



RIT | **PRESIDENT'S
REPORT 2019***

***All the
interesting
stuff we could
fit from the
past year.**

RIT

PRESIDENT'S REPORT 2019

Rochester Institute of Technology

Executive Editors

John Trierweiler
Vice President and Chief Marketing Officer

Bob Finnerty '07
Chief Communications Officer

Editor
Mindy Mozer

Design Director
Jeff Arbegast '93

Lead Photographers
Elizabeth Lamark '00
A. Sue Weisler '93

Lead Researcher
Luke Auburn '09, '15

Photographers
Mark Benjamin '76, '93
Matteo Bracco
Gabrielle Plucknette-DeVito '07
Amelia Hamilton
Ellen O'Neill

Writers
Luke Auburn '09, '15
Scott Bureau '11, '16
Michelle Cometa '00
Susan Gawlowicz '95
Rich Kiley
Greg Livadas
Vienna McGrain '12
Ellen Rosen
Felicia Swartzenberg '19
Amber Webb

Copy Editor
Marie Lang

Print Production
Brenda Monahan

Office of the President
One Lomb Memorial Drive
Rochester, NY 14623-5608
585-475-2396
Munson@rit.edu

Marketing and Communications
22 Lomb Memorial Drive
Rochester, NY 14623-5608
585-475-5064
RITnews@rit.edu

10M-P2325-1/19-COH-JSA
©2019 Rochester Institute of Technology
All rights reserved

Rochester Institute of Technology publishes President's Report. RIT does not discriminate. RIT promotes and values diversity within its workforce and provides equal opportunity to all qualified individuals regardless of race, color, creed, age, marital status, sex, gender, religion, sexual orientation, gender identity, gender expression, national origin, veteran status, or disability.

FROM THE PRESIDENT

Looking to our strengths to move the world forward

RIT isn't like any other university. And we don't want it to be. As you'll see in this—my first annual President's Report—RIT wants to be distinctive, to do things in our own way. That mentality of uniqueness is baked into our university, from the students to the faculty and staff, to our leadership's 2018-2025 Strategic Plan, which outlines our course ahead.

Our university, founded in the 19th century with the marriage of a cultural association and a largely vocational school, is today one of the top research universities in the nation working at the intersection of technology, the arts, and design. We leveraged these strengths to build unique programs such as color science, imaging science, new media design, and digital humanities.

We're supplementing our classroom and online teaching with interdisciplinary and experiential learning and expanding our influence with global partnerships and overseas learning opportunities at our campuses in China, Croatia, Dubai, and Kosovo.

We pride ourselves in preparing our graduates to be citizens of the world. That means preparing them for jobs and careers, and also for life. Today's world needs people who know how to create and innovate, analyze and implement, collaborate and lead.

We put a high value on bringing goodness to the world, and RIT's diverse and gifted students are distinctly suited to become constructive agents of positive change. Our students come from all 50 states and 100 countries. Our alumni base is 126,000 RIT Tigers strong—graduates who are working at the top of


their fields, shaping the future, improving the world, and giving back to their communities and to their alma mater.

We at RIT have a great story to tell, and this report is only the beginning. We trust that by the time you finish reading, you'll want to know more. And we'll be happy to share.

Sincerely,



David C. Munson, Jr., President
munson@rit.edu
Twitter: @RITPresident



Turn the page to see what we've been up to.

2 Today's RIT

For the first time ever, RIT enrolled more than 19,000 students last fall. See who is learning and why students are choosing RIT.



6 RIT's New Education

RIT is driving forward with innovative offerings and new ways to reach students. See what programs are uniquely RIT and learn about top degrees.



12 Experiential Learning

RIT complements its distinguished cooperative education program by extending experiential learning opportunities, such as global education and performing arts.



20 Research

RIT's upward momentum as a major research university got a boost, with sponsored research reaching nearly \$78 million.



26 The Future

MAGIC Spell Studios is helping students turn ideas into commercial products. A Global Cybersecurity Institute and an expanded makerspace are coming soon.



30 Tiger Success

RIT for Life was a theme of the past year for the more than 126,000 alumni. In addition, the university publicly launched a blended campaign, opened a new alumni house, and hosted 50th anniversary celebrations.



19,000 students and growing

For the first time ever, RIT enrolled more than 19,000 students last fall. Much of RIT's growth over the past decade has come from its international campuses in Croatia, Dubai, Kosovo, and China. Today, approximately 2,400 students study at those locations, more than double the number from 10 years ago.

RIT students are enrolled in more than 200 programs of study across nine colleges and two degree-granting units. The university's two biggest colleges are the B. Thomas Golisano College of Computing and Information Sciences, with more than 4,500 students, and the Kate Gleason College of Engineering, with more than 3,700 students.

On the main campus, RIT's student body is made up of students from all 50 states and more than 100 countries. The main campus has become increasingly diverse. Today, roughly 28 percent of the student body, not counting international students, is composed of minority students, an increase of more than 10 percentage points compared to a decade ago.

Women make up approximately one-third of the main campus student population and are making gains in RIT's STEM programs. Over the past 10 years, there has been a 7.4 percent increase in women studying in the Golisano College and an 8.1 percent increase in women enrolled in the Gleason College.



First-year students parade last fall in the Tiger Walk, a tradition of New Student Orientation.

RIT is also home to the National Technical Institute for the Deaf, which draws students from all over the world.



Kevin Cooke is one of 344 Ph.D. students at RIT this academic year. Increasing the number of doctoral degrees awarded and developing new Ph.D. programs is part of RIT's 2025 Strategic Plan.



Research attracts grad student

Kevin Cooke, a Ph.D. candidate studying astrophysical sciences and technology, is on a quest to map the most massive galaxies in the universe. Beyond Earth's home in the Milky Way, there are elliptical-shaped galaxies 10 times the size of our own, and Cooke is using Hubble Space Telescope data to investigate how those galaxies came to be.

Opportunities to conduct groundbreaking research and his program's tight-knit community are what drew Cooke to RIT.

He's been working closely alongside his adviser, Assistant Professor Jeyhan Kartaltepe, since he began researching massive galaxies for his dissertation three years ago. Cooke expects to complete the project this spring, after which he'll apply for post-doctoral and fellowship positions and ultimately hopes to pursue a career advising lawmakers on science policy.

Astrophysical sciences and technology Ph.D. students may participate in one of three research centers: the Center for Computational Relativity and Gravitation, the Center for Detectors, or the Laboratory for Multi-wavelength Astrophysics.

Cooke is fascinated by the seemingly endless things left to discover about the universe and believes the scientists in his field are just getting started.

"While we certainly understand a lot of the basics in how they began, a lot of the specifics that make each galaxy or star unique and interesting are still these fantastic unknowns that a lot of people are working on," said Cooke. "It's still a very vibrant field and I very much enjoy that."

Did you know?

- More than 3,100 graduate students enrolled at all campuses this fall.
- RIT's graduate students come from more than 70 different countries.
- RIT's Ph.D. programs have been steadily growing. Today, RIT has 344 Ph.D. students, up more than 200 from 10 years ago.
- RIT's largest graduate programs are its MS in computer science (436 students), MS in electrical engineering (154 students), ME in mechanical engineering (133 students), and Master of Business Administration (121 students).

Who's learning

RIT is now reaching more learners than ever before, since it partnered with online course provider edX to begin offering "RITx" massive open online courses. With RITx offerings and the 35 credit-bearing online programs that RIT provides, the university is making sure that today's students can learn on their own schedules.



881,546

RIT has 881,546 total enrollments and growing in RITx offerings on edX. (RITx offerings first launched in October 2016.)



576

RIT offers more than 576 online course sections for on-campus and online programs.



