Annual Student Research Fair*, Rochester Institute of Technology, Rochester, NY.

O'Neill, O., & **Listman, J. D.** (2023, April). Bachelor in ASL-English Interpretation Benchmark Study: Evaluating Interpreting Students' ASL Proficiency. *NTID's Sixth Annual Student Research Fair*, Rochester Institute of Technology, Rochester, NY.

Stuck, E., O'Neill, O. & Stuck, E., & **Listman, J. D.** (2023, August). BSI Benchmark Project: Developing ASL Proficiency Norms. *Undergraduate Research Symposium*, Rochester Institute of Technology, Rochester, NY.

Center for Education Research Partnerships (CERP)

Jessica Williams Trussell, Ph.D., co-director; **Thomastine Sarchet-Maher, '03, '09, Ed.D.**, 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 2023, 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.

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 Oxford University Press and Flagler College to launch *Caregiver and Practitioner Briefs* to be published alongside the *Journal of Deaf Studies* and *Deaf Education's* quarterly volumes. The briefs provide readers with quick-to-read and easy-to-understand information about educational strategies,

Research (continued)

policy decisions, and new topics in deaf education based on current research. In addition, CERP partnered with the Summer Transition Education Program (STP) department to host its fifth cohort during the summer of 2023. The program supported 55 first-year NTID students. The Summer Transition Program is slated to continue in future years at NTID, expanding to other regions in the United States. At the same time, a shorter version of the program for high school students will be implemented in four states with the NTID Regional STEM Center during summer 2024. 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 four years.

Dissemination

In FY 2023, CERP personnel published or have "in press" two peer-reviewed journal articles. CERP personnel have also served the field of deaf education by giving two invited workshops and three peer-reviewed presentations and three workshops.

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."

Williams, J., Sarchet, T., & Walton, D. (in press) What can deaf and hard-of-hearing first-year community college students teach us about reading? *Communication Disorders Quarterly*.

Basas, M., Voss, J., Giese, K., Williams, J., & Werner, D. (2023). Invited Article—It's time to rethink our future: "Radical" perspectives on deaf education in the United States and beyond. *American Annals of the Deaf (Washington, D.C. 1886)*, 167(5), 597-604. <https://doi.org/10.1353/aad.2023.0002>

Selected Presentations/Workshops

Williams, J. (March, 2023). Introduction to hearing loss. Presented at the *National Institute of Education*. Singapore.

Williams, J. (March, 2023). Language development and language teaching practices. Presented at the *National Institute of Education*. Singapore.

Peer-Reviewed Conference Presentations

Williams, J. (March, 2022). Fostering STEM literate DHH students. Presented at the *Deaf. Blind. Limitless Conference*. Mobile, AL.

Williams, J. (March, 2022). Purposeful texts and purposeful planning: Raising the bar for reading instruction. Presented at the *Deaf. Blind. Limitless Conference*. Mobile, AL.

RIT/NTID DEAF HEALTH CARE AND BIOMEDICAL SCIENCE HUB (DEAF HUB)

Tiffany Panko, '08, '09, MD, MBA, executive director

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 Rochester Hub concept is explained in the following publication:

Research (continued)

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

From these efforts, the RIT/NTID Deaf Health Care and Biomedical Science Hub (Deaf Hub) was established in 2022. The mission of the Deaf Hub is to promote representation of deaf and hard-of-hearing individuals in health care and biomedical science careers. This is done by supporting pathways to healthcare careers, creating and supporting networks for deaf scientists, and conducting research related to the Deaf community, their health, and healthcare access. The Deaf Hub's vision is for deaf and hard-of-hearing individuals across the country to have levels of access to education, employment, and career advancement in a variety of health care occupations that match their skills and aspirations. For more information about the Deaf Hub, visit: <https://www.rit.edu/ntid/deafhub>.

The Deaf Hub works towards the long-term goal of increasing the number of deaf and hard-of-hearing people entering health care and biomedical science careers. This work is supported by research and training programs as discussed below.

Research and Scholarship

Three research labs and research affiliates are under the Deaf Hub.

1. Deaf Health Laboratory

Tiffany Panko, '08, '09, MD, MBA, director

The Deaf Health Laboratory (DHL) 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 2023, lab personnel worked on:

- Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study
NTID Scholarship Portfolio Development Initiative (SPDI) 9/1/2020–12/31/2023
\$15,000

Society of Family Planning 1/1/2021–12/31/2023
PI: Tiffany Panko '08, '09 \$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 2023, a national survey was in circulation, and interviews have been underway. Writing results for the quantitative and qualitative portions has begun.

- Bringing H is for Hormones to Schools for the Deaf
American Association for the Advancement of Science 6/3/2023–6/2/2024
PI: Tiffany Panko '08, '09 \$50,000

The goal of this project is to empower deaf and hard-of-hearing (henceforth, deaf) middle school girls to know more about STEM through a visual medium promoting women's health. Funding will send copies of a book created by a previous IF/THEN funded project '*H is for Hormones: An A to Z Guide to Your Changing Body*' to schools for the deaf across the U.S., add a teacher's guide to be made available as a PDF for all on the project PI's website, and promote the book to the deaf and general population.

Research (continued)

Affiliated faculty: Deaf Health Laboratory: Mariam Paracha

- Transparent Communication: Effective, Safe, Accessible Clear Masks
NTID Funds and Deaf Hub 12/14/2022–12/30/2023
PI: Mariam Paracha \$388,923.00
Co-PI: Jordan Wright

Over the years, clear masks have been proposed and researched, especially in medical settings. Introduction of clear personal protective equipment into everyday use has been halted due to cost, ineffective design, and perceptions of lacking demand. At RIT/NTID, specifically with our deaf and hard-of-hearing community and sign language interpreters, we have seen the available clear mask options fall short of safety standards, marginalize visual capacity due to fogging, lack of comfort, and even unattractive appearance. We will research and develop a clear mask that supports accessibility, compliance, and function. This effort includes benchmarking and assessing existing clear masks, expanding on current mask safety standards to include clear masks, and designing a clear mask prototype using said researched materials to meet safety standards.

2. 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. During FY 2023, the XR-ASL laboratory was awarded funding on the following grant:

- Evaluating the Use of Mixed Reality Smart Glasses for Real-Time Captioning Display and Interpreting Services
National Institute on Disability, Independent Living, and Rehabilitation Research: 90IFRE0083
PI: Wendy A. Dannels '98, '99, '00, '05; 9/1/2023–8/31/2026
Co-PIs: Tiffany Panko '08, '09 and Peter Hauser \$600,000

This project is funded by the National Institute on Disability, Independent Living, and Rehabilitation Research's (NIDILRR) center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). This field-initiated project plans to pilot the use of smart glasses to meet the expectations of the Rehabilitation Act for participation. Deaf individuals continue to struggle with inconsistent accessibility to qualified sign language interpreters and captioners that are critical to equitable educational, employment, and community opportunities around biomedical sciences and healthcare. The major goal of this project will be achieved through tailored smart glasses that allow for deaf individuals' viewing of remote sign language interpreters and real-time captioners. One of the expected outcomes includes enhanced communication access between health/biomedical deaf signing and non-signing individuals, regardless of line of sight, sustained attention limitation, executing activities limitation, or participation restriction.

3. Deaf MetaLiteracy Lab (DML)

Jordan Wright, Ph.D., director

The Deaf MetaLiteracy Lab, established in 2021, encompasses the study of health, technological, and cultural literacies as they coexist with the lives of deaf, deafblind, deafdisabled, and hard-of-hearing individuals. The lab is dedicated to the study of the lived experience of deaf individuals as it relates to strands of literacy with particular emphasis on marginalized deaf populations. It is our goal to broaden the concept of traditional literacy in line with how deaf individuals interact with, understand, and navigate systemic barriers in an aural, visual world.

Research (continued)

Currently, DML has two major studies deployed, both aiming to secure external funding:

- Deaf and Hard of Hearing People Living with HIV (DHHPLWH)
NTID Research Start-Up Funding 9/1/2021–present
PI: Jordan Wright \$2,500
Mentor: Peter Hauser

This particular study is two-fold in that it seeks to understand the barriers DHHPLWH face in medical systems, health literacy, and the continuum of sexually transmitted infection (STI)-specific medical care. It also aims to seek the experiences of ASL interpreters in STI-specific settings, what barriers are present, and the aptitude necessary to successfully interpret within such settings. Data collection for both strands are complete, and will be translated into peer-reviewed publications as well as an R15 NIH proposal.

- Bias, Anxiety, Mental Health and Audism (B-MAD)
NTID Microgrant 8/1/2022–present
PI: Jordan Wright \$10,000
Mentor: Peter Hauser
Student Investigators: Chase Martin, Lucas Cirrincione, Dylan Levinson, Hayden Orr

B-MAD is a student-led, three-phase study that seeks to understand bias, mental health, anxiety, and self-perception in deaf and hard-of-hearing people. It is one of the first studies that attempts to quantify and measure audism as it correlates to anxiety and depression. Each phase is unique in that it focuses on different populations: Phase 1: general U.S. deaf and hard-of-hearing individuals ($n=400$); Phase 2: deaf and hard-of-hearing LGBTQIA+ individuals ($n=400$); and Phase 3: NTID deaf and hard-of-hearing students ($n=400$).

The ultimate goal of B-MAD is to create new implicit bias measures, along with submitting large-scale data for R01 funding.

Program Presentations

Cherry ND, Womack K, Rodrigues J, Jacob B, Panko T. Rising to the demand of deaf professionals: Conference interpreting. Baltimore, MD. 2023, July 26-30. *Registry of Interpreters for the Deaf (RID) Conference*. Conference Poster.

Dye M, Barnett S, Contreras J, Craig P, Dewhurst S, Jacob B, Morrell C, Panko T. Deaf Hub: A pipeline for deaf and hard-of-hearing scholars in the biomedical sciences. San Antonio, TX. 26 June 2023. *Institutional Research and Academic Career Development Awards National Meeting*. Conference Poster.

Publications (Students underlined, faculty bold)

Mathew, R., **Dannels, W.A.**, and Parker, A.J. 2023. An Augmented Reality-Based Approach for Optimization of Communication Access Services in Healthcare for the Deaf and Hard-of-Hearing. *Virtual, Augmented and Mixed Reality: Fields of Applications in Healthcare and Medical*. HCII 2023. Lecture notes in Computer Science. Springer. https://link.springer.com/chapter/10.1007/978-3-031-35897-5_3

Wang, Y., Li, Z., Chelladurai, P.C., **Dannels, W.A.**, Oh, T., and Peiris, R.L. 2023. Haptic-Captioning: Using Audio-Haptic Interfaces to Enhance Speaker Indication in Real-Time Captions for Deaf and Hard-of-Hearing Viewers. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (CHI '23). Association for Computing Machinery, New York, NY, USA, Article 781, 1–14. <https://doi.org/10.1145/3544548.3581076>

Helm KV, **Panko TL**, Herschel M, Smith LD, Mitra M, McKee MM. Maternal Health Experiences of Black Deaf and Hard of Hearing Women in the United States. *Women's Health Issues*. 2023 Aug 28.

Research (continued)

James TG, **Panko T**, Smith LD, Helm KV, Katz GR, Caballero ME, Cooley MM, Mitra M, McKee MM. Healthcare Communication Access among Deaf and Hard-of-Hearing People During Pregnancy. *Patient Education and Counseling*. 2023 Apr 11:107743.

Panko TL. Reproductive justice for the deaf community. *Obstetrics & Gynecology*. 2022 Oct; 140(4):560-564.

Alpern RR, **Panko TL**, McCann-Pineo M, Jones CMC, Rotoli J. Barriers to Effective Health Education in Deaf K-12 Schools. *Journal of Health Education Teaching*. 2022; 12(1), 25-42.

https://www.jhetonline.com/storage/2023/04/Barriers_to_Effective_Health_Education_in_K-12_SchoolsAlpern_Panko_McCann-Pineo_Jones_and_Rotoli2022.28285927.pdf

Panko TL, Cuculick J, Albert S, Smith LD, Cooley MM, Herschel M, Mitra M, McKee M. Deaf women's experiences of pregnancy and perinatal healthcare access: A qualitative study. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2022 Sep 26.

Academic Presentations

Dannels, W.A. (July 2023) "Using Smart Glasses to Enhance Language Access for Healthcare", Poster Session, *XIX World Congress of the World Federation of the Deaf*, Jeju Island, Korea

Dannels, W.A. (October 2022) "Current Trends and Future Directions in Technology for Deaf Learners" *2022 Cal-ED Conference*, Burbank, CA

Panko TL, Postl D, Doane R, Contreras J, Occhino C. Contraceptive use and non-use in deaf and hard of hearing people: Findings from the reproductive health experiences survey. *150th American Public Health Association Annual Meeting*. Boston, MA. 8 November 2022. Conference roundtable: Let's Talk About Sex... & Disability.

Grieshaber A, Stewardson J, Levenson D, **Panko TL**. Video Games as Accessible Health Information for the Deaf and Hard-of-Hearing. Rochester, NY. 3 August 2023. *RIT Undergraduate Symposium*. Conference Poster.

Kane E, Levenson D, Stewardson J, **Panko TL**. Navigating Sex Education as a Deaf/Hard-of-Hearing Person. Rochester, NY. 3 August 2023. *RIT Undergraduate Symposium*. Conference Poster.

Wagner R, Jiao C, Stewardson J, **Panko TL**. Deaf/Hard-of-Hearing Perceptions of Menstruation and Menstrual Products. Rochester, NY. 3 August 2023. *RIT Undergraduate Symposium*.

Adeyemi A, Levenson D, Stewardson J, **Wright J**. Deaf Perspectives on Paternalistic Assumptions of Interpreters in Medicine. Rochester, NY. 3 August 2023. *RIT Undergraduate Symposium*. Conference Poster.

Phelan G, **Ayers E**. Deaf Dentists Diversifying Healthcare. Rochester, NY. 3 August 2023. *RIT Undergraduate Symposium*. Conference Poster.

Mentorship and Training

During FY 2023, the Deaf Hub launched its Summer Healthcare Academic Research Program (SHARP). SHARP had a total of five students (co-op, full-time) work with various labs in the Deaf Hub as well as two apprentice interpreters. The interpreters were recent graduates of RIT/NTID's interpreting programs and were hired to have a mentored experience gaining knowledge and skills for academic research interpreting. SHARP research assistants presented at the RIT Undergraduate Research Symposium and many will be presenting at the Annual Biomedical Research Conference for Minoritized Scientists.

Research (continued)

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/RIT-U-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 4/5/2017–3/31/2023
PI: Vincent Samar; Co-PI: Paul Craig (COS) \$1,025,191

*Vincent Samar retired 6/30/2022, Paul Craig continued as PI for the remainder of the project.

RIT U-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates

National Institutes of Health 4/6/2022–3/31/2027
PI: Tiffany Panko '08, '09 (NTID); Co-PI: Paul Craig (COS) \$1,194,050

NIH funds a number of programs, formerly entitled Research Training Initiative for Student Enhancement (RISE) and recently changed to Undergraduate Research Training Initiative for Student Enhancement (U-RISE). The RIT U-RISE Scientists-In-Training Program for Deaf and Hard of Hearing Undergraduates (RIT U-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.

In its first year in a new cycle, RIT U-RISE is providing research preparation, research experience, supplemental research training, and career preparation to support four deaf and hard-of-hearing undergraduate RIT students (U-RISE trainees) who aspire to become successful Ph.D. scientists. U-RISE trainees 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 stipends to students as well as partial tuition remission, and provides funds for lab and other research supplies. U-RISE trainees also receive ongoing 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 trainee in achieving targeted core research competencies.

The RIT U-RISE Program also provides ongoing curricular and co-curricular programming to promote undergraduate research experiences for students throughout RIT. RIT U-RISE sponsors Scientists-in-Training Series (SITS) presentations to expose trainees 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 U-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 U-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 U-RISE also provides cultural competence training for hearing research mentors who work with deaf and hard-of-hearing U-RISE trainees. RIT U-RISE has developed partnerships with several

Research (continued)

research-intensive universities and institutions to facilitate opportunities for our trainees to participate in undergraduate summer research experiences and internships before applying to graduate programs in the biomedical sciences. For more information about the U-RISE program, visit rit.edu/ntid/rise/.

Program Presentations

Craig P, Jacob B. Creating and Maintaining Access for Deaf and Hard-of-Hearing Scientists. Seattle, WA. March 2023. *Discover BMB*. Conference Poster.

Trainee Presentations

Asiamah, Maameyaa; Macisco, L. James; and Pagano, Todd. (2023, April). "Removal of Indole from environmental water samples by carbon nanotubes aerogels", *Annual NTID Student Research Fair*, Rochester Institute of Technology/National Technical Institute for the Deaf, Rochester, NY.