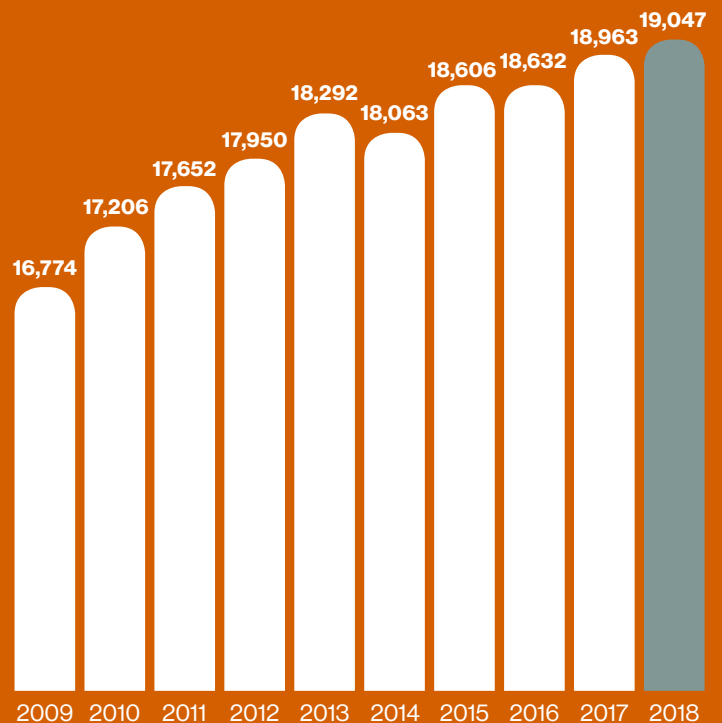
206

RIT has enrolled learners from more than 206 countries or regions in multiple runs of 23 RITx offerings.

Our freshman class:

- This year's freshman class was the most academically qualified, with an average SAT score exceeding 1300 for the first time.
- Of those students, 53 were ranked first in their high school graduating class; 56 students had a perfect SAT math score; and six students had a perfect ACT score.
- About 2,900 students came from 46 states; Washington, D.C.; Puerto Rico; the U.S. Virgin Islands; and 43 countries, with the most international undergraduate students coming from China, India, and Canada.
- The most common first name for men is Matthew and for women is Jessica.
- There are seven sets of twins.

Fall enrollment from all RIT campuses



Innovation forges new degree paths

RIT is moving forward with innovative offerings and new ways to reach students, reflecting the university's belief that creativity and critical thinking are essential life tools. Driving that belief is the 2025 Strategic Plan: Greatness Through Difference, in which RIT commits to "provide the education necessary to develop imaginative, resourceful students into innovators, into the people with the right stuff to effect powerfully positive change." It builds on a commitment to enrolling a diverse mix of multitalented students, attracting and retaining world-class faculty and embracing alumni. Bringing together opportunities for curious, analytical, and creative thinking forges a unique learning environment.

New degree programs

RIT is developing programs that offer both broad-based and specialized opportunities. For example, students from all majors can take part in "Computing for All," customized computer science principle courses to enhance their proficiency in computing. There's also a new associate degree in business administration aimed at individuals seeking a broad foundation for entry-level positions or planning to start their own business. More specialized offerings include new master's degrees in data science and health informatics, a new bachelor's degree in human-centered computing, and degrees in in-demand business topics, such as supply chain management and business analytics.

New pathways for learning

There are many different ways to learn, as well as paths to a degree. Always strong in online learning, RIT now offers the MicroMasters program through edX that allows students to sample credentials online and then apply them toward earning an accelerated and reduced-cost master's degree from RIT.

Have a passion that doesn't fit neatly into an existing program? RIT has a record number of students designing their own majors in the School of Individualized Study and recently became

one of the first private colleges in the U.S. to support a completer program—where former students who were just shy of graduating can come back to finish their RIT education.

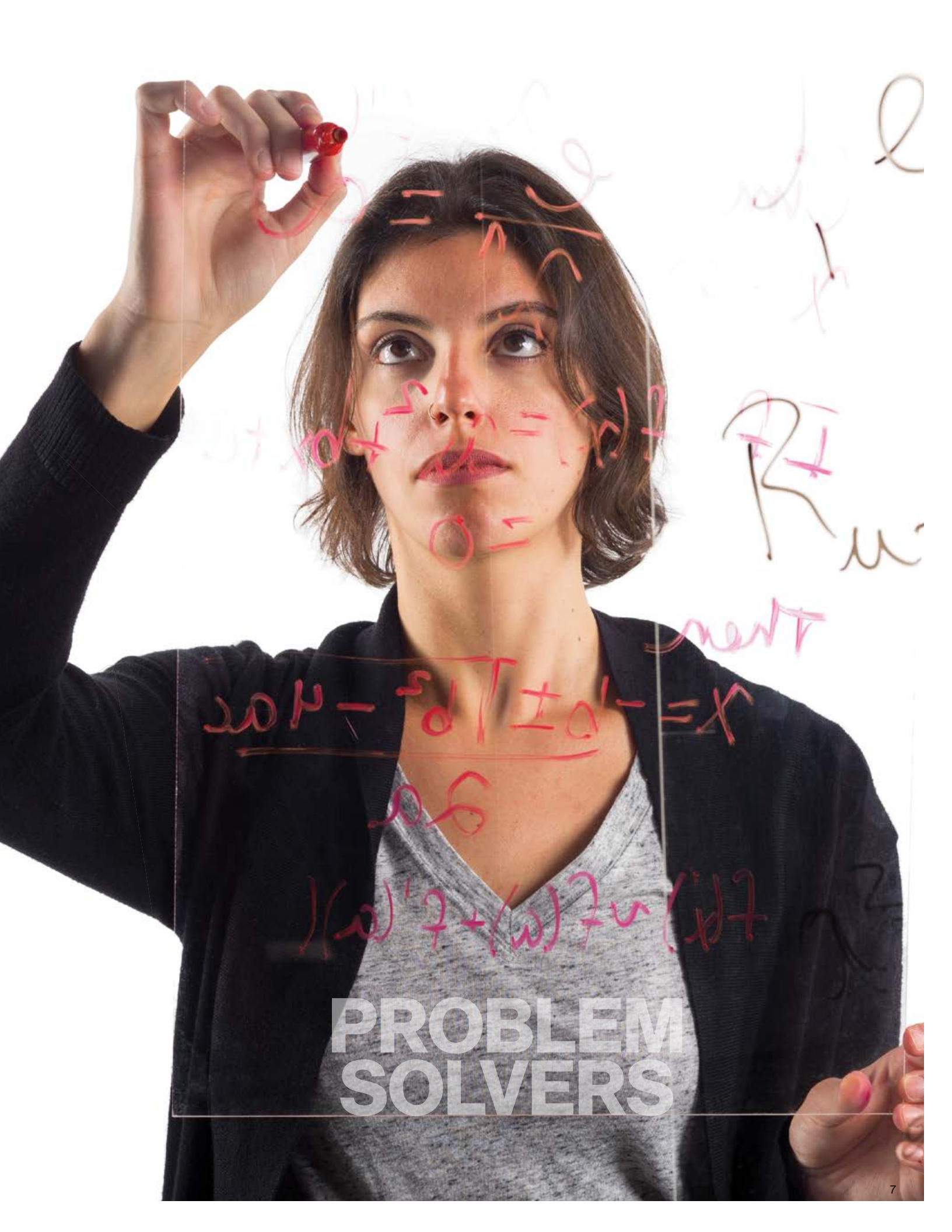
There are also new opportunities in experiential learning to supplement RIT's well-established cooperative education program, including new programs for study and research on RIT's global campuses and elsewhere abroad, partnerships with community entities such as the Seneca Park Zoo and Genesee Country Village & Museum, and "in-residence" guest faculty who share their real-world expertise.

Our kaleidoscope of curious minds is uncovering ingenious ways to move the world forward.



Uniquely RIT

Not every university offers a Ph.D. in mathematical modeling. This distinctive RIT program translates complex problems—like heart arrhythmias or the flow of plastic garbage in the Great Lakes—into measurable quantities. Outcomes predicted by modeling problems provide researchers with new insights to solutions. Launched in 2017, the program has grown from eight to 13 students, nine of whom are women, including Ph.D. student Nicole Rosato, right.



PROBLEM SOLVERS

CURIOUS



Game design and development major Herman McElveen, above, is taking the Exploring Ancient Technology class. All undergraduates take liberal arts classes.

Students are able to take a variety of electives, including Associate Professor **Bill Middleton's Exploring Ancient Technology class**, which has participants make stone tools, use a variety of bows and spears, and analyze real and fake Samurai swords.

RIT's 2025 Strategic Plan calls for restructuring undergraduate degree requirements to ensure students have room to pursue broader curricular experiences to master 21st century competencies.



Studio arts undergraduates are offered options including ceramics, furniture design, glass, metals and jewelry design, non-toxic printmaking, painting, or sculpture.

Glass is one of several options offered under a studio arts degree in the College of Art and Design. Students are provided full access to complete glass facilities—including the affectionately known “hot shop”—and individual studio space to strengthen their technique and

to hone the design of pieces that fuel their personal expression of the medium. As a result of the growing use of technology, the fine line between handmade craftsmanship and high-tech creativity is blurring at RIT.

ARTISTIC

ANALYTICAL



Students work in the state-of-the-art Sklarsky Center for Business Analytics in Saunders College of Business.

The Sklarsky Center for Business Analytics, which was formally dedicated last May, is equipped with an electronic ticker streaming real-time market data, mounted flat-screen TVs, wireless connections, and information services and research tools that support collaborative and project-based learning.

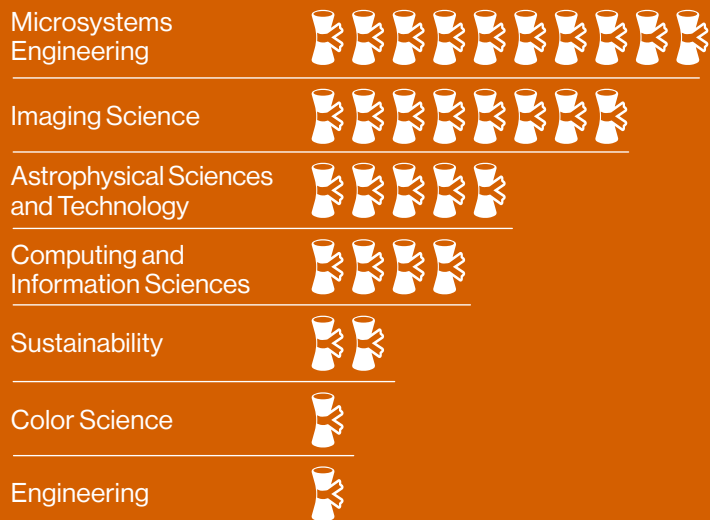
Students can work independently or in groups to use the technology to build investment portfolios and analyze the fluidity of stock prices on Dow Jones or Nasdaq, just like professional financial analysts do.

Bloomberg terminals and associated software, in conjunction with a suite of analytics software, provide real-time data from every market, breaking news, in-depth programming, and research capabilities.

Top degrees

The B. Thomas Golisano College of Computing and Information Sciences and Kate Gleason College of Engineering are the largest colleges at RIT.

Ph.D. degrees awarded 2017-18



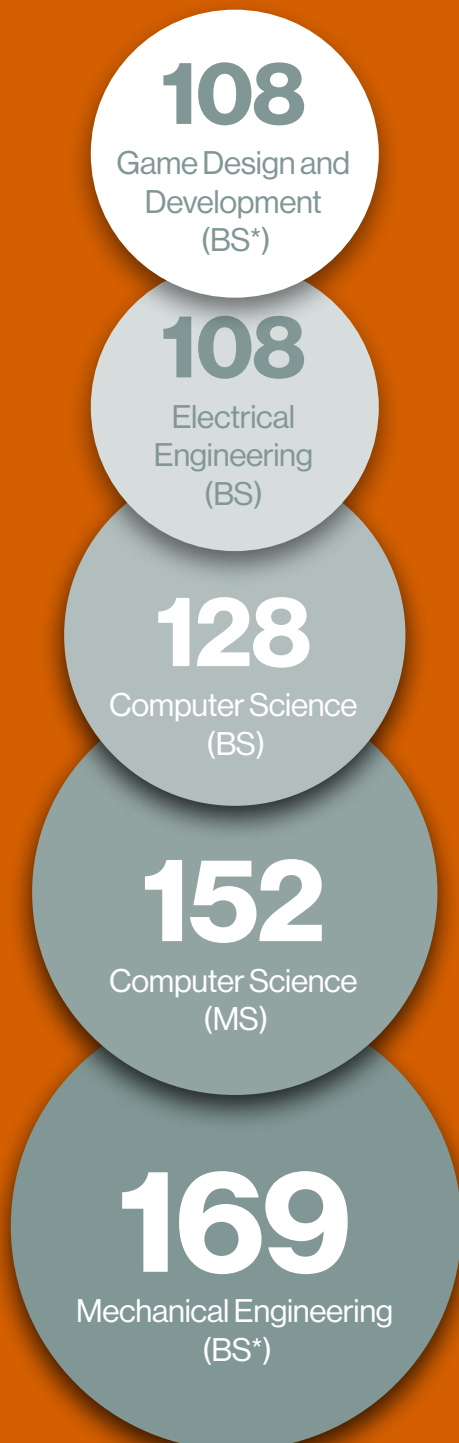
2018-19 enrollment by college

Includes international campuses, online, and graduate students.



*Includes students enrolled in the College Restoration Program, English Language Center, and certain study abroad programs.

Top degrees awarded 2017-18 at RIT's main campus



*Includes students with two majors.

RIT students take national stage

Experiential learning—learning by doing—helps prepare RIT students to be innovators.

One type of experiential learning is provided by the university's distinguished cooperative education program, in which students are paid while gaining real-world work experience related to their field of study. But whether it's building something in a lab, being part of a performing arts ensemble, or joining a club of like-minded enthusiasts, RIT students have a host of avenues for putting their learning into action.

- At RIT, students can build a car. And then they get to race it. In June, RIT's Baja Racing team won the 2018 North American Championship title against nearly 100 other college teams from around the world. Baja Racing is one of several collegiate design competitions sponsored by SAE where students design and build off-road race cars to compete in national and international races. About 75 RIT students are on the Baja Racing team, from each college at RIT. About 30 percent of them are female.
- Faculty and staff mentor students as they start their own companies. Brandon Hudson, a fourth-year student in RIT's School of Individualized Study, is working in RIT's business incubator, Venture Creations, to develop a business that makes a unique web-based HVAC control system. He and his team representing Connexus won \$250,000 in New York state's 76West Clean Energy Competition.
- Students can flaunt their creativity as they practice their craft. RIT's student team took first place among 58 collegiate entries in the national 2018 Paperboard Packaging Student Design Challenge for