Allaby, B. & Houston, R. J. (2023, April). Cognitive reserve questionnaires differentially related to age, executive functioning, and everyday memory. Presented at the *4th Annual Western New York Undergraduate Psychology Conference* at the University at Buffalo, NY.

Rogers, Reginald, E.; Macisco, L. James; **Asiamah, Maameyaa**; and Pagano, Todd. (2023, March). "Utilizing CNT-based nanomaterials to enhance the removal of pollutants from water systems", *American Chemical Society National Meeting*, Indianapolis, IN.

Kasper A., Videva M, Smith C, Hampton U, Pilo I, Burgado N, Gersch J, Nikiforova N, Gaborski T, Michel L V. (2023, March). ASBMB National Meeting, Seattle. Utilizing biomarkers to differentiate E. coli apoptotic bodies (ABs) from outer membrane vesicles (OMVs); *poster*.

Kasper A., Rogers F.D., Peña C.J. (2022, November). "Uncovering the Neural Basis of Paternal Care in African Striped Mice". Poster presented at the *Annual Biomedical Research Conference for Minoritized Scientists*, Anaheim, CA.

Allaby, B. & Houston, R. J. (2022, November). Associations between aging, cognitive reserve, and alcohol use consequences. Poster presented at the *Annual Biomedical Research Conference for Minoritized Scientists*, Anaheim, CA.

DiMartino, D., Widom, L., Gaborski, T. (2022, November). Trends of Matrix-Metalloproteinase Production and Secretion by Inflamed Blood-Brain Barrier-Associated Cells. Poster presented at the *Annual Biomedical Research Conference for Minoritized Scientists*, Anaheim, CA.

Singleton, M. and Skuse, G. "In vitro Investigation of MKT-077, a Highly Selective Chemotherapeutic Dye." Poster presented at the *Annual Biomedical Research Conference for Minoritized Scientists*, Anaheim, CA.

- Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing (D/HH) Students (RB2D)

NIH R25 GM107739/417472G	8/1/2018–7/31/2023
PIs: Steven Barnett (URMC), Bonnie Jacob (NTID)	\$1,161,992
NIH T32 GM150525	8/1/2023–7/31/2028
PIs: Bonnie Jacob (RIT/NTID) and Steven Barnett (UR)	\$1,441,249

The Rochester Bridges to the Doctorate program is a partnership between RIT/NTID and University of Rochester Medical Center (URMC) 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 provides RIT MS-degree-seeking students (known as "scholars" until 7/31/2023 and "trainees" after) with unparalleled mentored

Research (continued)

research experiences at RIT and UR. The trainees, who do mentored research at UR or RIT and take courses at both institutions, receive research stipends, tuition waivers and conference travel funds. The program supported a total of five trainees during FY 2023. For more information about the Rochester Bridges to the Doctorate Program, visit rit.edu/deafscientists/.

Program Presentations

Contreras, Jessica, Levenson, Dyl, White, Patricia, Panko, Tiffany, Smolock, Elaine, Nordhaus, Jason, **Jacob, Bonnie**, Barnett, Steve, and Clark, M. Diane. (2023, August). Mentoring Deaf and Hard of Hearing Students with Rochester Bridges to the Doctorate: Outcomes, Strengths, And Areas for Improvement, *Understanding Interventions*, Salt Lake City, UT.

Cherry, Nikki, Womack, Kat, Rodrigues, Jeni, Contreras, Jessica, **Jacob, Bonnie**, and Panko, Tiffany. (2023, July). Rising to the Demand of Deaf Professionals: Conference Interpreting, 2023 *Registry of Interpreters for the Deaf (RID) National Conference*, Baltimore, MD.

Dye, Matthew, Barnett, Steven, Contreras, Jessica, Dewhurst, Stephen, Craig, Paul, **Jacob, Bonnie**, Morrell, Craig, and Panko, Tiffany. (2023, June). Deaf Hub: A Pipeline for Deaf and Hard-of-Hearing Scholars in the Biomedical Sciences, *IRACDA 2023*, San Antonio, TX.

Craig, Paul and **Jacob, Bonnie**. (2023, March). Creating and Maintaining Access for Deaf and Hard-of-Hearing Scientists, *Discover BMB*, Seattle, WA.

Carney, L. H., Cameron, D. A., **Kinast, K. B.**, Feld, C. E., Schwarz, D. M., Leong, U. C., & McDonough, J. M. (2023). Effects of sensorineural hearing loss on formant-frequency discrimination: Measurements and models. *Hearing Research*, 435, 108788.

Bai, Z., **Codick, E.**, Tenesaca, A., Hu, W., Yu, X., Hao, P., ... & Hall, W. (2022, June). Signing-on-the-Fly: Technology Preferences to Reduce Communication Gap between Hearing Parents and Deaf Children. In *Interaction Design and Children* (pp. 26-36).

Luta, E. P., **Watterson, B.**, Yates, M. Z., & Miller, B. L. (2022, May). New polymer sorbents for waveguide-enhanced Raman spectroscopy (WERS) and refractive index-based photonic sensing. In *Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing XXIII* (Vol. 12116, pp. 117-121). SPIE.

- Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars
NIH K12 GM106997 7/1/2021–6/30/2026
MPIs: Stephen Dewhurst (URMC), \$1,147,594
Gerry Buckley '78 (NTID), Matthew Dye (NTID)

This program began in 2015. In July 2021, NIH renewed this project for another five years. 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 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. In August 2022, the third such conference was held in Rochester focused on the theme, “The Open Road: Creating Opportunities with Deaf and Hard-of-Hearing Scientists.” 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.

Research (continued)

Program Presentation

Dye, Matthew, Barnett, Steve, Contreras, Jessica, Dewhurst, Stephen, Craig, Paul, Jacob, Bonnie, Morrell, Craig and Panko, Tiffany (2023, June). Deaf Hub: A Pipeline for Deaf and Hard-of-Hearing Scholars in the Biomedical Sciences. [Poster Presentation]. *IRACDA 2023*, San Antonio, TX.

OTHER FUNDED RESEARCH AND OUTREACH EFFORTS

Communication Research

Michael Stinson, principal investigator

- Investigating Messaging Technology on Interactions of Deaf and Hard-of-Hearing College Students
NTID Support 9/1/2015–8/31/2023
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. (2022). Effects of messaging and communication strategy training on interaction in teams with deaf and hearing college students. *American Annals for the Deaf*, 167(4), 431-456.

Center for International Educational Outreach

Thomastine A. Sarchet-Maher, Ed.D., '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 2023, IEO continued their partnership with RIT/NTID faculty to lead three externally funded projects and renewal of one federal research project.

Research (continued)

- Transforming Reading in Early Education for Deaf Children
World Vision 7/1/2021–9/30/2023
PI: Christopher Kurz '91, '95; Co-PIs: Patrick Graham, \$274,067
Stephen Jacobs, Thomastine Sarchet-Maher '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 the 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.

This project ended on September 30, 2023, and resulted in SLRR and SRST modules for parents and other stakeholders who work with parents of deaf children. Additionally, six storybooks were created in multiple languages (42 books in total) and used as a resource for parents to interact and support their children in sign language. The children developed confidence in using the tablet for reading storybooks. Their language skills increased during the intervention.

Publications

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Bird and Monkey Go to the Woods*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Cat and Monkey Go to the Mountains*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Cow and Monkey Go to the Farm*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Duck and Monkey Go to the Beach*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Turtle and Monkey Go to the River*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Golos., D., Holcomb, L., Kurz, C., & Graham, P. (2022) *Goat and Monkey Play at Home*. (advanced online publication) <https://deafworldaroundyou.org/Stories>

Holcomb, L., Kurz, C., Graham, P., & Golos, D. (2022). Sign Language Rhyme and Rhythm (All Children Reading – Grand Challenge Development: Ready2Read Project TREE. RIT.

Graham, P., Kurz, C., Holcomb, L., & Golos, D., (2022) Shared Reading Strategies with Technology (All Children Reading – Grand Challenge Development: Ready2Read Project TREE. RIT.

Presentations

Kurz, C., Vea, M., & Sen, K. (2023, July 14). Supporting Early Literacy Development with Technology: Shared Reading And Sign Language Rhythm. *World Federation of the Deaf Conference*, Jeju, South Korea.

Research (continued)

Books is designed to create thousands of books in languages that children use and understand. The goal of this project is to create 200 digital books to promote early grade literacy for deaf and hard-of-hearing children in several countries. National partners include: the Philippines, Indonesia, Papua New Guinea, Fiji, Samoa, and Somalia. Each book will have six eligible sign languages (Filipino Sign Language, Indonesian Sign Language and other sign languages local to the archipelago, Somali Sign Language, Papua New Guinean Sign Language, Samoan Sign Language, and Fijian Sign Language). Books will be available on WAY (deafworldaroundyou.org/Stories) and Global Digital Library.

In total, we produced early grade literacy materials in multiple languages, including Filipino Sign Language, Fiji Sign Language, Somali Sign Language, and Jakarta Sign Language: 294 storybooks in two languages (one signed language and one written language).

- Developing a Flagship Program for Deaf, Hard of Hearing and Hearing Students in Europe
US Department of State – Bureau of Educational and Cultural Affairs: 8/1/2023–7/31/2025
AID-OAA-A-13-00074 / PO31908
PI: Jenny Sullivan; Co-PIs: Thomastine Sarchet-Maher '03, '09, \$86,142
James Myers

This project will pilot a new four-week summer direct-enroll program at our global campus in Zagreb, Croatia. A cohort of 20-30 deaf, hard-of-hearing, and hearing students would earn three credits in a course called Deaf Culture in Europe. The course would include several excursions and activities and a week-long trip that would take the group to another country in Europe to immerse in local Deaf culture. A blend of deaf, hard-of-hearing, and hearing students would greatly enhance the diverse perspectives explored and the learning outcomes would be designed to benefit local Deaf communities, not just RIT. Because of the close and trusted relationships that deaf and hard-of-hearing students have with RIT/NTID faculty, a Rochester-based faculty member would travel to Croatia for the entire duration and teach the course, relying heavily on local partners and experts in the community. Croatia's proximity on the continent, support of our local staff, and affordable summer tuition rates, makes it an ideal location.

Global Partnerships

In FY 2023, the Center for International Educational Outreach conducted one significant partnership:

- RIT/NTID entered a new partnership with the University of Fermo in Fermo, Italy. This university partnership will facilitate student and faculty exchanges for study abroad experiences and to conduct research.
- The center hosted the Consul General of Cultural Affairs and his staff from Indonesia for a study visit to open scholarships for deaf and hard-of hearing Indonesian students to study at RIT/NTID. A formal agreement is being developed.
- RIT/NTID renewed its longstanding partnership with De La Salle – College of Saint Benilde in the Philippines.

Visiting Scholars and Delegations

In FY 2023 the center hosted the following international groups at NTID:

- Omani Association for the Hearing Impaired
- National Tsukuba Institute of Technology and Juntendo University Graduate School of Medicine
- South Korean Delegation from Daegu University, Hanyang University, Gyeseong High School, Kangnam University, Sookmyung Women's University, Nazarene University, Seoul National School for the Blind, and the Hankuk University of Foreign Studies

Study Abroad Experiences

In FY 2019, NTID's study abroad programs were reorganized into the Center for International Educational Outreach. In recent years, NTID has offered a study abroad program through a three-pronged approach: 1.) NTID faculty-led study abroad experiences, 2.) sending students to an affiliated university with established curriculum (offered by the affiliated university and/or NTID faculty), with housing and access

Research (continued)

services provided, and 3.) exchange programs (partnership with educational institutions that allow students to directly enroll for five weeks). These programs are offered for three general education credits under International Studies Seminar. They are open to all NTID-coded students at RIT, including the MSSE and ASLIE programs.

For FY 2023, NTID developed a faculty-led program to South Korea. Twenty-one students and three faculty visited cultural and historical sites in Seoul, Geongju, and Busan. Excursions included visits to the Demilitarized Zone (DMZ), President's House, Gyeongbok Gung, UNESCO sites (Bulguksa, Seogulam, Hwangridan-gil, King/Queens' tomb), Haeundae Beach, Busan Cultural Village, Jagaichi market, and UN Peace Memorial Hall. The group visited the Korean Seoul Deaf School and met with Deaf Korean college students from all over the country.

Recognitions

- Thomastine Sarchet-Maher was inducted into RIT's PI Millionaires group.
- The World Around You platform, developed by Chris Kurz, Stephen Jacobs, Kim Kurz, and Thomastine Sarchet-Maher, was selected for the Zero Project Impact Transfer Program and was honored as an Innovative Solution Awardee at the Zero Project Conference in Vienna, Austria (<https://www.rit.edu/news/rit-ntid-multilingual-platform-world-around-you-earns-2022-zero-project-award>). More information about the Zero Project Awards is at https://youtu.be/CUqg_hy6GZU.

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

Chris Kurz, '91, '95, Ph.D., 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.

Awards

Chris Kurz was voted to serve on the board for the Psychology of Mathematics Education – North America (2023-2025).

Selected Publications

- **Kurz, C.**, & Nguyen, T. (2023). Create a World of Deaf Readers: Standards for Sign Language Storybooks. *All Children Reading: A Grand Challenge for Development*.
- Gentzke, S., & **Kurz, C.** (2023). Visual Reference Guide: Standards for Sign Language Storybooks. *All Children Reading: A Grand Challenge for Development*.
- Graham, P., & **Kurz, C.**, (2023). Dual language deaf education: Shifting to multilingual multimodal concepts. In J.A. Freire, C. Alfaro, & E. de Jong (Eds.), *The Handbook of Dual Language Bilingual Education*.
- Graham, P., **Kurz, C.**, & Batamula, C. (2023). Finding Vygotsky in early childhood deaf education: Sociocultural bodies and conversations. *American Annals of the Deaf*, 167(1).
- Golos, D., Kuntze M., Wolbers, K., & **Kurz, C.** (in press, 2023). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.
- Call, B., Braid, S., & **Kurz, C.** (in press, 2023). Mathematics. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds.). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.

Research (continued)

- Henderson, E., Cohen, S. & **Kurz, C.** (in press, 2023). Science. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.
- Beam, F., Gentske, S., Golos, D., & **Kurz, C.** (in press, 2023). Incorporating the Arts into the Curriculum. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.
- Kuntze, M., **Kurz, C.**, & Golos, D. (in press, 2023). Deaf Identities and Social-Cultural Perspectives. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.
- Kuntze, M., Golos, D., Wolbers, K., & **Kurz, C.** (in press, 2023). Introduction. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.
- Kuntze, M., Golos, D., Wolbers, K., & **Kurz, C.** (in press, 2023). Conclusion and Next Steps. In Golos, D., Kuntze, M., Wolbers, K., & Kurz, C. (Eds). *58-IN-MIND! Multilingual Practices for Diverse Deaf Learners*. Gallaudet Press.

Selected Presentations

- **Kurz, C.** (2003, September 28). *Standards for sign language storybooks*. Webinar. 231 participants.
- **Kurz, C.**, Graham, P., Jacobs, S. (2023, September 12). Making STEAM accessible through Storybooks. *mEducation Alliance*. Arlington, VA.
- **Kurz, C.**, Jacobs, S., & Roth, L. (2023, September 12). EdTech Demo & Workshop: Literacy Gaming Apps, Books and Libraries for Children Who are Deaf. *mEducation Alliance*. Arlington, VA.
- Solomon, C., Wooten, A, **Kurz, C.**, Cameron, A., & Kushlangar, R. (2023, September 5). 3rd Workshop of STEM Sign Lexicons, Vienna, Austria.
- **Kurz, C.** (2023, August). *Standards for sign language storybooks: Europe and Africa*. Webinar.
- **Kurz, C.** (2023, July 25). *Standards for sign language storybooks: Asia and Australia*. Webinar.
- Solomon, C., **Kurz, C.**, Wooten, A., Kushlangar, R., A. (2023, July 12). STEM Lexicon. *World Federation of the Deaf*, Jeju, South Korea.
- **Kurz, C.**, & Graham, P. (2023, April 4). Transforming Early Literacy Development in Deaf Children with Technology: Sign Language Rhyme and Rhythm and Shared Reading. Presented at the *World Literacy Summit*, April 2-4, 2023, London, UK.
- **Kurz, C.** (2023, March 14). Making STEM Accessible to Deaf Students in ASL. Presented at the *Deaf. Blind. Limitless. Conference*, March 13-15, Greenville, SC.
- Solomon, C., Kushlangar, R., **Kurz, C.**, & Wooten, A. (2023, March 3). The World of STEM Sign Language Lexicons. Presented at the AAAS, March 3-5, 2023, Washington DC
- **Kurz, C.**, Edgars, S., Kishore, A., & Owino, V. (2023, February 24). *Leveraging EdTech to strengthen literacy and opportunities for children with disabilities*. Presented at the *Zero Project Conference*, February 23-25, 2023, Vienna, Austria.
- Nguyen, T., & **Kurz, C.** (2023, February 20). Using Sign Language Video Storybook Production as a Pathway for Sustainable Development. Sign Language Storybook Production: Leveraging Lessons Learned. Presented at the *Comparative and International Education Society*, February 18 – 22, 2023, Washington, DC.
- Graham, P. & **Kurz, C.** (2022, November 16). Building Communication Between Families: Sign Language App. *mEducation Alliance*. Washington D.C.

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.

Research (continued)

Book Chapters

Kurz, K. (2023). Deaf interpreters as language models and educational interpreters. In L. Johnson, M.M. Taylor, B. Schick, S. Brown, S., & L. Bolster (Eds.), *Complexities in educational interpreting: An investigation into patterns of practice*. Interpreting Consolidated.

Peer-Reviewed Articles

Koulidobrova, E., Martínez Vera, G., Kurz, K., & Kurz, C. (in press). Revisiting gradability in American Sign Language. *Glossa*.

Kurz, K., Kartheiser, G., & Hauser, P. (2023). Second language learning of depiction in a different modality: The case of sign language acquisition. *Frontiers in Communication*, 7. www.frontiersin.org/articles/10.3389/fcomm.2022.896355.

Substance and Addiction Intervention Services for the Deaf (SAISD)

Keven Poore, program director

Ongoing funding
NYS Office of Addiction Services and Supports (OASAS)
Monroe County Office of Mental Health
DHHS Substance Abuse and Mental Health

SAISD has been in continuous operation since 1979. The five staff members of 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., executive director for professional and student scholarship development

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" also highlights the importance of student participation in "Innovation and Scholarship Research." Through participation in the research process, students can enhance their content knowledge, self-confidence, and educational/professional aspirations. NTID has become a leader at RIT in supporting students in research projects.

FY 2023 was a fruitful year for student involvement in research. Student researchers took advantage of funding opportunities to support their research and present their research at professional conferences. Several student researchers were listed as co-authors on peer-reviewed published journal articles. This year also marked the return of the in-person NTID Student Research Fair.

Support for Student Involvement in Research

Beyond individual faculty researchers' efforts and fiscal support for engaging students in research activities, student researchers took advantage of all three of NTID's main support programs to encourage student involvement in research this past year:

- 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.

Research (continued)

- Summer Undergraduate Research Fellows (SURF): Funds have been allocated to support NTID undergraduate students conducting research under the direction of a faculty mentor during the summer term. Funds are used to pay student stipends.
- Conference travel awards: Undergraduate students who have made significant progress can apply for funding to travel to a professional conference and present their findings.

NTID also provides research poster printing services for students who present posters at professional conferences. Finally, given that involvement in faculty-guided research can be among the best learning opportunities for our students, most NTID academic programs now have undergraduate research courses that are available for student enrollment.

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 supports eight-to-10 graduate students annually for two years at an Advanced Studies Institute in Stockholm University (Sweden) titled “Inclusive Assessment of Multi-Model Multilinguals.” For the summers of 2022 and 2023, the institute is two weeks in length and has a particular focus on print literacy in deaf and hard-of-hearing children who commonly participate in translanguaging practices. The grant was awarded in 2020 and the first institute was planned for the summer of 2021 but it was postponed due to the COVID-19 pandemic. During FY 2021, the project team of PI and co-PI met with the RIT Global Office to collect materials, developed and launched a website (iam3.info/) to recruit students, developed an online application, and set an institute curriculum for summer 2022.

During FY 2022, the project team had the overall responsibility in developing the syllabus and curriculum and leading development meetings with faculty to develop a series of integrated lectures, workshops, and group activities around the following topics: translanguaging and literacy, language assessment, and language processing in multilinguals. Following the 2022 institute, an evaluation survey was sent out to eight Ph.D. students from U.S.-based universities and eight Ph.D. students from European-based universities. The evaluation was overall positive in each area: pre- and post-departure payment, teaching, interpreting, and mentoring support. The post-institute payments were sent to students as part of the participant support budget and faculty stipends were also sent.

In FY 2023, the project team revised the theme and curriculum for the 2023 institute in response to students’ feedback to have more practical training on mixed methodologies in translanguaging. In Fall 2022, the team began another round of recruitment and selected 12 finalists for the institutes. This time, the selection of students was broadened to include Ph.D.-aspiring masters’ students and Ph.D. students at the beginning stage of their doctoral studies. Collaborating faculty at the host university also invited non-U.S. students to attend the institute at their own expense. In Spring 2023, Director Hill was on medical leave. Matthew Dye assumed the director position and Deidre Schlehofer of the NTID Department of Liberal Studies was invited as a co-director to work with Dye on the hiring of the institute faculty, finalize the curriculum, and coordinate the pre-departure information and payment for students. They led the institute in June 2023, coordinated faculty teaching and student learning activities, and arranged the students’ final presentations as part of the grant requirement. The evaluation survey will be sent out to the students, and the materials developed for both institutes will be maintained on the IAM3 website.

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 5/1/2019–8/30/2023
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 (two-to-three 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.

Publication resulting from this 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 \$341,225

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 this award

Amaro-Seoana, P., Nordhaus, J., Vigna-Gomez, A. Astrophysics with the Laser Interferometer Space Antenna. 2023 *Living Reviews in Relativity* 26, 1, 2.

Balick, B., Bochert, L., Kastner, J., Frank, A., Blackman, E., Nordhaus, J., Moraga Baez, P. NGC 6302: The Tempestuous Life of a Butterfly. 2023 Accepted by *ApJ*.

DeMarco, O., Nordhaus, J., Zijlstra, A. The Messy Death of a Multiple Star System and the Resulting Planetary Nebula as Observed by JWST. 2023 *Nature Astronomy* 6,1421.

Wilson, E., Nordhaus, J. Convection Reconciles the Difference in Efficiencies Between Low-mass and High-mass Common Envelopes. 2022 *MNRAS* 516, 2189.

Guidarelli, G., Nordhaus, J., Carroll-Nellenback, J., Chamandy, L., Blackman, E., Frank, A. The Formation of Discs in the Interior of AGB Star from the Tidal Disruption of Planets and Brown Dwarfs. 2022 *MNRAS* 511, 5994.

Muirhead, P., Nordhaus, J., Drout, M. Revised Stellar Parameters for V471 Tau, a Post-Common Envelope Binary in the Hyades. 2022 *Astronomical Journal* 163, 34.

Chamandy, L., Blackman, E., Nordhaus, J., Wilson, E. Successive Common Envelopes from Multiple Planets. 2021 *MNRAS* 502, 110.

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

Zuo, Y., Frank, A., Reichardt, T., De Marco, O., Blackman, E., Nordhaus, J., Balick, B., Carroll-Nellenback, J., Chamandy, L., Liu, B. Bipolar Planetary Nebulae from Outflow Collimation by Common Envelope Evolution. 2020 *MNRAS* 497, 2855.

Student Research Fair at NTID

In April 2023, more than 50 student researchers gave presentations on more than 20 projects at NTID's Annual Student Research Fair. In the weeks leading up to the event, students had the opportunity to participate in a set of faculty-led workshops that focused on writing a research abstract, creating a research poster, and presenting at conferences.

Members of the RIT community, including NTID's National Advisory Group, attended the fair to interact with the student researchers. Projects presented came from the fields of health science, chemistry, education, communication studies, environmental science, psychology, and more.

RIT's Undergraduate Research Symposium

Each year, RIT hosts a large undergraduate research symposium. In summer 2023, NTID-supported students disseminated their research with either posters or symposia presentations. 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

RIT held its annual Imagine RIT: Innovation and Creativity Festival April 29, 2023, for enthusiastic attendees of campus and community members. This year's festival featured exhibits in science, technology, engineering, the arts, and mathematics, and was highlighted by a visit from "Boomer," the STEMbus.

The 15th annual Imagine RIT: Innovation + Creativity Festival, a one-day celebration of RIT's unique blend of technology and the arts, was held on campus April 29, 2023.

NTID student, faculty, and staff exhibits included:

- **NRSC STEMbus** – Members of NTID's Regional Stem Center, housed at Alabama Institute for Deaf and Blind, traveled up the east coast in "Boomer," a recreational vehicle that has been converted to a high-tech mobile STEM workshop, to become one of the more unique exhibits at Imagine RIT. Visitors were able to tour Boomer and try out some of the STEM-related activities.
- **PLAY Lab** – The Mind and Brain exhibit featured several interactive activities for children ages 3 and up.
- **PopSign** – PopSign is an app that makes learning American Sign Language fun and interactive. The aim of the game is to pop as many bubbles as possible, matching a written word with an ASL sign on the bottom of the screen. It is intended to educate parents with deaf and hard-of-hearing children in ASL, but it is open for anyone who wants to learn sign language and fingerspelling. It is still in beta testing mode, but can be downloaded from Google Play Store. The Center on Access Technology, along with Google and Georgia Tech, is working on perfecting and making it available on the Apple App Store.
- **Smart Chessboard** – The Smart Chessboard is a custom-designed, printed circuit board (PCB) with magnetic sensors that detect chess pieces on the board with addressable RGB LEDs that light up all possible legal moves for a piece. Players are able to play against another player remotely with a physical board or play against a chess engine (computer player).
- **Innovations for Accessibility and Communication in Education and Beyond** – This exhibit showcased two applications being developed by NTID's Center on Access Technology to help improve communication access for deaf and hard-of-hearing individuals. The applications – C4 and TigerChat – utilize the potential of ever-improving speech-to-text technology to produce text in real-time to aid in communication between deaf, hard-of-hearing, and hearing individuals. Visitors had a chance to experience what it is like to produce and edit real-time captioning and play skill development games that are used to train people to edit real-time captioning. CAT technology developers and service providers were available to answer questions.
- **Discovering ASL in our Diverse Deaf Community** – This exhibit focused on discovering American Sign Language in RIT's diverse Deaf and hard-of-hearing community, and its impact on local communities.
- **"Singring and the Glass Guitar": An AR Dance Performance** – NTID's Performing Arts Department presented "Singring and the Glass Guitar," a 20-minute dance interpretation of the final song of the album RA by the 1970s progressive rock band Todd Rundgren's Utopia. This live performance combined dance, projections, and augmented reality into an amazing multimedia experience.
- **Tech Talk: Fun with Communication Technology** – RIT/NTID audiologists and speech-language professionals use technology in their work every day. At this exhibit, visitors learned more about the technology and tools used to meet Deaf and hard-of-hearing people's communication goals. They shared current, state-of-the art hearing aids, cochlear implants, and communication and speech-language technology. Partners in the industry, such as hearing

Imagine RIT (continued)

aid/cochlear implant manufacturers and app developers, were also in attendance to share some hands-on activities.

- **American Sign Language Storytelling** – To display the beauty of the language of American Sign Language, RIT/NTID students presented short ASL stories. The genres of ASL storytelling varied from Deaf-themed and ASL-themed stories to creative plays with ASL signs, ABC (alphabetical order), and numerical and same-handshape stories.
- **Test Your Science and Health Knowledge and Learn ASL!** – NTID’s Deaf Hub provided an interactive experience for visitors including taking a brief quiz on Kahoot! about basic science and health, selecting flashcards of science and health vocabulary to learn the sign for each word, and playing with a squishy human anatomy model or a brain anatomy model and learning the correct sign for each body part.
- **Sunshine 2.0 presentation** – Sunshine 2.0, NTID’s traveling theater troupe, presented “Black Inventions,” a virtual play that introduced audiences to brilliant black men and women inventors.

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.



Members of NTID’s Regional Stem Center, housed at Alabama Institute for Deaf and Blind, brought “Boomer,” a recreational vehicle that has been converted to a high-tech mobile STEM workshop, to visit Imagine RIT.

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 Classroom Technology for ASL and Interpreting Instruction

ASLIE's three department classrooms are each equipped with four HD cameras, three "smart" microphones, three 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 camera controller. Additionally, each classroom is equipped with headsets with microphones for students, and there are spare laptops for students to use as needed. The classrooms employ 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:

- **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.
- **Future developments:** CSS is working with instruments that are Auracast ready and preparing for the widespread implementation of the technology.
- **Hybrid delivery options for speech-language services:** The speech-language pathologists at NTID continue to provide students with meeting options to engage in virtual and/or traditional in-person formats. Students today are facing a heightened need to solidify their virtual communication skills given the global shift to virtual classes, meetings, interviews, and teamwork. Speech-language sessions at NTID, in this way, are serving to prepare students to become confident and successful communicators in both face-to-face and 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 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

Innovation and Creativity at NTID (continued)

audiology, speech-language pathology, accessibility, and deaf education. Recent projects have focused on:

- use of wearable vibrotactile haptic devices to enhance speechreading, environmental sound awareness, and to manage symptoms of tinnitus
- use of mobile applications to enhance cross-cultural communication
- online learning initiatives for deaf learners
- usability of automatic speech recognition for telephone captioning
- effects of moisture on the lifetime and daily function of hearing aids and cochlear implants

A significant uptick in requests 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 Women, Gender, and Sexuality Resource Center (WGSRC). Direct communication group sessions for gender-affirming voice coaching have been routinely frequented by students, hearing and deaf alike.

The expertise of the CSS department regularly is sought and shared within the institute, as well as externally. Consulting and training of best practices in education, communication skill development, and language access also are shared internationally in Ethiopia, where a CSS audiologist and speech-language pathologist are routinely part of a volunteer initiative to empower an Ethiopian Deaf community.

NTID Performing Arts

The department's 49th season in AY 2022-2023 presented three mainstage productions and several special events that involved more than 225 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. While Panara Theatre was closed for renovations, three productions took place in various locations. These performances were attended by more than 1,902 people from throughout New York state, as well as schools and community groups from neighboring states.

This season included a joint production of "Everybody," by Branden Jacobs-Jenkins, directed by faculty Andy Head. Two Deaf actors received awards from the 2023 Kennedy Center American College Theatre College Region II Award, held at West Chester University in January. Serena Rush finished in third place. Ace Gray won the Best Partner Award. Other RIT/NTID students also participated in the festival, including McClain "Mac" Leong, Dolapo Atobiloye, Esther Cho, Aslan Cronister, Becca Lewis, and Freddy Rondon.

NTID Performing Arts' dance director Marc Ellis Holland created a special dance performance, "25 Years Through Movement and Space," a tribute to faculty member Thomas Warfield for his 25 years of service at RIT and NTID. "25 Years Through Movement and Space" took place in RIT's Ingle Auditorium, with Warfield and special guest, NTID retiree Patrick Graybill performing the "23rd Psalm" together for the third time since 1999. NTID's Office of External Affairs hosted Thomas Warfield's 25th anniversary reception at the Ritz Dining Room for approximately 50 guests including the Performing Arts faculty, staff, and dancers.

In March, NTID's Department of Performing Arts and Monroe County Libraries hosted the National Endowment for the Arts' "Big Read" events along with a reading by "Deaf Republic" Deaf author, Ilya Kaminsky, followed by a book signing. The final mainstage production was Kaminsky's "Deaf Republic," directed by Artist-In-Residence and NTID alumnus Malik Paris '13 partnering with James "J.W." Guido. NTID Performing Arts reserved a space at the Henrietta Ballroom at RIT Inn and Conference Center for the production. Approximately 1,069 guests visited "Big Read" events, which included Visual Vernacular, Black Poetry, and Black Lives Matter art exhibition in NTID's Dyer Arts Center, alumnus Eric Epstein's '19 ASL Poetry, John Lee Clark, and DeafBlind events.

"Singring and the Glass Guitar" is an augmented reality (AR) dance performance about four brave adventurers who set out to battle the forces of nature (water, wind, fire, and air) in search of four keys used to unlock and free the trapped "Spirit of Harmony." This production was an imaginative concept from co-director, Joe Geigel in partnership with choreographer and co-director, Thomas Warfield. This

Innovation and Creativity at NTID (continued)

dance and AR collaboration was produced by an interdisciplinary team involving students, faculty, and staff from Dance at RIT, NTID's Department of Performing Arts, RIT's School of Performing Arts, 3D Digital Design, and Computer Science departments. The performance took place in RIT's MAGIC Studio.

"Everybody" had 558 viewers, "25 Years Through Movement and Space" had 436, "Deaf Republic" had 388, and "Singring and the Glass Guitar" had 320, plus more than 500 non-reserved members came to view the presentations and performances during Imagine RIT events.

NTID Performing Arts hosted a special grant-funded DeafBlind event, "Protactile Rapunzel."

During AY 2022-2023, 453 students enrolled in Performing Arts in-person and online classes. Fourteen students were awarded performing arts scholarships and five students were awarded performing arts certificates this year.

In total, approximately 4,794 people were served by NTID's Performing Arts program during the AY 2022-2023 season.