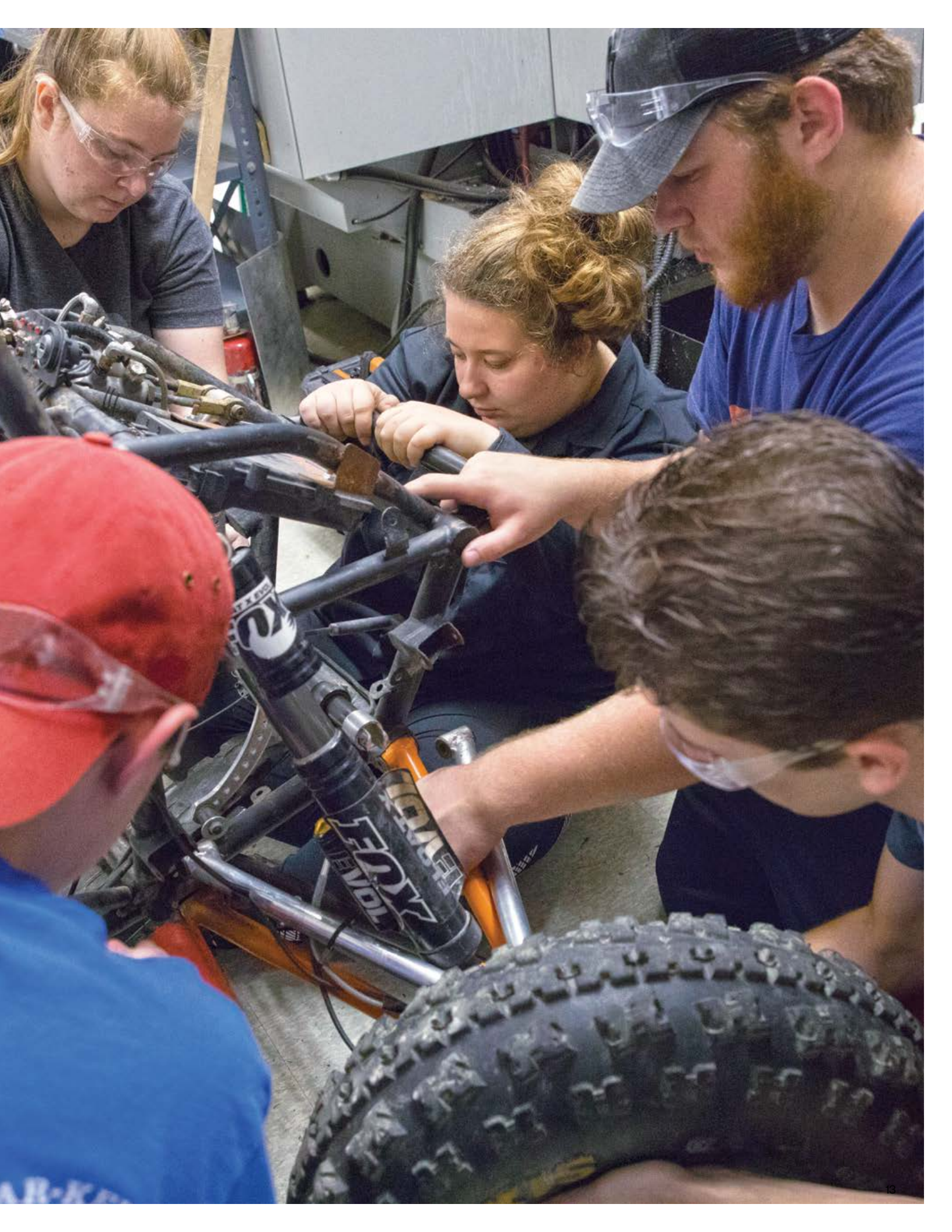
"Packin' Heat," a display of hot sauces.

- Students can find a club or organization that inspires them. Oren Cohn '18 (environmental sustainability, health and safety) served as chief of operations for RIT Ambulance and was honored as EMS Provider of the Year by the National Collegiate EMS Foundation. Laura Branch, a third-year biotechnology and molecular bioscience major, joined RIT's bowling team and was named a member of the United States Bowling Congress's Junior Team USA, an honor given to the nation's top 12 male and female bowlers under age 21.
- Or students can try something totally new, like joining the RIT esports team, which took first place at the Collegiate Starleague (CSL) Dota 2 Grand Finals April 28 in Huntington Beach, Calif.



Congratulations to our **RIT Baja SAE members**, who are North American champions. Come see the team in action on June 6-9 when RIT hosts its sixth international Baja SAE race.





Cooperative education

More than 4,500 students each year complete 6,200 or more work assignments with roughly 3,400 companies through RIT's cooperative education program. The program kicked off in 1912 with 32 students at a dozen local companies. Since its inception, work experience opportunities for students have greatly increased. Here are some student stories of successful co-op experiences:

Did you know?

- Top co-op locations last fall were Rochester, the Boston area, San Francisco and Silicon Valley, Connecticut, and North Carolina.
- Last fall, one student traveled 9,023 miles to Lincoln, Canterbury, in New Zealand to complete a co-op.
- Students complete roughly 150 work assignments in 30 countries every year.



Aimee Spisak

New media design

Digital user experience designer for The Corning Museum of Glass

What did you do on co-op?

"One of the larger projects I worked on was user testing on a new museum app called PastPort that was developed for the Corning GlassBarge. I also designed infographics for new indoor and outdoor signage that was placed throughout the museum campus buildings. I engaged with museum users to gather data on usability issues, and this information was implemented into the design to improve the user's experience throughout their visit."

How did RIT prepare you?

"RIT helped me learn a wide variety of skills so I could get this opportunity to work in a professional, real-world setting. My professors also helped me find resources I could utilize so I could continue to develop skills while working at the museum."

What are your future plans?

"I would like to work for a company where I can design and utilize my digital media skills for a great purpose."



S M Huq

Microelectronics engineering

Extreme ultraviolet (EUV) engineering intern for II-VI Incorporated

What did you do on co-op?

"I did assembly testing and engineering support for the development of next-generation electro-optic modulator products. The modulator acts as a high-frequency optical switch for lasers. The main project I worked on encompasses material sciences, mechanical design, optoelectronics, and lots of hands-on work."

How did RIT prepare you?

"There were a couple of engineering classes that I depended on while I was at this co-op. Statistics and design of experiments helped me a lot, as well as the integrated circuits technology course and the math classes I've taken. RIT's professional code of conduct helped me as well."

What are your future plans?

"My plan after graduation is to go to graduate school for my master's degree or go straight into the workforce. I'm open to both, but I would prefer to further my education first."



Bailey Reid

Mechanical engineering

Propulsion academy research assistant for NASA

What did you do on co-op?

“I supported a team in the spacecraft and auxiliary propulsion division at Marshall Space Flight Center. I was working on subsystems for green mono-propellant, which is a chemical used in combustion for propulsion. I did a lot of prototyping, design work, and things along those lines.”

How did RIT prepare you?

“A lot of my experience comes from working in the machine shop up in Kate Gleason College. This type of engineering is very experience-based, so without working in the shop, I wouldn’t know half of the things I know today.”

What are your future plans?

“I’m probably going to join the workforce right after I graduate. I might get my Ph.D., but I’m not sure if I will do that yet because I am doing the dual degree with my bachelor’s and master’s. I’m just going to go wherever the wind takes me.”



Emily Mills

Human-centered computing

UX/UI intern for Oracle

What did you do on co-op?

“I worked at the Oracle Health Sciences Global Business Unit. My deliverable for last summer was a fully designed mobile application targeted for subjects in clinical trials. I collaborated with software development interns to design and develop a working prototype.”

How did RIT prepare you?

“I recently changed my major from computing security, so I was able to apply my development background to my design approach. I think that this knowledge helped me work with the development team because I understood their process and was able to make sure my designs were achievable for my team.”

What are your future plans?

“My hope is to gain experience by working at a large company for a few years after graduation, but to eventually go back for my MBA and become a product manager.”



Aaron Sowinski

Marketing

Customer relationship management marketing intern at Nintendo

What did you do on co-op?

“I worked alongside a small group of peers and we basically set up a mock company among us. We all worked under an actual supervisor who gave us real problems to solve. A major aspect of my job was analyzing how certain development campaigns affect customer relations with the company.”

How did RIT prepare you?

“RIT helped prepare me through all the amazing professors I had during my first two years in marketing. I always go to them first when I have questions and they’re always happy to help. Because of the support I got at RIT, I possessed all the knowledge required for my job and exceeded the expectations of my supervisor.”

What are your future plans?

“Once I graduate I hope to work as a marketing manager at a major game company, such as Nintendo or Valve, because of how fun and rewarding it is.”



Eric Tong '18 (applied arts and sciences)

Professional studies

Office support clerk at the U.S. Department of Defense

What did you do on co-op?

“At the Department of Defense, I had to manage their inventory system and make sure that the inventory was done correctly. I also operated as an IT person and I would travel with my supervisor to various sites all around Kentucky and Ohio.”

How did RIT prepare you?

“The Workforce Recruitment Program and an on-campus recruiter helped me find my job last summer for my bachelor’s degree. The WRP is a program aimed at helping students with disabilities connect with the hiring authorities at different agencies, like the Department of Defense. I’m happy I was able to benefit from this program.”

What are your future plans?

“My plan after I graduate with my master’s degree is to go back and work for the Department of Defense. The great part about working for them is that I can work anywhere.”



Student clubs

There are approximately 300 active student clubs and organizations at RIT, including RIT’s Equestrian Team. From recreational and competitive sports, hobbies, service organizations, performance groups of

all kinds, academic groups, and crafting, there’s likely a club that would interest any student. Most RIT clubs are recognized and managed through the Center for Campus Life, within the division of Student Affairs.

For students who may be interested in starting their own clubs to pursue a specific interest—such as the Beekeepers Club and the Hand Lettering Club—there is support every step of the way.



Women’s volleyball won its first Liberty League championship in 2018 and earned its first NCAA Tournament victory since 1999.

Athletics

RIT Athletics continues to lead on the field, court, and ice. And in the classroom. From Liberty League championships to NCAA berths to All-American status and Academic All-America plaudits, RIT’s 675 student-athletes have plenty to celebrate. This includes an overall GPA of 3.35, with 226 athletes earning league all-academic honors. RIT has two Division I teams—men’s hockey and women’s hockey—and 22 Division III teams.



Performing arts

Developing the leading performing arts program in the nation for non-performing arts majors is a goal of RIT's 2025 Strategic Plan. Already there are plenty of ways students can participate. There are nine

music and dance ensembles that offer academic credit, and 28 student clubs involving singing, dancing, instrumentals, and theater.

Deaf and hearing actors and dancers from the National Technical Institute for the Deaf Performing Arts and College of Liberal Arts perform *Cabaret* in American Sign Language and spoken English.



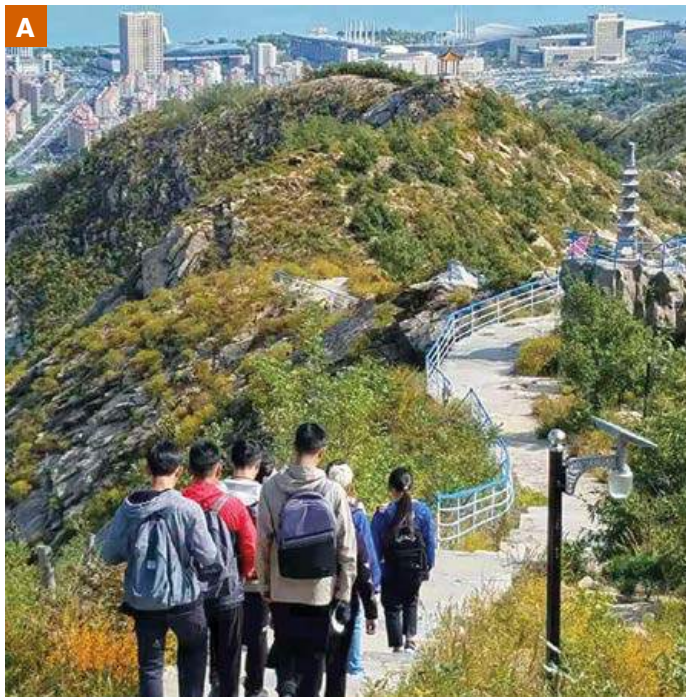
Greek life

Zeta Tau Alpha sorority and Phi Kappa Psi fraternity hosted the annual Mud Tug fundraiser featuring tug-of-war competitions over mud pits. About 2,000 students participated in the event to raise money for Hillside Family of Agencies. Fraternities and sororities reported more than 12,000 volunteer hours in 2017-18.

Living and learning

There are seven special interest houses students may live in with others who share their interests in areas such as computer science, engineering, art, photography, and general science.

Global partnerships



A RIT China
 RIT China opened in 2015 and now boasts enrollment of 448 students between the BS in management information systems in Weihai and the MS in entrepreneurship and innovative ventures in Beijing. The Weihai campus continues to cultivate its student life and experiential opportunities for students. RIT faculty teaching in Weihai have inspired students to create a book club, coding club, and hiking club. Last fall, nine students from Weihai were selected as Global Scholars to study in Rochester.

B RIT Croatia
 Experiential learning opportunities are thriving at RIT's Zagreb and Dubrovnik campuses, where 870 students are enrolled. For their senior project, RIT Croatia web and mobile computing students collaborated with peers from Rochester and Dubai to develop a web application for a Croatian hospital. Students at the Dubrovnik campus worked with industry experts for their project management for events course work. The Dubrovnik campus opened in 1997 and Zagreb in 2011.

C RIT Dubai
 Today, 661 students are at RIT Dubai, established in 2005. The campus has emerged as a leader in smart cities and data analytics through its unique program development and collaboration with various colleges at the main RIT campus, including the Golisano Institute for Sustainability. Last fall, in cooperation with Smart Dubai, RIT Dubai launched the MS in professional studies: data analytics—the first program of its kind in Dubai.

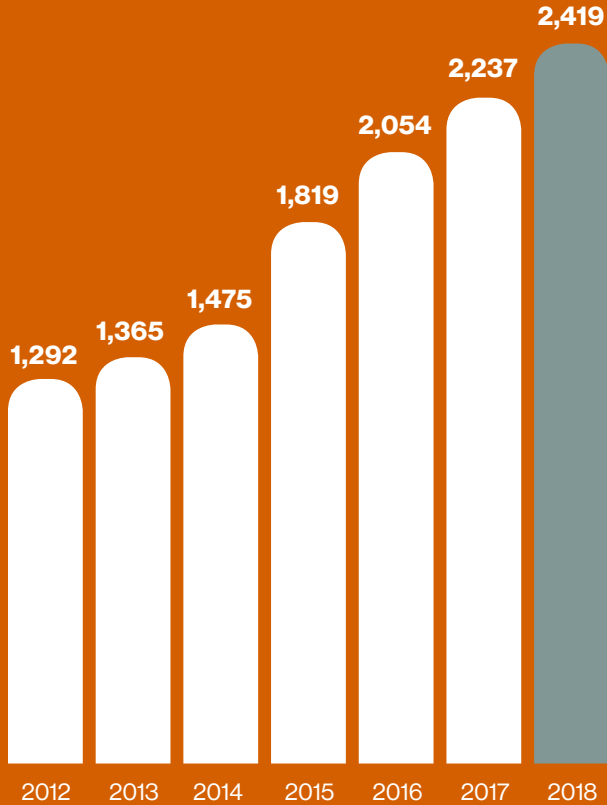
D RIT Kosovo
 RIT Kosovo was founded in 2003 and now enrolls 440 students. The campus, in partnership with IPKO Foundation and the Norwegian Embassy in Pristina, received a grant to establish a research and development lab that will engage faculty, students, and industry to conceptualize, research, design, prototype, and test new products or service ideas. The funding will in part support the development of a new web and mobile computing lab as well as a makerspace.