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, Deaf art, and Deaf artistic movements. The site offers a range of accessible materials for classroom use, including visual timelines, a summary of popular Deaf motifs, free access to scholarly articles regarding Deaf art, and more. 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/). The site focuses on three spheres of the world involved in this conflict, as Deaf North American, Deaf European, and Deaf Asian peoples' lives are examined before, during, and after the war. 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 (www.rit.edu/archives/ritntid-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

Innovation and Creativity at NTID (continued)

Deaf Studies Archive (infoguides.rit.edu/dsa) is located in the RIT Archives in the Wallace Center and is curated by NTID librarian, Joan Naturale, and 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 YouTube videos that were created last year (found among the Libraries' playlists at <https://www.youtube.com/c/RITLibraries/playlists>). 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, 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.

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, and 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/radsc/tripod/. 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 '91, '11, '13; 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 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, both 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, also are RIT/NTID alumni.

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

Innovation and Creativity at NTID (continued)

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 Center. As of October 2023, and after two years of temporary housing in the Gordon Field House, the RADSCC returned to its permanent home in the newly renovated Wallace Center, directly adjacent to the newly opened Student Hall for Exploration and Development (SHED).

In April 2023, the RADSCC again participated in Imagine RIT, RIT's annual Creativity and Innovation festival. This year's exhibit, *American Sign Language Storytelling*, featured Jeanne Behm '78, '80 and Kaya Jensen, and was held in RIT's Ingle Auditorium. The event was well attended by deaf and hearing individuals alike.

The RIT ASL at Lunch series continues to be a popular campus activity. During these weekly gatherings, members of the Deaf and hearing community with widely varying familiarity of Deaf culture and skill level in American Sign Language come together to socialize, learn ASL, and experience Deaf culture.

The RADSCC continued hosting its ASL Lecture Series, both in person and online. Participation in these lectures continues to be strong and the dual participation modality option ensures lectures are accessible to audiences both on and off campus. This year's lectures included "The History of the Philadelphia ASL Community," featuring Dr. Jami Fisher and June Goodwin (February, 2023), "Signplaying," featuring RIT/NTID alumnus Eric Epstein '19 (April, 2023), and "Deaf Life in Germany: An Exploration," featuring Andreas Bittner (September, 2023). Past presentations can be found at rit.edu/ntid/radsc-presentations-asl.

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, the arts, and math (STEAM), as well as educational topics pertaining to the Deaf experience. They also perform and give workshops at many conferences and festivals (virtually and in person) to reach the community at large. In FY 2023, they continued to provide virtual and in-person performances, performed at conferences, festivals, and expos in order to reach students and families both in and outside of traditional educational settings. They were able to connect with school administrators, school faculty and staff, and Deaf organizations (interpreter agencies, youth programs, community organizations). These performances and workshops involved approximately 15,125 youth and adults and were hosted at 53 sites in the following states: California, Florida, Georgia, Iowa, Minnesota, New York, Pennsylvania, South Carolina, Tennessee, Texas, Washington state, Washington, D.C., and West Virginia.

Sunshine 2.0 attended the Bay Area International Deaf Dance Festival, Music at the Anthology (MATA) Festival, National Black Deaf Advocates Conference, National Deaf People of Color Conference, South Carolina Hands and Voices Conference, Southeast Regional Institute on Deafness (SERID) Conference, and Very Special Arts Leadership Exchange in Arts and Disability (L.E.A.D) Conference to promote NTID and provide 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 2023.

Innovation and Creativity at NTID (continued)

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 (aslcore.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 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 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.

Dyer Arts Center

In academic year 2022-2023, NTID's Joseph F. and Helen C. Dyer Arts Center held 40 in-person events, encompassing receptions, conferences, VIP meetings, and educational visits, drawing approximately 9,000 visitors. The center's reach extended significantly within the Deaf community on both national and international fronts.

Among the highlights were six exhibitions:

1. "Shaped by the American Dream: Deaf History through Deaf Art," showcasing 140+ artworks by 30 deaf artists spanning from 1889 to 1989.
2. "Signwaves: Reimagined" by renowned Deaf Project Runway fashion designer, Justin LeBlanc.
3. "Harry Williams Retrospective."
4. "Deaf Republic," a collaborative effort with NTID Performing Arts' Big Read.
5. "You Don't Need to Hear to Listen," an immersive exhibit by artist Laurie Shapiro.
6. "Anthropology of Motherhood: Intersections with Disabilities," a traveling exhibit exploring the Culture of Care through artwork.

During summer 2022, lighting renovations caused a delay in the fall exhibit's opening due to incomplete lighting controls. To address this, Dyer temporarily closed its doors in summer 2023 to facilitate the necessary repairs, successfully finishing by the end of the break.

The year saw shifts within the Dyer Arts Center team, marked by the departure of Assistant Director Sarah McCormick and Exhibition & Collections Coordinator Mackenzie Robbins in January 2023. Director Fran Flaherty received support from Dyer's parent department, the Office of External Affairs. Subsequently, Reilly Liberto joined as the exhibitions and collections coordinator in August 2023, followed by Arianna Ackerman's appointment as assistant director.

Notably, during the 2022-2023 academic year, Dyer expanded its collection by acquiring 20 pieces from artists David Bloch, Igor Kolombatovic, and Helen Rae.

Intellectual Property: Licensed Educational Materials, Patents, and Inventions

NTID educational materials developed after RIT's Intellectual Property Policy was implemented in October 1997, 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 and distribution information.

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
- *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

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. Available for license.
- 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 Research Center on Culture 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 filed February 14, 2020.

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 career exploration assistance to teachers of deaf and hard-of-hearing students, Vocational Rehabilitation personnel, secondary and middle school students, and parents of deaf and hard-of-hearing children.

Pre-College Outreach Programs

Outreach is responsible for arranging camps and competitions for deaf and hard-of-hearing middle and high school students. To reach as many students as possible, Outreach's programs are conducted on-campus, off-campus, and online.

Outreach conducted five in-person programs.

- Explore Your Future (EYF), the flagship program of the department, is 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. It has been 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. Two EYF sessions were held during summer 2023.
- Tech Tigers is for middle school deaf and hard-of-hearing students. This week-long program is for students entering 7th, 8th, or 9th grade who are interested in careers in science, technology, engineering, and math. Attendees use state-of-the-art technology to create a high-tech gadget to take home, conduct laboratory experiments, and more.
- Health Care Careers Exploration Program is designed for deaf and hard-of-hearing students entering 10th, 11th, or 12th grade who are interested in pursuing a career in the expanding health care field. The program covers a range of career options in the field along with an overview of health care issues, techniques, and technologies.
- The Math Competition resumed in-person competitions at four regional locations with finalists invited to the RIT campus for a national competition. Middle school students and teams are invited to compete with other like-minded mathletes from schools across the country. Fostering an interest in mathematics and related fields is the intent of the program.
- STEM Days is an off-campus program held at sites local to deaf and hard-of-hearing students who can attend the program without needing overnight accommodations. The program provides hands-on activities and programs for middle and high school students to experience a variety of STEM topics along with an overview of career options within that subject area.

Outreach conducted five virtual programs in the fall and spring.

- The Career Exploration Series offers hour-long virtual webinars for students in grades 9–12 who are deaf and hard of hearing. Each webinar focuses on a unique STEM topic with subject matter experts from NTID leading students through a STEM activity and discussing related careers within their fields of expertise.
- The STEM Trivia Contest is a one-day trivia competition for deaf and hard-of-hearing high school students.
- Two competitive Science Fairs with a specific theme were conducted: Rube Goldberg and egg drop.
- SpiRIT Writing Contest for students in grades 10–12 was held in spring 2023
- The Digital Arts, Film, and Animation Competition, for students in grades 9–12 also was held in spring 2023.

Outreach Highlights

STEM Academies

NTID partnered with Lexington School for the Deaf, Utah School for the Deaf, and Washington Center for Deaf and Hard of Hearing Youth to provide STEM Academy summer programs.

Below are data from each of the STEM Academy summer programs from 2023:

Lexington School for the Deaf's STEM Academy ran from July 3 to August 11, 2023, and included two weeks on ROV and drones, two weeks on 3D printers, and two weeks on robotics. Students also benefited from a field trip to Google, where they learned about STEM careers related to Google. During the STEM Academy, students also received English Language Arts and social emotional learning assessments/training. Eighteen students participated in the summer program.

Utah School for the Deaf's Ogden campus hosted a three-week STEM Academy, which involved learning about and building drones, robotics, and 3D printing, on June 12-30, 2023. An average of 16 students participated in each of the three components of the STEM Academy, which also included English Language Arts and social emotional learning.

Washington Center for Deaf and Hard of Hearing Youth provided three weeks of direct instruction to students on STEM content, American Sign Language and Deaf culture, English Language Arts, hands-on activities with ROV/drones, and robotics at the Washington School for the Deaf campus in Vancouver, Washington. Students also had a field trip to Mt. St. Helens. The program, which ran from July 16 to August 4, 2023, included 18 students from Washington, Oregon, Idaho, and Alaska.

Alumni Activities

The NTID Office of Alumni and 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 and Constituent Relations works to build and maintain connections between NTID and its more than 10,000 alumni. NTID retirees and parents of current students also are included in events, activities, and engagement initiatives. AY 2022-2023 had more than 1,700 alumni and guests participating in more than 30 activities and events including alumni activities and gatherings across the country, key events in Rochester such as the Rochester Red Wings (baseball) Deaf Culture Night and a Deaf Culture Awareness Day at the Seneca Park Zoo, as well as regular NTID Alumni Association Board of Directors meetings on campus.

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 and secondary school 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 2023, Pre-College Outreach interacted with 2,038 middle school and high school students from all over the country through 10 programs. Parents, students, and teachers alike had high praise for the 2023 competitions and camps. With the success of these initiatives, RIT/NTID is continuing to make outreach a central focus through sharing 50-plus 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.

Pre-College Outreach AY 2022-2023				
Program	Location	Total Participants	Minorities	
			Number	Percentage
Digital Arts, Film, and Animation	Virtual	13	4	31%
Math Competition	RIT and four regional sites	106	47	44%
SpiRIT Writing Contest	Virtual	33	18	55%
Health Care Careers Exploration	RIT	14	6	43%
Tech Tigers	RIT	56	22	39%
Career Exploration Series	Virtual	1,040		
STEM Days	Various off campus sites	344		
Virtual Science Fair	Virtual	236	109	46%
STEM Trivia	Virtual	47		
Explore Your Future	RIT	149	83	56%

Digital Arts, Film, and Animation Competition

Thirteen deaf and hard-of-hearing students registered for the 2023 Digital Arts, Film, and Animation competition for students in grades 9–12. Categories for the competition included Web design, graphic media, photo illustration, and film. Two winners were selected and received cash prizes.

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. Three regional competitions were held with 106 competitors overall. Finalists from each region, a total of 62 individuals from 16 teams, came to RIT in March 2023 for a national competition where four winning teams and four individual winners received cash prizes.

Region	Site
Southeast	South Carolina School for the Deaf and Blind, Spartanburg, SC
West	Phoenix Day School for the Deaf, Phoenix, AZ
Northeast	Rhode Island School for the Deaf, Providence, RI

Pre-College Outreach (continued)

SpiRIT Writing Contest

RIT's 19th annual SpiRIT Writing Contest for deaf and hard-of-hearing students attracted submissions from 33 students in grades 10–12 from around the United States in March 2023. Students and their teachers submitted portfolios of the students' best work. The winners received the option of a scholarship to NTID's EYF program or a \$500 cash prize.

Health Care Careers Exploration

This week-long Health Care-focused program conducted on campus at RIT in July 2023 is designed for high school deaf and hard-of-hearing students interested in exploring careers in health care. Along with opportunities to participate in social activities and experience dorm-living allowing for a supervised taste of college life, the 14 participants:

- Received First Aid and CPR training and hands-on access to ultrasound technology to capture and observe a beating heart and the flow of blood
- Observed and practiced incision and drainage of wounds and abscesses
- Learned from a panel of medical professionals
- Interacted with health and biomedical students

Tech Tigers

This week-long technology-focused program conducted on campus at RIT is designed for middle school deaf and hard-of-hearing students. The July 2023 program hosted 56 students who learned how to build their own computer and take it home with them at the end of the week. They also attended presentations on cybersecurity and the internet of things (IOT) including the opportunity to write small blocks of code for controlling a few IOT devices. While on campus, they participated in social activities and experienced dorm-living, giving them a supervised taste of college life.

Career Exploration Series

The Career Exploration Series is a group of exciting hands-on, hour-long virtual webinars for deaf and hard-of-hearing students in grades 9–12. Each webinar focuses on unique topics that relate to career options for their future and includes a fun activity that allows the students to apply what they learned.

AY 2022-2023 CES Topics	Attendees
Science Behind Theatre	243
Environmental Science	271
Electrical Mechanical Engineering	267
Dynamic Teamwork	259

Pre-College Outreach (continued)

STEM Days

The STEM Days program brings exciting day-long, hands-on STEM activities and programs for middle and high school students to experience a variety of STEM topics and activities, usually after school or during the weekend. Each STEM topic includes an overview of career options for that subject area and fun activities that allows the students to experience the roles one might perform in those careers.

AY 2022-2023 STEM Day events	Days	Attendees
Concord, NH	1	16
Framingham, MA	2	130
Vancouver, WA & Salem, OR	2	184
Sioux Falls, SD	1	14

Virtual Science Fair

The Virtual Science Fair offers middle school students with opportunities to test their science knowledge and skills, their patience, and requires some hard work to solve a challenging task.

AY 2022-2023 Virtual Science Fairs	Attendees
Egg Drop	122
Rube Goldberg	114

STEM Trivia

Forty-seven high school students participated in a virtual competition designed to test their knowledge of STEM trivia.

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 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 7,598 students have participated in EYF over the past 39 years. Twenty-six percent of summer 2022 participants subsequently enrolled at NTID. Two sessions were offered in summer 2022. This year's participants came from 27 states and Canada.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Number of Participants	212	136	137	117	149
Percentage of Minorities	57%	47%	39%	54%	60%
Percentage Enrolling at NTID*	44%	26%	15%	26%	N/A**



Explore Your Future (EYF) students learn about careers in laboratory science by experimenting with chemical reactions.

* 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 2023 currently are in the process of applying to NTID.

Explore Your Future – Enrollment by Location

Summer 2023 EYF students represented 27 states and Canada for a total of 149 students.

Home State or Country	Number in EYF Summer 2023
California	36
Connecticut	7
Delaware	1
Florida	1
Georgia	2
Idaho	1
Illinois	1
Indiana	1
Louisiana	2
Maine	1
Massachusetts	10
Maryland	14
Minnesota	2
Missouri	1
New Jersey	5
New Mexico	2
New York	27
North Carolina	1
Ohio	1
Oregon	3
Pennsylvania	9
Texas	7
Utah	1
Vermont	1
Virginia	4
Washington	4
Wisconsin	3
Canada	1
Total	149

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 Alabama Institute for Deaf and Blind (AIDB) since November 2016 to serve as the NTID Regional STEM Center in the Southeast (NRSC). 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

Programs and activities offered to deaf and hard-of-hearing middle- and high-school students include, but are not limited to: robotics tournaments, drone 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 summer programs, FutureQuest workshops, Tech Tigers, and Health Care Careers Exploration programs. NTID's annual Math Competition also targets deaf and hard-of-hearing middle-school students and was expanded to regional competitions, leading up to a national competition at NTID in March 2023. There also is 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). Scholarships are offered for participation in programs and activities, as well as sponsorships for external STEM programs and activities. Sunshine 2.0, NTID's traveling theater troupe, has toured throughout the country, offering STEM-related performances and workshops.

Teachers

NRSC provides 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 for students in NTID's American Sign Language and Interpreting Education program and the Master of Science in Secondary Education of Students Who are Deaf and Hard-of-Hearing program who demonstrate interest in working in STEM fields. Priority is placed on BIPOC students in the scholarship selection process. NRSC also provides 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 provide 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 with the first advisory board meeting in April 2023. More advisory board meetings and additional members will be added in 2024.

Sign Language Interpreters

NTID employs two part-time STEM interpreter trainers who organize and provide professional training activities, exchange programs, and mentorship for educational trainers on STEM topics.

Employers

NTID's Co-op and Career Center (NCCC) conducts training for employers, ranging from private corporations to non-profits, and visits job sites where students work. 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, the National Association of the Deaf, and Communication Service for the Deaf, NCCC staff also offered a series of virtual seminars on employment-related topics. A national deaf employment summit was hosted at RIT/NTID in June 2023.

Project Fast Forward

Project Fast Forward is part of the NTID Regional STEM Center. The program is primarily funded by NTID's Regional STEM Center for all STEM-related courses. Funding for non-STEM related courses is derived from NTID operating funds.