Going global

RIT students can study abroad by taking classes at one of RIT's global campuses or by participating in faculty-led programs, affiliate programs from other universities, exchanges, or international research.

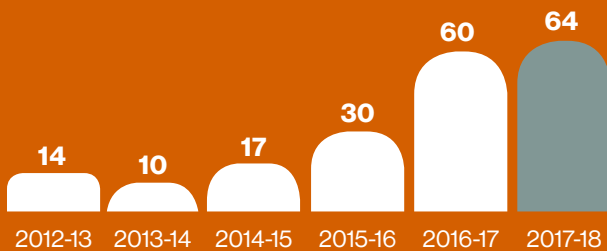
Students studying at RIT's global campuses

Enrollment at RIT's global campuses in China, Croatia, Dubai, and Kosovo has grown almost 90 percent since the fall of the 2012-13 academic year.



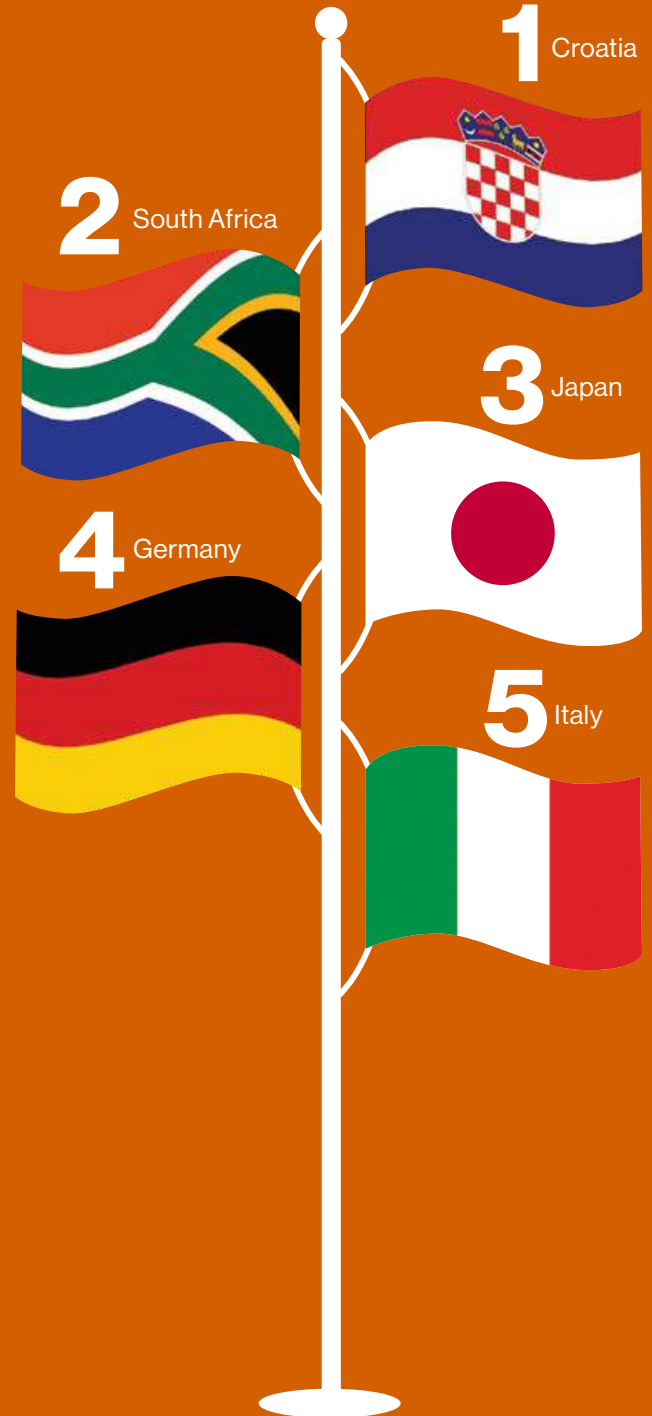
Global Scholars studying at RIT's main campus

The Global Scholars program encourages students from RIT's global campuses to spend up to two semesters at the main campus in Rochester. This program has brought some of the best and brightest from the RIT global network to Rochester to engage in course work, research, and student life.



Top study abroad destinations 2017-18

Last year, 388 students participated in study abroad programs. That is up from 232 students in 2009-10.



Research hits record levels

RIT's upward momentum as a major research university continued, with sponsored research reaching nearly \$78 million, a new record.

RIT received 340 new awards and had a record 333 principal investigators associated with active research awards.

Among the funding sources, New York state provided a record \$30.6 million, up from \$17 million the previous fiscal year, and \$11.2 million came from corporate and private sources, up from \$7.1 million the previous year.

"These record results reflect RIT's success in executing a strategic plan that includes a focus on growing its reputation as a research university," said Ryne Raffaele, vice president for research and associate provost.

Award highlights include:

- \$4 million from New York State Empire Development to Charles Ruffing, director of the New York State Pollution Prevention Institute (NYSP2I) at RIT, for food waste diversion. The state contract for NYSP2I was re-awarded to the university for five years, following a competitive statewide application process.
- \$1.8 million from the New York State Energy Research and Development Authority (NYSERDA) to Richard Notargiacomo, director of Venture Creations, for the RIT Clean Energy Incubator.
- \$1 million from the Howard Hughes Medical Institute to Scott Franklin, College of Science professor and director of the Center for Advancing STEM Teaching, Learning, and Evaluation (CASTLE) for the Inclusive Excellence Competition.
- \$737,108 from the New York State Division of Criminal Justice Services to John Klofas, professor of criminal justice in the College of Liberal Arts and founder of RIT's Center for Public Safety Initiatives, for support of the Monroe Crime Analysis Center.

Undergraduates can **start research** in year one.







Christye Sisson, director of the photographic sciences program, is creating a database of image, video, and audio manipulations to improve methods of detection of altered media.

Media forensics

RIT is part of a select group of world-class researchers studying the fact and fiction of imagery in today's digital culture by developing an algorithm-based platform that can detect image manipulation. The RIT team is being led by Christye Sisson, the Ronald and Mabel Francis Professor and director of the photographic sciences program.

The surreptitious altering of images and other media can be detected by techniques from media forensics, which is the science of analyzing the authenticity and provenance of audio, video, photos, and other data. This is important in many situations, including legal proceedings.

The researchers' goal for the media forensics (MediFor) project is to automate the detection of image manipulations, provide detailed information about how

these manipulations were performed, and determine the overall integrity of visual media. The research teams include imaging experts from academia, industry, and government agencies.

According to Sisson, RIT is creating high-provenance data and image manipulations as part of the project's data team. Sisson noted that applications of the research findings are widespread—from law enforcement and intelligence agencies to counterterrorism and academic research integrity.

Along with these manipulations, the RIT team will create an "answer key" that will chronicle all steps in a manipulation to see how well the algorithms perform in their evaluation.

"RIT has this unparalleled imaging continuum with our programs that you just don't see anywhere else," Sisson said.

Caroline Easton, director of RIT's Behavioral Health Sciences Clinic, created an avatar that helps patients take steps to end abusive relationships.

Behavioral Health Sciences



Digital therapy

A passion for preventing family and domestic violence has made Caroline Easton '90 (biotechnology) a leader in behavioral health research in the United States. Now, the professor in RIT's College of Health Sciences and Technology is helping adapt her innovative digital therapy for clinical use in the United Kingdom.

Easton's interactive digital "coach" called "RITch" is about to get a British makeover. The app needs more than an accent to make it culturally appropriate, Easton said, but with some changes it will be ready for treatment in high-risk situations in the UK.