The goal of Project Fast Forward is to help deaf and hard-of-hearing high school students across the country get a jump on a college degree by offering dual-credit college courses at no cost to the students.

School Partners. During AY 2022-2023, 61 dual-credit course sections were offered at 25 schools for the deaf and programs for deaf and hard-of-hearing students. 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. Arizona State Schools for the Deaf and Blind, Tucson, Arizona
4. Arkansas School for the Deaf, Little Rock, Arkansas
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. Cleary School for the Deaf, Nesconset, New York
9. Cypress Ridge High School, Houston, Texas
10. Delaware School for the Deaf, Newark, Delaware
11. Eastern North Carolina School for the Deaf, Wilson, North Carolina
12. Edmonds Woodway High School, Edmonds, Washington
13. Florida School for the Deaf and the Blind, St. Augustine, Florida
14. Georgia School for the Deaf, Cave Spring, Georgia
15. Hinsdale South High School, Hinsdale, Illinois
16. Horace Mann School for the Deaf, Boston, Massachusetts
17. Idaho School for the Deaf, Gooding, Idaho
18. Indiana School for the Deaf, Indianapolis, Indiana
19. The Learning Center, Framingham, Massachusetts
20. Lemont High School, Lemont, Illinois
21. Lexington School for the Deaf, Jackson Heights, Queens, New York
22. Marlton School for the Deaf, Los Angeles, California
23. Maryland School for the Deaf, Frederick, Maryland
24. McNeil High School, Round Rock, Texas
25. Metro Deaf School, St. Paul, Minnesota
26. Mill Neck Manor School for the Deaf, Mill Neck, New York
27. Minnesota State Academy for the Deaf, Faribault, Minnesota
28. Model Secondary School for the Deaf, Washington, DC
29. New Mexico School for the Deaf, Santa Fe, New Mexico
30. New York School for the Deaf, White Plains, New York
31. North Carolina School for the Deaf, Morganton, North Carolina
32. Northland High School, Columbus, Ohio
33. Ohio School for the Deaf, Columbus, Ohio
34. Oklahoma School for the Deaf, Sulphur, Oklahoma
35. Pennsylvania School for the Deaf, Philadelphia, Pennsylvania
36. Phoenix Day School for the Deaf, Phoenix, Arizona
37. Plano Senior High School, Plano, Texas
38. Rhode Island School for the Deaf, Providence, Rhode Island
39. Rochester School for the Deaf, Rochester, New York
40. Rocky Mountain Deaf School, Denver, Colorado
41. St. Mary's School for the Deaf, Buffalo, New York
42. Tennessee School for the Deaf, Knoxville, Tennessee
43. Texas School for the Deaf, Austin, Texas
44. Tucson Magnet High School, Tucson, Arizona
45. University High School, Irvine, California

Project Fast Forward (continued)

46. Utah Schools for the Deaf and the Blind, Ogden, Utah
47. Vines High School, Plano, Texas
48. Washington School for the Deaf, Vancouver, Washington
49. Western Pennsylvania School for the Deaf, Pittsburgh, Pennsylvania
50. Wisconsin School for the Deaf, Delavan, Wisconsin

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 for students to 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
18. *Critical Reading and Writing:* Through inquiry-based assignment sequences, students will improve their writing by developing academic research and literacy practices that will be further strengthened in First-Year Writing
19. *Introduction to Performing Arts:* Examines the characteristics and elements of theatre and the performing arts, emphasizing the principles and conventions that guided theatre productions through history with particular attention to the emergence of Deaf and multicultural theatre

Project Fast Forward (continued)

Courses Taught and Credit Earned. During AY 2022-2023, 61 course sections were taught at 25 partner high schools, with 252 deaf and hard-of-hearing high school students enrolled in those courses, and 77 students enrolled in more than one course for dual credit, bringing the total to 329 registrations. Of these students, 225 students, or 68% of the total, successfully completed their dual-credit course and earned three RIT credits. 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 2023:

- 438 dual-credit course sections were taught by 142 teachers in their high schools.
- 2,646 registrations were recorded in Project Fast Forward courses.
- 1,885 unique deaf and hard-of-hearing students participated in the program.
- 761 deaf and hard-of-hearing students took more than one course.
- 1,647 (63%) of students enrolled in dual-credit courses received passing grades.
 - When removing teacher errors, 69% of students received passing grades.
- 4,941 RIT/NTID credits were awarded to deaf and hard-of-hearing students.

In AY 2023-2024, 66 dual-credit participants matriculated at RIT/NTID compared to 54 students during AY 2022-2023.

At press time, 156 students were registered in 44 course sections for AY 2023-2024, with more possible enrollments over time.

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 December, January, May, June, and July 2023, training was offered both in person and virtually to 36 new Project Fast Forward high school teachers and 13 returning Project Fast Forward high school teachers. There were three new high school partners present at the training. The training for high school counselors was offered for the first time following the pandemic. Seven guidance counselors were in attendance. During the 16 summers of Project Fast Forward, between 2007 and 2023, the following numbers of teachers and counselors have participated in summer professional development:

- 195 teachers from 53 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 283 teacher trainings.
- 50 guidance counselors attended summer professional development activities to work with students taking dual-credit courses in their high schools.

Project Fast Forward Award. In January 2020, an award program to support under-resourced high schools serving predominantly BIPOC students was established. Schools apply for an award amount up to \$10,000 per semester to cover instructional materials and associated software related to the dual-credit courses. To date, 32 such awards have been processed amounting to \$139,173. Pennsylvania School for the Deaf reported, "Our students were able to apply what they learned in class to hands-on activities and experiments allowing them to bridge the gap between theory and discussion to practice." Additionally, American School for the Deaf shared that teachers have focused on lab writing skills with the result being that their assistant principal observed students showing a "dramatic increase in expanding written communication within the lab format."

Project Fast Forward (continued)

Advisory Board. The Project Fast Forward Advisory Board met four times a year between 2022 and 2023. The board will wrap up its two-year tenure December 31, 2023. There are no plans to continue the board beyond this date. Their task was to deliver recommendations to address educational inequities amongst students of color and other marginalized groups. Their recommendations to update the language on our website and in our brochures are being implemented. Additionally, the board emphasized the importance of providing professional development training to NTID faculty regarding anti-racist curriculum development, an anti-bias workshop, and assessment methods. The training will be offered on May 15, 2024.

Staffing Updates. On May 1, 2023, David Strom was hired to lead the Project Fast Forward program. Brittany Comegna has assumed the role of Coordinator of Outreach and Special Projects.



Tara Holaday '12, '14, center, at PFF partner Texas School for the Deaf in Austin, Texas, instructs her students in a science course that will count as college credit at NTID.

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. As 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 principal investigators 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.

In May 2023, DeafTEC was awarded a three-year renewal grant for the DeafTEC Resource Center (grant# 2301149) for \$1,649,965 that will run from August 1, 2023 to July 31, 2026.

National Math Conference. DeafTEC partnered with the NTID Regional STEM Center (NRSC) to offer a national math conference for teachers from middle school through community college and anyone interested in mathematics and deaf education. The conference was held November 7-9, 2022, with 97 attendees. The conference kicked-off with a presenter panel and continued with a full agenda, including welcomes from NTID's administration, a keynote address, and four concurrent breakout sessions, each containing three presentations. The last day of the conference began with a student panel facilitated by Co-PI Keith Mousley '78, '80 and was the highlight of the conference for many attendees.



Working Together: Deaf and Hearing People Online Course

Nineteen people have registered for the online Working Together Course (learn.deaftec.org/courses/working-together/). DeafTEC is in the process of updating the course, and therefore has not promoted it as much as in previous years. This might be why the registration number is low compared to previous years. To date, 859 people have registered for the course, 637 have taken at least one module, 329 have finished all modules, and 193 have completed the survey and received a Certificate of Completion and a digital badge.

DeafTEC (continued)

Project Access Online Course

The Best Practices for Teaching section of the DeafTEC website offers an extensive collection of universal design for learning strategies and best practices for meeting instructional challenges that teachers face in mainstreamed classrooms. The resources in this section are the underpinnings of DeafTEC's Project Access workshop. Erika Shadburne, former DeafTEC National Center subaward PI for Austin Community College, and Dr. Mei Kennedy, Project Access workshop leader, developed e-learning modules that provide instructors with an online version of our Project Access workshop. The course launched the beginning of July 2022 <https://learn.deaftec.org/modules/project-access/>. Seventy-one people registered for the course and completed at least the first module during this reporting period.

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 a particular current topic in math education in ASL. 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 2021, has presented nine webinars totaling 2,100 registrants and 1,183 attendees. The response to these workshops is significant, given the audience of math educators of the deaf is quite small. Through this webinar series, DeafTEC is providing this community with much-needed resources and conversations aimed at reducing the achievement gap of deaf and hard-of-hearing students in mathematics.

MODE #8 ASL Online Resources - Focus on Math Signs was offered March 22, 2023, with 438 people registered and 249 (57%) attending. This webinar reviewed three current online sites that contain mathematical ASL. Guest Caroline Solomon from Gallaudet University discussed ASL STEM, guest Keith Mousley '78, '80 from RIT/NTID discussed the DeafTEC STEM Sign Video Dictionary, and host Dawn Kidd showed the Texas Math Sign Language Dictionary. Additional ASL math resources were listed at the end of the webinar.

MODE #9 Building Thinking Classrooms in Mathematics was offered April 26, 2023, with 211 people registered and 116 (55%) attending. During this webinar, guest Chong Min Lee, who teaches mathematics at the Metro School for the Deaf, discussed how she incorporates ideas into her classroom practices from the book, "Building Thinking Classrooms in Mathematics" by Peter Liljedahl. Major points of the book, as well as their application to deaf education, were discussed.

Association of Higher Education and Disability (AHEAD) Conference. DeafTEC partnered with AHEAD on their 2023 *Equity & Excellence: Access in Higher Education* Conference to provide professional development opportunities for community college faculty and disability services (DS) personnel on fostering equitable higher education experiences for students with disabilities.

Our 2023 partnership resulted in:

- 1. Community College Teams Participation.** DeafTEC supported teams consisting of a STEM faculty member and a DS staff member from 15 community colleges to participate in AHEAD's 2023 *Equity & Excellence Conference* held in Portland, Oregon, July 17–21. Each team member received a travel stipend to attend the conference. These 15 teams from across the country were from diverse educational settings. Some teams were from large colleges with many STEM faculty and a large DS department. Other teams included individuals who were the only DS staff member in their college or one of few faculty in their department.
- 2. DeafTEC Session Track.** A DeafTEC concurrent session track addressing issues regarding service provision and best practices for working with deaf and hard-of-hearing students and student veterans with hearing loss in STEM programs was added to the conference schedule for a total of eight sessions. This 2023 conference had close to 1,500 attendees. Participants had the opportunity to attend the opening keynote

DeafTEC (continued)

presentation as well as two of four AHEAD general sessions, focusing on legal issues, leadership, and disability culture. The concurrent sessions were organized into 14 session tracks spread over eight 60- or 90-minute time blocks, for a total of 14.5 contact hours. DeafTEC was track 7. Topics for the DeafTEC concurrent sessions were determined by our planning team. The team also identified and recruited presenters for each session, which included several NTID faculty and staff.

Pilot Program to Prepare Adults who are Deaf or Hard-of-Hearing for Skilled Technical Positions in Information Technology.

This NSF ATE grant (award # 2100330 for \$470,069) is a partnership between DeafTEC and CompTIA to establish the DeafTEC Ready program, which provided a full-time, 10-week hands-on training course (bootcamp) offered in person from May 25–August 5, 2022, on the RIT campus for 12 non-matriculated deaf and hard-of-hearing individuals. The bootcamp was taught in American Sign Language by experienced, credentialed NTID faculty. Bootcamp participants learned technical skills, such as repairing and maintaining computer equipment, networks, and operating systems, as well as key workplace skills such as professional communication and problem solving. After completing their training, participants took the CompTIA A+ (Core 1 and Core 2) certification exams.

Student Success:

- All 12 students completed the 10-week bootcamp.
- Ten of the 12 students are CompTIA A+ Certified.
 - Eight of the 12 students passed both Core 1 and Core 2 exams earning CompTIA A+ Certification by the end of the bootcamp and were awarded credit for three courses from the NTID Applied Computer Technology (ACT) AAS Degree program.
 1. NACT-150 Intro to PC Hardware
 2. NACT-151 Windows Operating Systems
 3. NACT-155 Non-Windows Operating Systems
 - Two students became CompTIA A+ Certified (in December 2022 and March 2023) after taking the A+ Certification Prep course from the ACT AAS program fall semester 2022. One student took the course in person and the other took it remotely. Both students earned three credits for the course free of charge. Tuition was covered by another NTID program. This course was taught by Co-PI James Mallory. In addition to the course, Mallory offered students extensive independent tutoring.
- The 11th student passed the Core 1 exam April 2023, and is working on passing the Core 2 exam. According to Professor Mallory, he has a very good chance of succeeding.
- The 12th student has not responded to any contact (email or text) attempted by the instructors, fellow students, and the CompTIA manager.
- Five of the 10 certified students found employment, three in part-time positions and two in full-time positions. Four of the five positions are in tech.
- Two students have enrolled in NTID's Applied Computer Technology associate degree program fall 2023.

Improving Access to Certification exams. The grant also supported establishing an assessable RIT/NTID Pearson VUE Test Center (PVTC). In fall 2022, the testing center opened in the NTID Learning Center (NLC), a college-wide general-purpose lab where students have access to various computer workstations, printers, a video lab, and laptop/study spaces as well as English and math tutoring. The testing center is located in a private room within the NLC and can accommodate three test takers at one time. Unfortunately, the PVTC opened after the bootcamp was finished. Only one bootcamp participant who stayed in Rochester after the bootcamp was able to take the CompTIA A+ Core 1 and Core 2 exams in the test center. During the bootcamp, however, participants took online exams with an online proctor in the test center as it provided privacy and the quiet environment required for an online test.

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 nine programs for 506 human resources professionals and company representatives.

NTID Information Sessions

Seven employers met with 148 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.

NTID Career Fair

The career fair was held in October 2022 with 34 employers and 200 students and alumni participating.

Deaf Employment Summit:

NTID, Gallaudet University, Communication Service for the Deaf (CSD), and National Association of the Deaf (NAD) successfully hosted the inaugural Deaf Employment Summit (DES) at Rochester Institute of Technology (RIT) June 2023.

- 100 employers, educators, speakers, policy makers, and advocates came together to:
 - showcase success stories and employment resources for employers and deaf and hard-of-hearing individuals,
 - improve employment opportunities and hiring of deaf and hard-of-hearing individuals, and
 - improve the quality of employment of such individuals.
- The Honorable Tom Harkin, the founder of the Harkin International Disability Employment Summit, delivered the opening presentation by talking about “The ADA and the Harkin Summits: My Stories,” and Andy Imparato, executive director at Disability Rights California, presented the closing remarks.

Outreach to Employers

- National Association for the Deaf, Communication Service for the Deaf, Gallaudet University and NTID partnered together to provide two Deaf Employment Summit webinar programs to 139 participants:
 - Deaf and Hard-of-Hearing Contractors in the Workplace – October 2022
 - “Infinity & Beyond” – March 2023
- Exhibited, networked, and participated in five national conferences:
 - SHRM Diversity & Inclusion in San Diego, California – October 2022
 - SHRM Talent Management Conference & Exposition in Orlando, Florida – April 2023
 - National Association of Colleges and Employers in Orlando, Florida – June 2023
 - Disability:IN Annual Conference in Orlando, Florida – July 2023
 - National Industry Liaison Group in Phoenix, Arizona – August 2023
- Served on two panels:
 - “Bridging the Gap between College and STEM Centers” to 25 participants at the Association on Higher Education and Disability and Disability (AHEAD) Conference in Portland, Oregon, July 2023.
 - 248 employees from The Hartford saw “Navigating Hearing Disabilities in the Workplace” in Hartford, Connecticut, September 2023.