She is a co-investigator and a consultant on the project with addiction researcher Gail Gilchrist at King's College in London. Gilchrist won a grant from the UK's National Institute for Health Research to adapt the platform and will visit RIT on sabbatical to work with Easton.

"RITch" brings to life Easton's evidence-based model and is designed for use with cognitive behavior therapy to reinforce clients' positive behavior and coping skills.

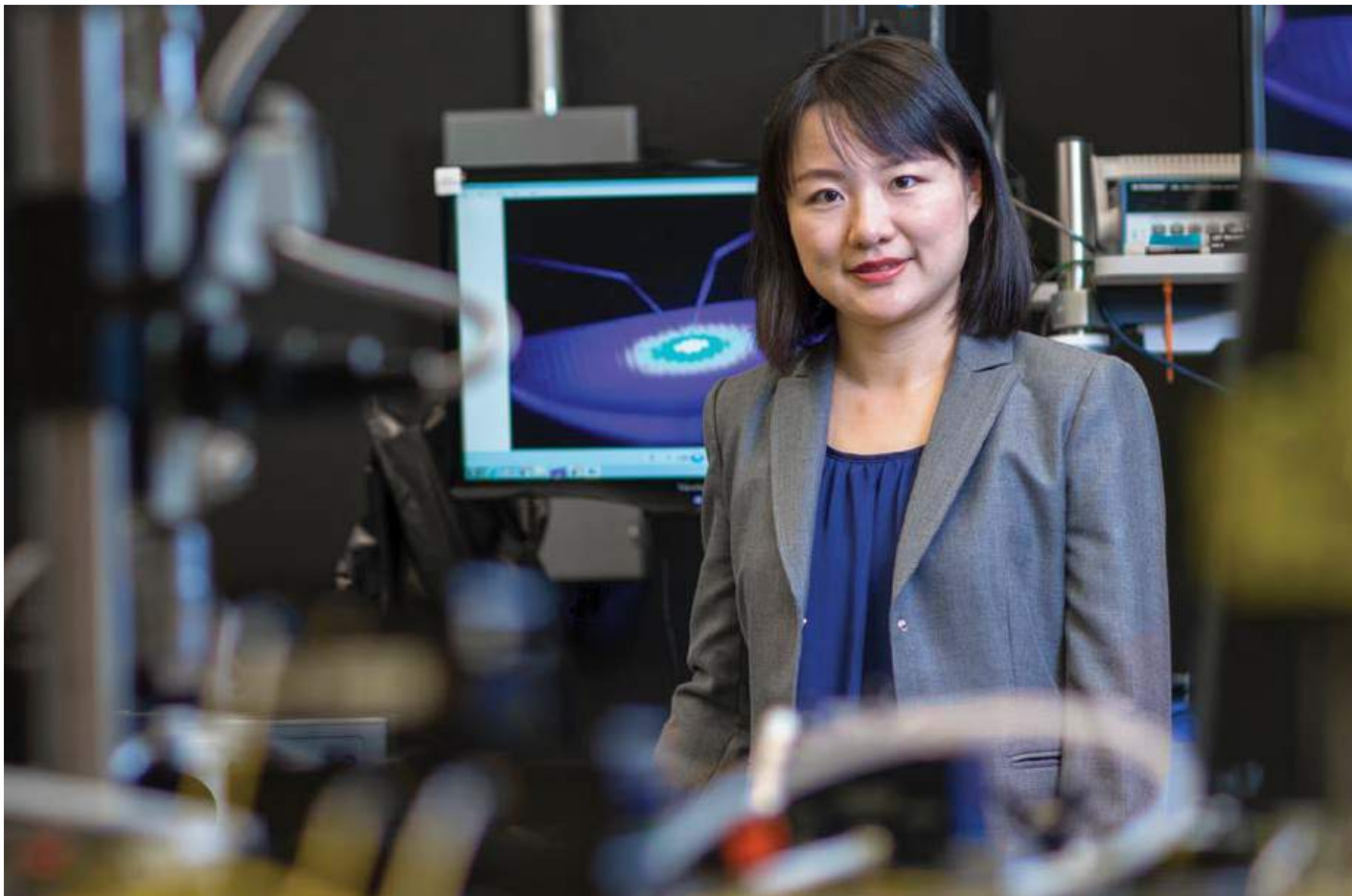
"We proved with our first avatar that digital coaches are an adjunctive tool to be used with face-to-face therapy sessions," Easton said. "Clients use it to do virtual role playing and model conflict resolution skills. And they like it."

Easton is the director of RIT's Behavioral Health Sciences Clinic and a professor of biomedical sciences, behavioral health, and clinical psychology. She conducted a National Institutes of Health-funded clini-

cal trial on her therapeutic model during her prior tenure at Yale University Medical Center. The results confirmed her approach.

During her clinical and research work at Yale, Easton perceived the standard method of treating male aggression and alcohol/substance abuse as deeply flawed. It failed to connect the two issues and ineffectively dispensed therapy to large groups of men. Easton's alternative therapy combines the two behaviors in an integrated model of care to target the underlying causes of family, domestic, and intimate partner violence.

Easton, who likens RIT to a "candy store" of technological advancements, has cultivated an interdisciplinary team that has drawn upon the expertise of faculty and students in the College of Health Sciences and Technology, College of Art and Design, RIT's School of Interactive Games and Media, and RIT's medical illustration program.



Jing Zhang, a National Science Foundation CAREER awardee, is a leading researcher in the physics of nanomaterials and devices, specifically ultraviolet optoelectronics.

Nanotech research

Jing Zhang is close to capturing light. Researching technology solutions into the ultraviolet (UV) spectrum, Zhang works toward creating optoelectronic devices that are more efficient.

The devices Zhang's research group is creating have the potential to demonstrate that a fairly unrealized range of the UV light spectrum is as efficient as near-UV and blue used in current LED lights. Increasing the efficiencies of these types of optoelectronic devices could have important applications in nanomanufacturing, 3D printing, water/air purification, energy management systems, and a variety of sensing applications.

"This is still a very challenging field with a lot of research going on for the past two decades, but there have not been a lot of

breakthroughs. It is a broad field and there are many university research groups working in this area," said Zhang, an assistant professor of electrical engineering in RIT's Kate Gleason College of Engineering. "I think what distinguishes my work from others is, in the field of ultraviolet optoelectronics, I have been able to figure out novel solutions to issues with the fundamental physics limitations."

Students are involved in her research, and their work with her is published regularly in leading engineering journals and conference proceedings.

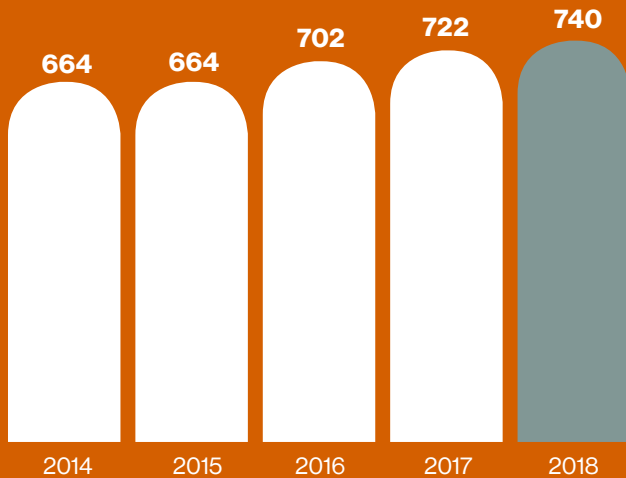
"I can recruit high-quality students from our graduate and undergraduate programs," said Zhang, who has been at the university since 2014. "That's why I chose RIT—it is a perfect match of my background in nanotechnology and microelectronic devices."