Employer Outreach (continued)

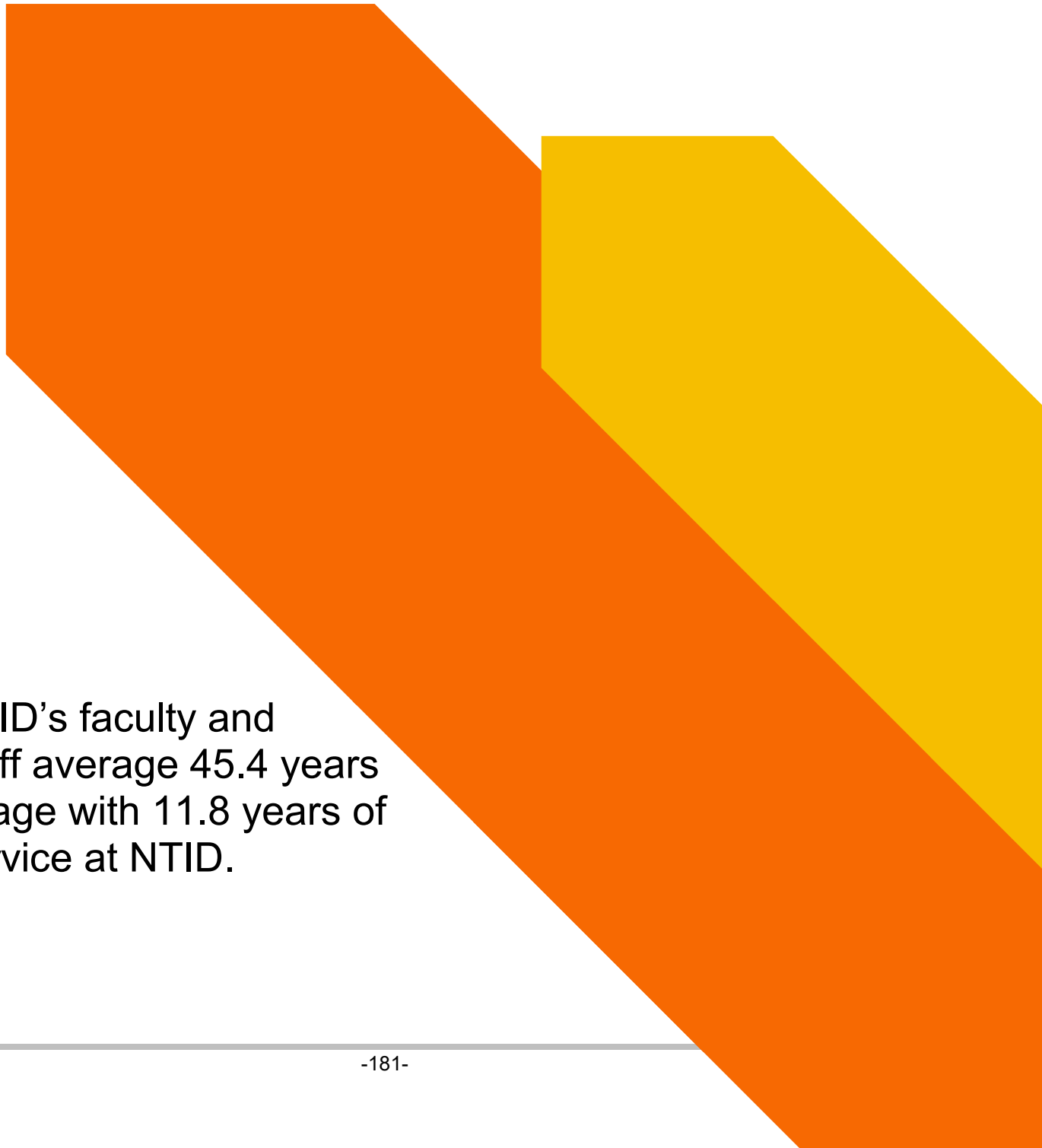
NCCC Marketing Highlights

- Developed news releases and articles to promote employer participation in the NTID Information Sessions and NTID Career Fair.
- 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 NCCC Facebook, LinkedIn and Instagram.
- Featured student and recent graduate success stories on the NCCC website at least once a month.



Senator Tom Harkin, retired, one of the primary architects of the Americans with Disabilities Act, provided the keynote address at the Deaf Employment Summit held at NTID in June 2023.

Faculty and Staff

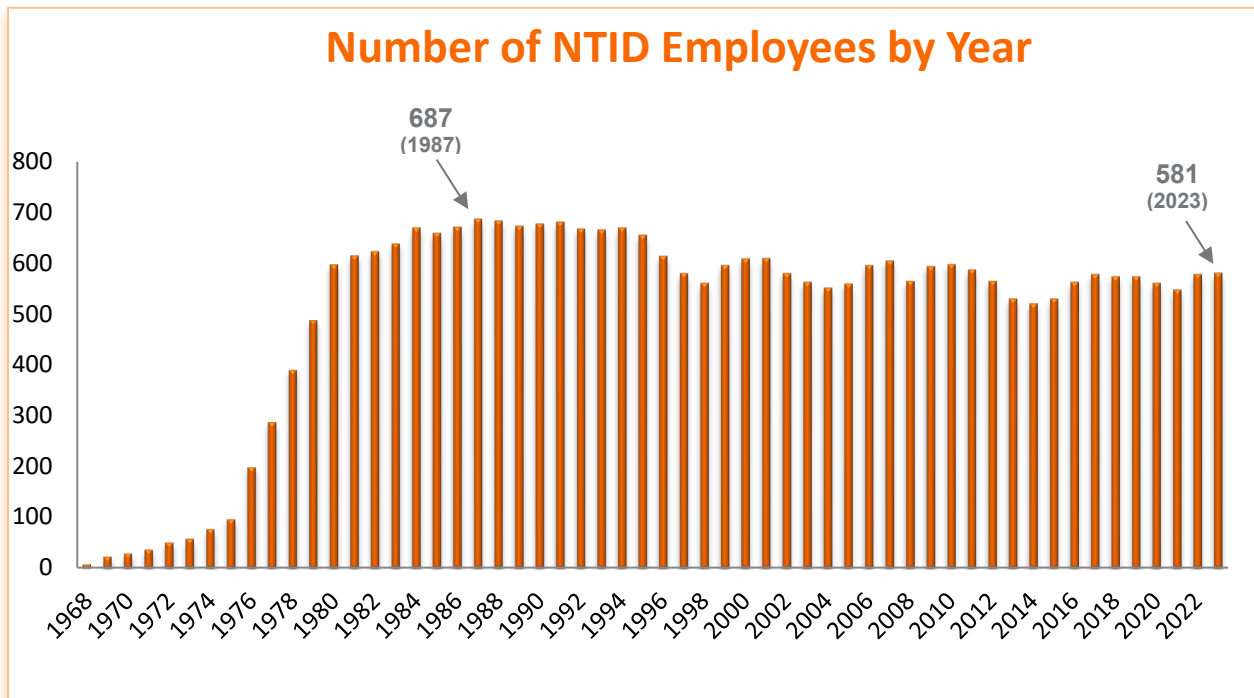


NTID's faculty and staff average 45.4 years of age with 11.8 years of service at NTID.

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 2023, NTID employed 581* faculty and staff, consistent with fall 2022.



* Of the 581 employees, 534 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 2023
Faculty		
Professor	13	\$110,442
Associate Professor	35	\$99,416
Assistant Professor	21	\$71,507
Principal/Senior Lecturer	40	\$75,560
Lecturer	32	\$65,578
Subtotal Faculty	141	\$81,829
Staff		
Exempt Staff	150	\$74,045
Non-Exempt Staff	290	\$53,012
Subtotal Staff	440	\$60,182
Total	581**	\$65,436

* Average salary calculations are based on a standard full-time schedule for each faculty/staff category of 40 hours per week, 52 weeks per year. Individual variances are adjusted to the same scale.

** Of the 581 employees, 534 are covered by NTID's operating funds.

Tenure-Track Positions and Faculty Rank

In FY 2023, senior-level faculty members (professor and associate professor) comprised 77% of all ranked tenure-track faculty as compared to 47% in FY 1985. Of the 57 tenure-track positions, 82% are tenured.

Rank	Number of Tenure-Track Positions*					FY 2023 Faculty with Tenure	
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Number	Percent
Professor	20	15	16	14	13	13	100%
Associate Professor	35	35	30	30	31	30	97%
Assistant Professor	20	18	17	14	13	4	31%
Total Positions	75	68	63	58	57	47	82%

* 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 2023, 95% of tenure-track faculty members held graduate degrees.

FY 2023 Highest Degree Level Achieved Tenure and Tenure-Track Faculty*		
	Number	Percent
Doctorate	33	58%
Master's	21	37%
Bachelor's	3	5%
Total	57	100%

* Includes ranked administrators.

Age, Length of Service, and Retirement Status of NTID Faculty and Staff*

NTID's faculty and staff average 45.4 years of age with 11.8 years of service at NTID.

FY 2023

	Percent Full Time	Average Age	Average Length of Service	Currently in Retirement Transition
Professor	100%	58.0	22.8	2
Associate Professor	97%	54.7	20.2	1
Assistant Professor	100%	45.5	10.0	0
Principal/Senior Lecturer	100%	48.7	15.9	1
Lecturer	100%	46.0	5.7	0
Exempt Staff	100%	46.1	11.5	0
Technical/Clerical	96%	45.5	9.3	0
Interpreter	84%	41.4	12.9	2
Real-Time Captionist	96%	41.2	7.8	0

* Data not available for all faculty and staff.

Faculty and Staff New Hires

The distribution of new hires by category is shown below.

	New Hires				
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Category:					
Faculty	9	10	5	13	6
Exempt Staff	5	4	9	22	19
Non-Exempt Staff*	17	21	36	70	52
Total	31	35	50	105	77



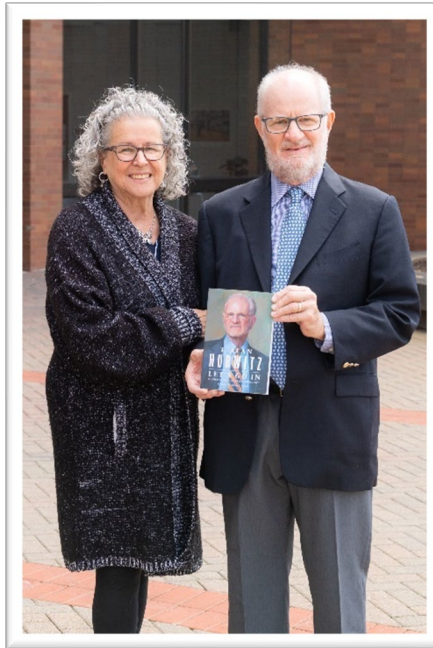
Dr. Catherine Clark, third from left, who has worked at NTID for 37 years, attended the naming ceremony of the Dr. Catherine Clark Center for Audiology in Hawassa, Ethiopia. The center will offer hearing tests, hearing aid fittings, audiology monitoring, and mobile services to hundreds of deaf and hard-of-hearing children in the region.

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

Faculty and Staff Terminations

The faculty and staff turnover rate, 13.1%, is higher than last year. Retirements of current faculty and staff are expected to rise as the employee base ages.

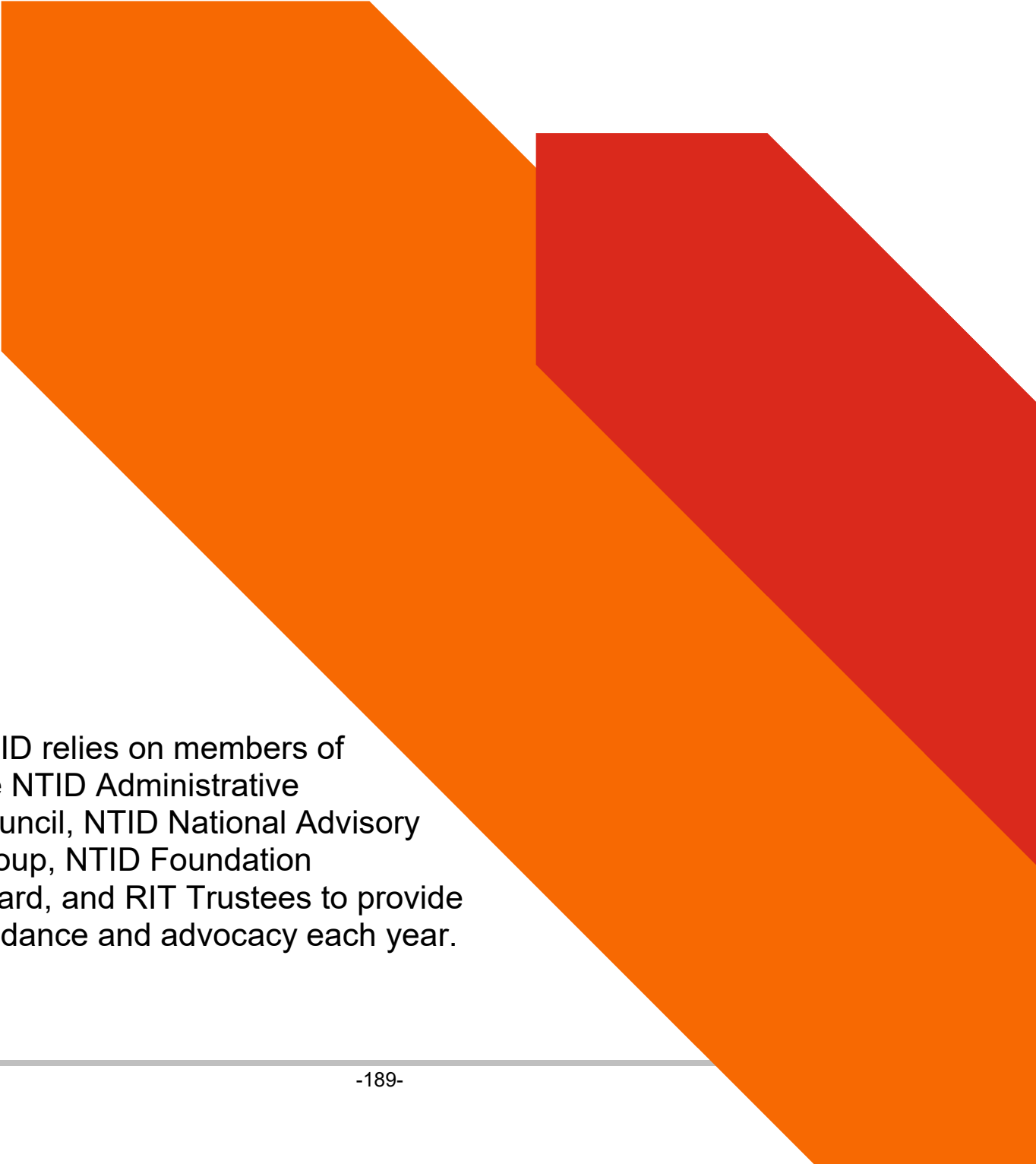
Full-Time/Part-Time	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
					Percent	Number
Faculty	7.1%	8.6%	9.7%	11.8%	6.3%	9
Exempt Staff	10.3%	6.4%	15.1%	10.6%	8.3%	11
Non-Exempt Staff*	14.0%	14.7%	10.9%	14.6%	18.5%	56
Total	11.3%	11.2%	11.5%	13.0%	13.1%	76



Retired NTID President and Dean Dr. T. Alan Hurwitz and retired NTID Coordinator of Student Development Vicki Hurwitz returned to campus in April 2023 for the RIT/NTID Edmond Lyon Memorial Lectureship Series, during which Dr. Hurwitz discussed his memoir, Let's Go In.

* 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. Jess Cuculick '98, '02
Associate Dean for
Academic Administration



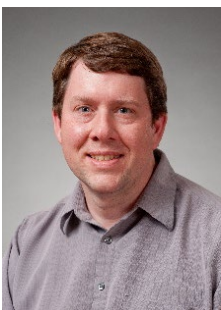
Dr. Joseph Hill
Assistant Dean for ALANA
Faculty Recruitment
and Retention



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. Matthew Lynn
Associate Dean for
Curricular Affairs



Dr. Mary Karol Matchett '88
Assistant Vice President
for Student and
Academic Services

* The following individuals also served on the NTID Administrative Council in FY 2023: Dr. Peter Hauser, Interim Associate Dean of Research, and Dr. Rico Peterson, Assistant Dean and Director of NTID Access Services.

NTID Administrative Council (continued)



Nancy Popolizio
Executive Assistant to the NTID
President and Office Manager



**Dr. Thomastine Sarchet-
Maher '03, '09**
Assistant Professor, MSSE



Erwin Smith
Assistant Vice President for
Information Technology and
College Operations



Kate Sweeney
Assistant Vice President for
NTID Finance and Budget



Brittany Taylor
Director of NTID
Access Services

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.

Director, Special Programs, Alabama Department of Rehabilitation Services

Tina Childress

Educational Audiologist, Urbana School District

Michelle Cummings

Senior R&D Leader, The Dow Chemical Company

Angela Dingle

Founder, DeafCybercon

Al El-Nattar

Omni-Experience Market Unit Leader, Services, Hospitality, and Public Sector, Capgemini

History Estill-Varner '14

Program Manager, HiBob

Dr. Ernest E. Garrett III

Founder, Owner, and Chief Executive Officer, Garrett LCSW & Consulting, LLC

Cham Leang '03

Sr. Project Manager, U.S. Federal Government

Pamela Lloyd-Ogoke '81

Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services; *Chair*

Marlene Mata

Vocational Rehabilitation Counselor, Massachusetts Rehabilitation Commission

Mary Beth (Barber) Mothersell '85

Accessibility Relationship Manager, T-Mobile Accessibility

Joelene Orlando

Executive Director/President, Whole Me, Inc.

Annette Reichman

Superintendent, Arizona State Schools for the Deaf and the Blind

Arlene Sankey '89, '93

Court Assistant, New York State Unified Court System

Robert Sidansky '77

Retired Administrator of Student Services, National Center on Deafness, California State University, Northridge

NTID National Advisory Group (continued)

Scott Van Nice '01

Director, Proctor & Gamble

U.S. Department of Education

Brianne Burger

Liaison to the Special Institutions, Office of Special Education and Rehabilitative Services

U.S. Government Representatives

The Honorable Kirsten Gillibrand

Member, U.S. Senate, New York State

The Honorable Joseph Morelle

Member, U.S. House of Representatives, 25th District, New York State

The Honorable Charles E. Schumer

Member, U.S. Senate, New York State



Scott Van Nice '01, center, joins panelist Amy Gomme '10, '12, left, and moderator Melissa Yingst, right, to discuss employment opportunities and challenges for deaf and hard-of-hearing individuals at the Deaf Employment Summit.

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:

Gary Behm '78, '81

Associate Vice President, NTID Academic Affairs

Dr. Gerard J. Buckley '78

President, NTID; Vice President and Dean, RIT

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

Karen Engel

Founding Board Member
Hands & Voices, New York

Steven Engel

Founding Board Member
Hands & Voices, New York

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

Mark Keffer

Delivery Experience Team
Capital One

NTID Foundation Board (continued)

Patricia Keffer

James Kinsley

Management Consultant
Adjunct Professor, St. John's University

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.

Christopher D. Wagner '94

Chief Operating Officer, Customer Experience, ZVRS; *Chair*

George D. Webb

Retired Senior VP of Operations, Great West Life Insurance Company

Jon Weintraub

Senior Strategic Planning Associate
Callon Petroleum 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 Chase
Vice President and Secretary of the University

Bobby Colon
Vice President and General Counsel

Dr. Prabu David
Provost and Senior Vice President for Academic Affairs

Kathleen Davis
Vice President of Enrollment Management and Associate Provost

Bob Finnerty '07
Associate Vice President of University Communications

Vanessa J. 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

Jo Ellen Pinkham
Associate Vice President and Chief Human Resources Officer

Dr. Ryne Raffaele
Vice President for Research

John Trierweiler
Vice President, Marketing and Communications, and Chief Marketing Officer

Dr. James H. Watters
Senior Vice President and Treasurer

RIT Board of Trustees Active Trustees

Robert W. August

Managing Partner, Laser Wash Group LLC

Mark G. Barberio

BS '85; Principal, Markapital, LLC

Jeffrey Benck

BS '88; President and CEO, Benchmark Electronics

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; Retired Vice President of Corporate Environment, Safety & Health, Lockheed Martin Corporation

Dale J. Davis, Esq.

BS '96; Chief Patent Counsel, Cummins INC

Richard “Chip” Davis, Ph.D.

CEO, Rochester Regional Health

Victoria Decker

BS '93; Vice President, Operations and Strategic Growth, PMSI; also serves as Women’s Council Representative, RIT

Hyacinth V. Drummond

BS '91; Founder, Dreamseeds Children’s Program

Arthur A. Gosnell

Chairman and CEO, Stonehurst Capital LLC

Jeffrey K. Harris

BS '75; Chair, Board of Trustees, Rochester Institute of Technology; Retired Corporate Vice President, Lockheed Martin Corporation

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, AJ Tiger Tax Services

Rick A. Kittles, Ph.D.

BS '89; Senior Vice President for Research, Morehouse School of Medicine

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

Britta I. MacIntosh

BS '89; Senior Vice President of Western Region & London Operations, Ameresco, Inc.

Austin W. McChord

BS '09; CEO, Casana Care, Inc.

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; Executive 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 and Distribution, IBM Corporation

Ronald S. Ricotta

BA '79; CEO and Co-Owner, Century Mold Company, Inc.

Efrain Rivera

Senior Advisor to CEO, Paychex, Inc.

Jorge M. Rodriguez

EMBA '15; CEO, Sorenson Communications, Inc.

Nicholas M. Schneider, Ph.D.

BS '10, MS '10; Partner, Boston Consulting Group; also Alumni Association President, RIT

Frank S. Sklarsky

BS '78; Retired Executive Vice President and Chief Financial Officer, PPG Industries, Inc.

Kevin J. Surace

BT '85; Chairman and CTO, Appvance Inc.

James P. Swift

BS '88; CEO, Buxton

Donald J. Truesdale

BS '87; Chair Emeritus, Board of Trustees, Rochester Institute of Technology; Chief Executive Officer, Ardea Partners

RIT Board of Trustees Active Trustees (continued)

Clayton P. Turner

BS '90; Director, NASA Langley Research Center

Kim E. VanGelder

BS '86; Chief Information Officer and Senior Vice President, Eastman Kodak Company

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; Retired Director/Advisor, Microsoft, Intel

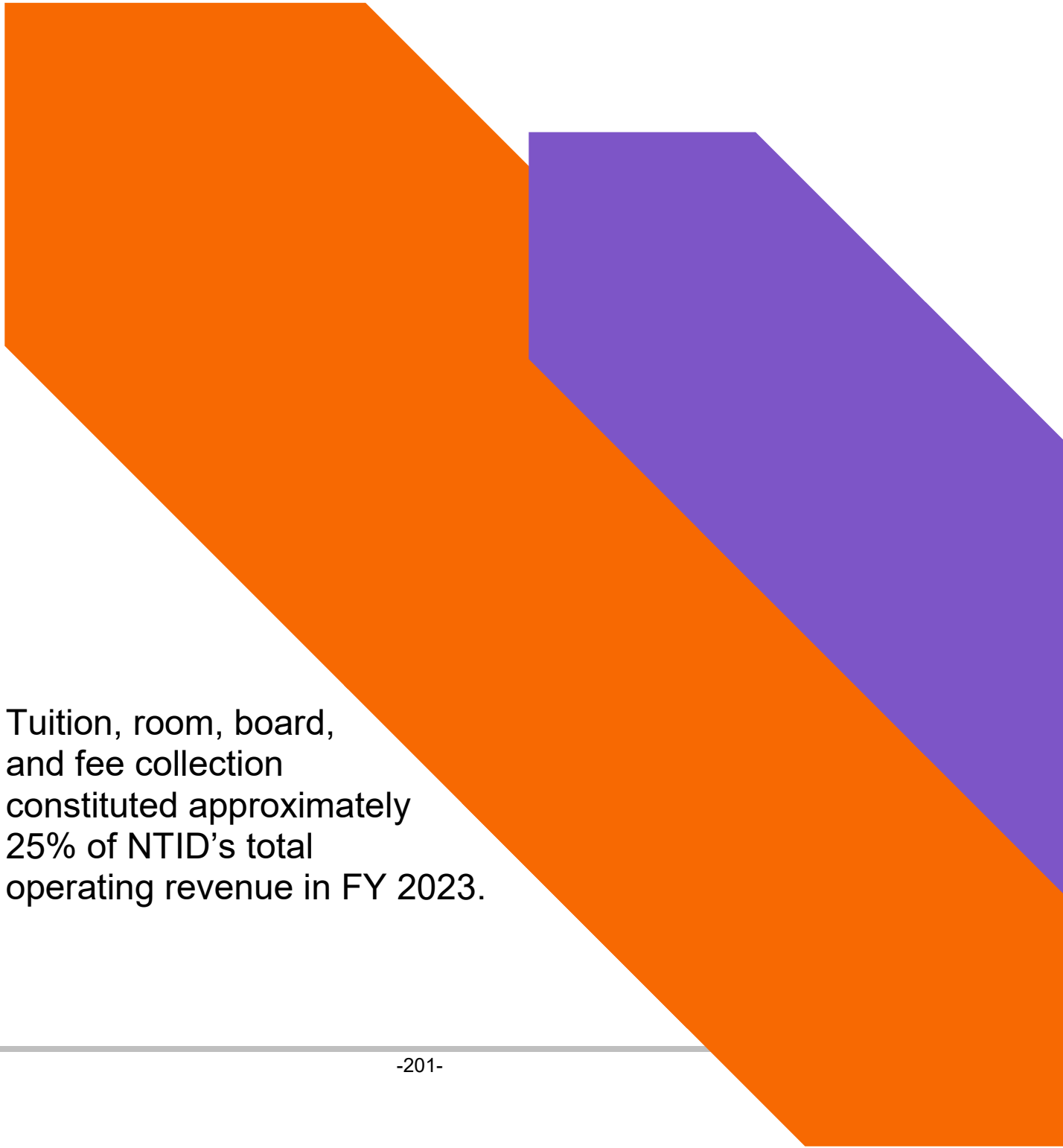
Ronald L. Zarrella

Chairman Emeritus, Bausch & Lomb, Inc.



NTID President Gerry Buckley '78 welcomed actor and alumnus Daniel Durant to campus for a special screening of the Academy Award-winning film, "CODA," in which he stars.

Results of Financial Operations



Tuition, room, board,
and fee collection
constituted approximately
25% of NTID's total
operating revenue in FY 2023.

Financial Operations Highlights

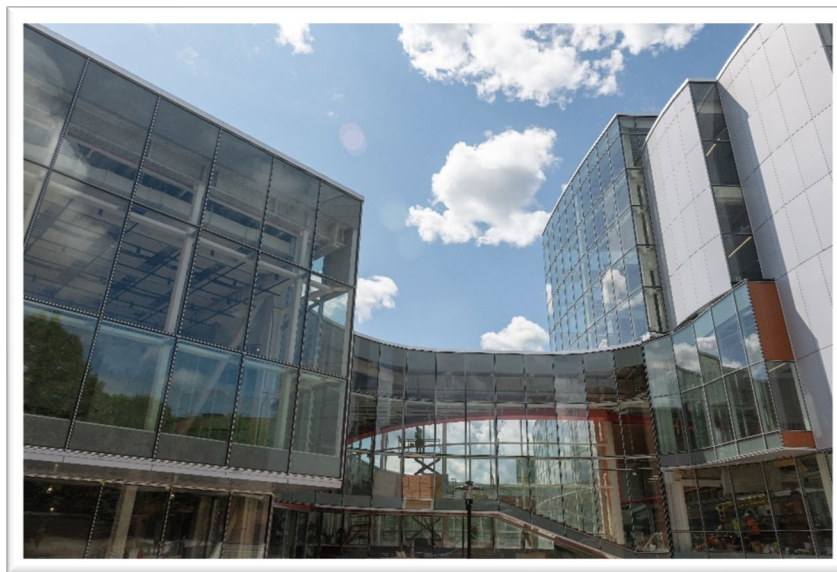
NTID is committed to excellent stewardship of resources while growing programming and supporting infrastructure, to fulfill our founding institutional mission. Strategic growth initiatives and inflationary pressures resulted in a 4.8% increase in total expenses from FY 2022 levels.

Total Personnel Compensation increased approximately \$2.4 million (5.1%) from FY 2022 levels. This increase in expense was due to filling of open positions and new hires, merit increases, one-time awards made to faculty and staff, and an increase in summer, overload, and adjunct contracts to meet programmatic and curriculum needs.

Total RIT Services expense increased approximately \$3.5 million (11.7%) from FY 2022, primarily as a result of an increase in overhead costs.

Total Other Expenditures decreased by just under \$1.0 million (-3.1%) in FY 2023, as a result of an \$8.6 million year-over-year decrease in Capital expenditures, offset in part by a \$6.3 million increase in Plant Fund transfers. The year-over-year Capital decrease is due to the timing of funds transfers related to NTID-funded construction projects.

NTID's FY 2023 Federal appropriation for operations increased \$4.0 million (5.1%) over FY 2022 funding levels. As footnoted on the next page, the full fiscal 2023 Federal appropriation for NTID was \$92.5 million. The \$9.5 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, 2023, approximately \$1.8 million in expenses were charged against FY 2023 appropriated outreach funds.



RIT's newest building on campus, the Student Hall for Exploration and Development (SHED), brings together technology, art, and design under one roof.

Financial Operating Results

	FY 2022	FY 2023	Variance \$	Variance %
EXPENSES				
Salaries and Wages	\$35,064,401	\$37,409,205	\$2,344,805	6.7%
Benefits	12,936,878	13,016,445	79,566	0.6%
Total Personnel Compensation	\$48,001,279	\$50,425,650	\$2,424,371	5.1%
RIT Services Expenditures				
Direct:				
Residence Halls/Food Service, Student Services	\$7,015,470	\$7,728,433	\$712,963	10.2%
Cross-Registered Tuition	8,800,096	8,778,949	-21,147	-0.2%
Physical Plant Services	2,706,450	2,998,164	291,714	10.8%
Indirect:				
Overhead	11,401,467	13,923,850	2,522,383	22.1%
Total RIT Services	\$29,923,483	\$33,429,396	\$3,505,913	11.7%
Other Expenditures				
Support Expenditures	\$6,511,737	\$8,164,823	\$1,653,087	25.4%
Grant Cost Shares	0	54,210	54,210	0.0%
Financial Aid	7,589,893	7,269,042	-320,852	-4.2%
Capital	9,483,700	904,211	-8,579,489	-90.5%
Matching Endowment	354,669	405,767	51,098	14.4%
Plant Fund	4,433,929	10,704,318	6,270,389	141.4%
Total Other	\$28,373,928	\$27,502,371	-\$871,557	-3.1%
Total Expenses	\$106,298,690	\$111,357,417	\$5,058,727	4.8%
REVENUE				
Federal Appropriation*	\$79,000,000	\$83,000,000	\$4,000,000	5.1%
Non-Federal Funds	27,298,690	28,357,417	1,058,727	3.9%
Total Revenue	\$106,298,690	\$111,357,417	\$5,058,727	4.8%

* The FY 2022 and FY 2023 Federal Appropriations were \$88,500,000 and \$92,500,000 respectively. The \$9,500,000 not included in the FY 2022 and FY 2023 totals was specifically designated for regional outreach efforts.

Tuition, Room, Board, and Other Fees

The combined rate increase for tuition, room, board, and fees was 4.2%. These non-federal resource collections constituted approximately 25% of NTID's total operating revenue.

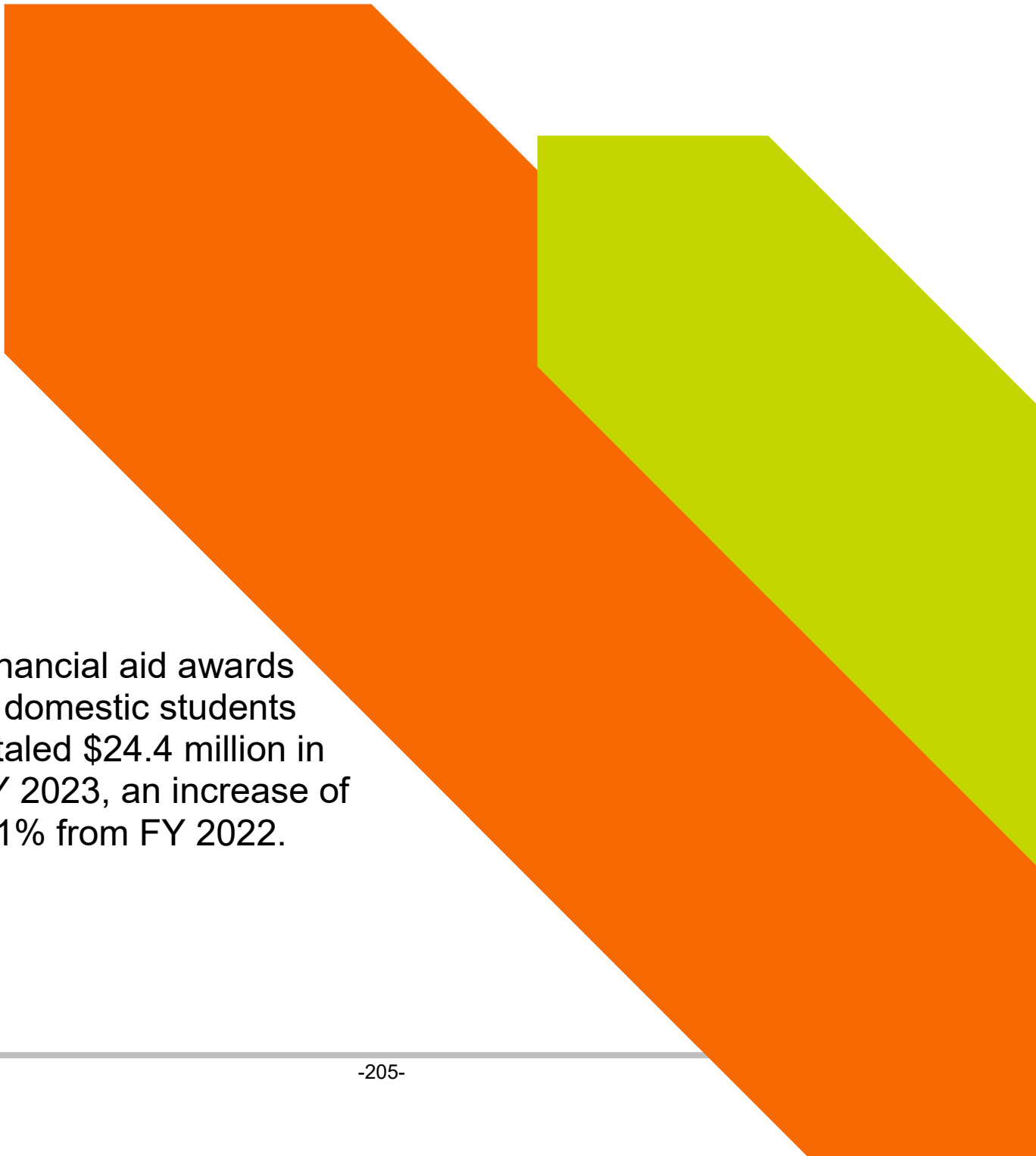
Rates Charged Students					
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Tuition	\$17,162	\$17,814	\$18,330	\$18,926	\$19,778
Room	7,902	8,140	8,392	8,728	9,032
Board	5,800	5,836	6,040	6,250	6,484
Fees	646	676	726	798	880
Total	\$31,510	\$32,466	\$33,488	\$34,702	\$36,174
Collections	\$23,060,334	\$25,323,553	\$27,298,690	\$28,357,417	*
Enrollment (Fall)	1,129	1,101	1,166	1,135	1,129
Collections Per Student	\$20,425	\$23,001	\$23,412	\$24,985	*



NTID students cheer on the RIT Tigers hockey team during Brick City Homecoming and Family Weekend.

* As of the writing of this report, the collection information for FY 2024 is incomplete.

Financial Aid



Financial aid awards to domestic students totaled \$24.4 million in FY 2023, an increase of 7.1% from FY 2022.

Financial Aid (Domestic Students)

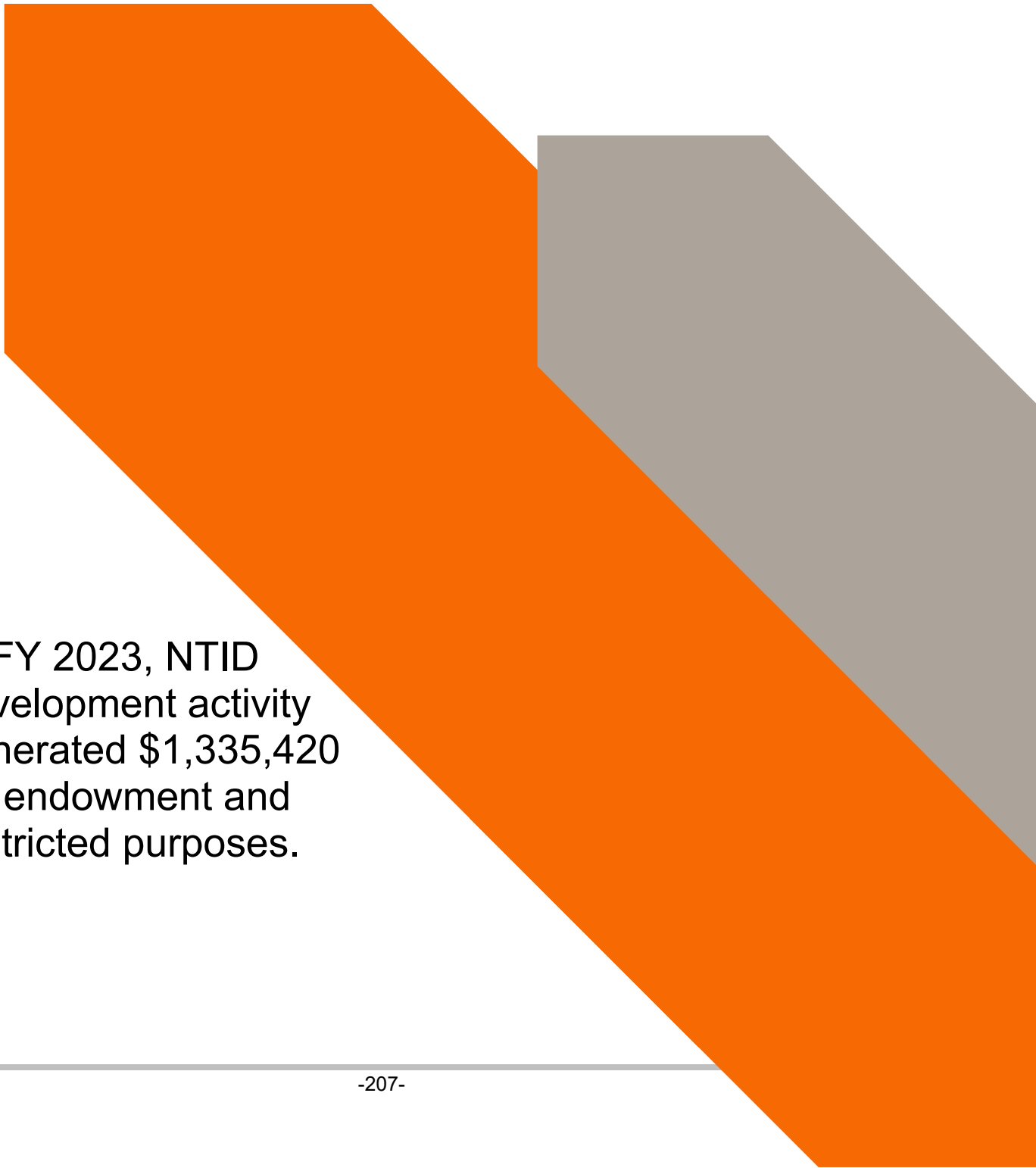
Financial aid awards to domestic students totaled \$24.4 million in FY 2023, an increase of 7.1% from FY 2022 levels. Institutionally sponsored aid increased in FY 2023 by 13.2%, while state and federal support increased by 5.9%.

Loans taken out by domestic students decreased by 8.7% to \$2.6 million. Overall, the average financial aid (excluding loans) per domestic student increased by 12.7% in FY 2023.

SOURCE OF AID	2022		2023		Amount Diff %
	Awards*	Amount	Awards*	Amount	
INSTITUTIONALLY SPONSORED SUPPORT					
Grant-in-Aid:					
NTID Grant-in-Aid	295	\$2,098,964	289	\$2,240,215	6.7%
RIT Grant-in-Aid	27	100,650	11	30,650	-69.5%
Subtotal Grant-in-Aid	322	\$2,199,614	300	\$2,270,865	3.2%
Scholarships:					
NTID	681	\$3,925,414	717	\$4,574,422	16.5%
RIT	204	509,163	231	564,270	10.8%
NTID Endowments	797	\$2,605,100	891	\$3,123,492	19.9%
External Groups	86	313,624	76	280,495	-10.6%
Subtotal Scholarships	1,768	\$7,353,301	1,915	\$8,542,679	16.2%
Subtotal Institutionally Sponsored Support	2,090	\$9,552,915	2,215	\$10,813,544	13.2%
STATE AND FEDERAL SUPPORT					
Grants:					
Pell Grants	473	\$2,479,200	444	\$2,515,133	1.4%
State Grants	177	517,474	183	521,881	0.9%
Subtotal Grants	650	\$2,996,674	627	\$3,037,014	1.3%
Other Federal Support:					
Vocational Rehabilitation	571	\$7,375,278	548	\$7,978,755	8.2%
Federal Work Study	25	74,210	20	45,794	-38.3%
Subtotal Other Support	596	\$7,449,488	568	\$8,024,549	7.7%
Subtotal State and Federal Support	1,246	\$10,446,162	1,195	\$11,061,563	5.9%
LOANS					
Subsidized Federal Student Loan	297	\$1,023,073	247	\$868,663	-15.1%
Unsubsidized Federal Student Loan	386	1,408,160	338	1,323,058	-6.0%
Parent PLUS Loans	30	\$383,203	29	\$377,751	-1.4%
Subtotal Loans	713	\$2,814,436	614	\$2,569,472	-8.7%
TOTAL ALL FINANCIAL AID	4,049	\$22,813,513	4,024	\$24,444,579	7.1%
Domestic Student Enrollment		1,132		1,099	-2.9%
Average Financial Aid per Student		\$20,153		\$22,243	10.4%
Average Financial Aid per Student Excluding Loans		\$17,667		\$19,905	12.7%

* 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 2023, NTID development activity generated \$1,335,420 for endowment and restricted purposes.

The NTID Foundation

NTID received \$1,694,044 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, facilities upgrades and a variety of research and pre-college outreach programs.

Contributions of \$10,000 and above received during FY 2023 include:

Patricia M. Albanese '00
Communication Service for the Deaf, Inc.
Convo Communications, LLC
Ford Foundation
Helen Frankenthaler Foundation
David Hargrave
William Randolph Hearst Foundation
Interpretek
Andrew R. Jacobson '90, '96
Jephson Educational Trust
Daniel J. Kaiser
Motorola Solutions Foundation
Jarrod G. Musano
Nippon Foundation
Dr. Linda '79, '82 and Tom Siple
Sorenson Communications, Inc.
Bruno Toffolo '67
Mr. Christopher D. Wagner '94
Barbara J. Wood '75
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 2023, NTID development activity generated \$1,335,420 for endowment and restricted purposes. Of that amount, \$405,767 was matched with federal dollars and directed toward NTID's endowed scholarship funds.

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Endowment and Restricted Funds	\$1,337,139	\$907,640	\$1,165,293	\$1,346,832	\$1,335,420
Equipment and Software	\$100,728	\$29,243	\$65,599	\$140,990	\$0
Total	\$1,437,867	\$936,883	\$1,230,892	\$1,487,822	\$1,335,420



RIT and NTID Performing Arts presented Everybody, a modern adaptation of the 15th-century play, Everyman, with a unique casting twist: using a lottery system to define the roles of the play. In addition to being voiced, signed, and captioned, one performance was audio described for blind and low vision patrons.

NTID Endowment Programs

A total of \$1,335,420, including matching federal funds* of \$405,767, was added to the Federal Matching Endowment Fund corpus in 2023. The market value of NTID's Federal Matching Endowment portfolio stands at \$84,277,525.

The market value of NTID's total endowments, which include privately raised funds prior to the establishment of the Federal Matching Endowment program, is \$124,623,336.

Value as of September 30, 2023

	Contributed Value	Market Value
Funds Subject to Federal Investment and Spending Guidelines		
Private	\$3,336,343	\$4,776,754
Federal	\$2,517,685	\$3,788,536
Subtotal	\$5,854,028	\$8,565,290
Funds No Longer Subject to Federal Investment and Spending Guidelines	\$27,396,708	\$75,712,235
Total Federal Endowment	\$33,250,736	\$84,277,525
Other Endowments	Contributed Value	Market Value
Private	\$31,931,640	\$40,345,811
Total Endowments	\$65,182,376	\$124,623,336

* 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
Brewer and Albanese Endowed 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
Convo Endowed Scholarship
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

Scholarships, Endowed Funds, and Estate Commitments (continued)

Barbara M. Fallon KPMG Memorial Endowed Scholarship Fund
Rose and George Feigenbaum Endowed Scholarship Fund
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
Jennifer Van Atta Hayes Memorial Endowed Scholarship
William Randolph Hearst Endowed Scholarship Fund for Financially Disadvantaged Students
William Randolph Hearst Scholarship Fund
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

Scholarships, Endowed Funds, and Estate Commitments (continued)

Dr. Frank W. Lovejoy Jr. Endowment for Deafness Research
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 Summer Transition Program Endowment
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
Lori Love Peters Endowed Scholarship
Albert T. Pimentel Endowed Scholarship
Sally J. Pimentel Endowed Scholarship
Plough-Estrin Memorial Endowed Scholarship

Scholarships, Endowed Funds, and Estate Commitments (continued)

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
RIT Celebration of Community Endowed Fund
Mary Hope Robinson Endowment for the Performing Arts
Rodriguez-Sorenson Communications Endowed Scholarship
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
Skyer Family Foundation Endowed Scholarship
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

Scholarships, Endowed Funds, and Estate Commitments (continued)

BJ Wood '75 Endowed Scholarship

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 2023, NTID submitted 20 new grant proposals requesting a total of \$8,694,409 in funding. Ten proposals were funded for a total of \$6,223,444; 10 proposals are still pending; zero proposals were not funded.

As of September 30, 2023, the annual reimbursed expenditures of all grants and contracts at NTID totaled \$2,893,179 with a total value of \$14,368,266 over the lives of the projects.

Project Title	Grant Provider	Year	Amount FY 2023	Total Value
ProTactile Children's Theater	National Endowment for the Arts	1/2	\$24,798	\$25,000
Renewal of the DeafTEC Resource Center	National Science Foundation	1/3	\$36,761	\$1,649,965
FCC Telecommunications Relay Services (TRS) Tasks 1-5	Center for Medicare & Medicaid Services / MITRE Corporation	2/2	\$508,447	\$725,104
Rochester Institute of Technology U-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates (RIT U-RISE)	National Institutes of Health	2/6	\$174,679	\$480,341
IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing	National Science Foundation	3/3	\$175,413	\$401,828
Big Read: NTID-RIT	National Endowment for the Arts	2/2	\$10,686	\$20,000
Brief but Spectacular: New Windows into the Physics of Common Envelope Evolution	National Science Foundation	3/3	\$68,182	\$341,225
Deaf Preschoolers' Exploratory Behaviors and Parent Guidance during Shared Museum Experiences	National Institutes of Health	1/3	\$2,701	\$428,054
Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students	National Institutes of Health	1/5	\$19,635	\$288,617
Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Exposure	National Institutes of Health	6/6	\$218,166	\$2,604,026
DeafTEC Ready Project	National Science Foundation	3/3	\$55,082	\$470,069
World Around You: Project	United States Agency for International Development / World Vision	3/3	\$22,157	\$301,010
Protactile Children's Theatre and Protactile Theatre at NTID	NYS Council on the Arts	1/1	\$14,260	\$49,500
Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution	National Science Foundation	6/6	\$7,562	\$349,882
Reproductive Health Experiences of Deaf Women: A Mixed-Methods Study	Society of Family Planning Research Fund	3/3	\$30,437	\$72,549
Core support for the Morpheyes Studio Project	Ford Foundation	2/3	\$2,222	\$190,000
ML2 Storybook App and Educational Curriculum	NYS Council on the Arts	2/2	\$11,000	\$25,000
Shaped by the American Dream, Deaf History through Deaf Art	Terra Foundation for American Art	2/2	\$13,025	\$50,000

Grants and Contracts (continued)

Project Title	Grant Provider	Year	Amount FY 2023	Total Value
World Around You: International Collaborative Multilingual Sign Language Books	United States Agency for International Development / World Vision	4/4	\$52,870	\$256,956
Establishment of Centers of Employment for the Deaf in the Philippines and Vietnam	The Nippon Foundation	3/3	\$169,114	\$464,814
Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars	National Institutes of Health / University of Rochester	2/5	\$56,802	\$189,894
Establishment of Centers of Employment for the Deaf in the Philippines and Viet Nam: Deaf GROW (Growing Regional Opportunities for Work) - Part 2	The Nippon Foundation	1/2	\$320,197	\$592,009
AccessATE: Making Community College Technical Education More Accessible for Everyone	National Science Foundation	5/5	\$14,850	\$202,811
DeafTEC Resource Center	National Science Foundation	6/6	\$471,461	\$1,649,928
Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students	National Institutes of Health / University of Rochester	5/5	\$150,976	\$1,185,073
FCC Telecommunications Relay Services (TRS) Tasks 1-6	Center for Medicare & Medicaid Services / MITRE Corporation	1/2	\$173,755	\$755,392
Do Tactile Exploratory Behaviors in the Classroom Predict Language Development in Deaf Signing Children?	J S McDonnell Foundation	2/5	\$18,921	\$250,000
Lost in Translation: Removing barriers for deaf participation in STEM fields	Gordon and Betty Moore Foundation	5/5	\$66,646	\$294,219
Captioning for Live Theater and Dance Performances	Theatre Development Fund	1/2	\$500	\$5,000
Bringing H is for Hormones to schools for the deaf	IF THEN Inc	1/2	\$1,876	\$50,000
Total			\$2,893,179	\$14,368,266