Research portfolio

RIT became recognized as a doctoral university by the Carnegie Classification of Institutions of Higher Education in 2016 because of its growing research activity. RIT's sponsored research portfolio has reached nearly \$78 million.

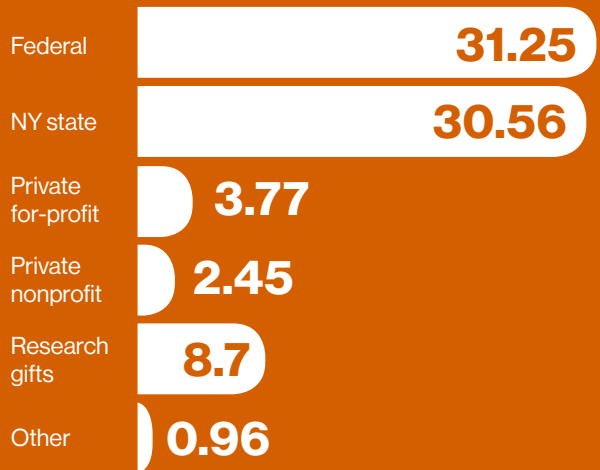
Research proposals

Information is by fiscal year



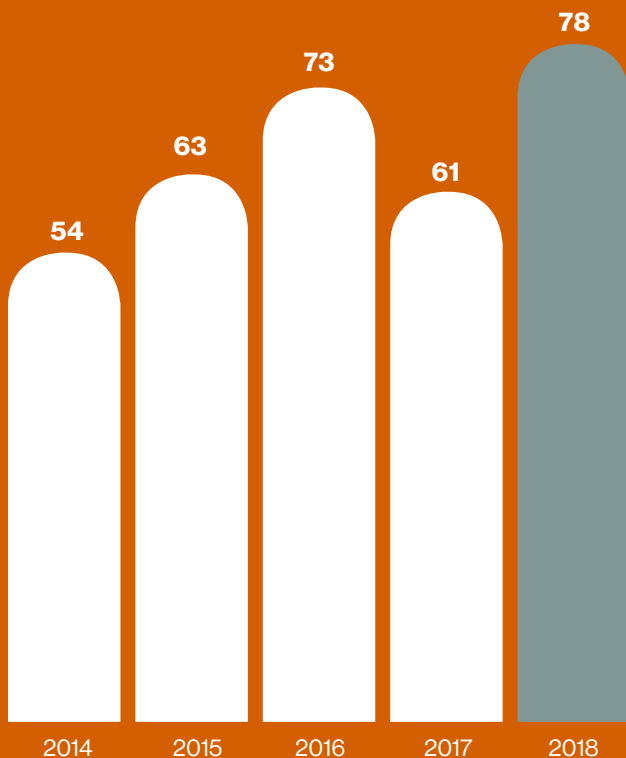
Awards by sponsor (in millions of dollars)

Fiscal Year 2018



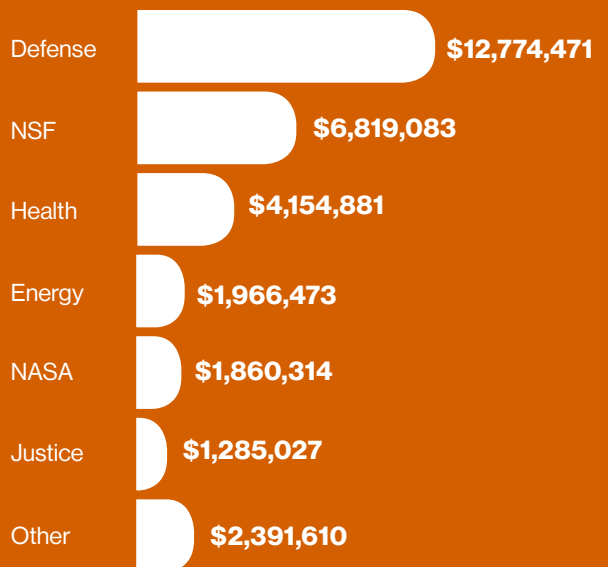
Sponsored research awards (in millions of dollars)

Information is by fiscal year



Federal awards by agency

Fiscal Year 2018



Looking ahead

Three big facilities projects will transform the RIT landscape in the years ahead. MAGIC Spell Studios, which opened last fall, will help students turn ideas for film and animation, games,

and digital media into commercial products. Construction now has begun on a new Global Cybersecurity Institute at RIT, which is expected to be finished in two years. And design has commenced on the Maker

Library & Innovative Learning Complex of the Future, which will include a vastly expanded makerspace. The new makerspace will show off RIT's creativity and innovation, in all its forms, under one roof.

Chris Cheney, a computing security student, is working to improve cyber defenses during a meeting of RIT's cybersecurity student club.



Cybersecurity expanding

As cyber threats around the globe continue to grow, RIT is taking another step toward becoming a world leader in cybersecurity education and research.

The university is building on its existing expertise in computing security to create the Global Cybersecurity Institute at RIT. The institute will address the critical workforce needs in cybersecurity through education and professional development programs, while also conducting research that advances the fields of cybersecurity and artificial intelligence.

The three-story, 45,000-square-foot

Global Cybersecurity Institute is expected to be completed in 2020.

Analysts expect that within the next four years, the global shortage of qualified cybersecurity employees will reach 1.8 million, and data breaches will cost the global economy as much as \$2.1 trillion.

The Global Cybersecurity Institute will significantly expand the reach and impact of RIT's B. Thomas Golisano College of Computing and Information Sciences, which is already one of the largest computing colleges in the nation with more than 4,500 undergraduate and graduate students.

With the new facility, RIT will be able to increase student enrollment in computing security and add new faculty talent.

RIT will also collaborate more with industry, government, and the public by offering training in specialized laboratories that enable real-time learning opportunities for students and partners.

The institute is made possible from a donation made by 2009 RIT alumnus Austin McChord and a \$5 million award through the New York State Higher Education Capital Matching Grant Program.



RIT Launch Initiative, a student organization that designs rockets for competitions, placed first for flight performance in the Spaceport America Cup competition last fall. Team members made the rocket in RIT's Construct.

More makerspace

RIT's Construct, a 2,000-square-foot makerspace, is open to all students to design, build, and realize new technologies that impact the world. From printing 3D parts for robots to manipulating laser cutters to create decorative lampshades to building working prototypes for inventions and class projects, the communal space allows students access to high-tech and low-tech equipment including CNC milling machines, router tables, drills, saws, soldering irons, electronic circuitry, and woodworking and metal working supplies.

Created in 2014 and currently housed on the fourth floor of Institute Hall, the Construct—a part of the Albert J. Simone Center for Innovation and Entrepreneurship—will greatly expand and move to a new location thanks in part to proceeds from a \$50 million gift from RIT alumnus Austin McChord.

The Maker Library & Innovative Learning Complex of the Future will connect RIT's Wallace Library and the Student Alumni Union.

McChord funds already are going toward purchasing equipment and endowing faculty positions and student scholarships, including new Entrepreneurial Gap Year fellowships to help students advance their concepts into businesses.

Esther Septimo, a fifth-year student in the School of Individualized Study focusing on mechanical engineering and business management, has used the Construct for more than three years.

"RIT's makerspace has been one of the greatest sources of invaluable knowledge I have acquired during my time on campus, and it has enabled me to really apply what I've learned in the classroom," said Septimo.



MAGIC Spell Studios

RIT's continued growth in the areas of game design and development, film and animation, and digital media is showcased in the new MAGIC Spell Studios building, which opened its doors last fall. The 52,000-square-foot learning laboratory, which is the first of its kind in the Northeast, houses a massive sound stage, 180-seat movie theater, audio mixing and color correction studios, game design and media development labs, and unique spaces for 2D and 3D animation and augmented and virtual reality.

The building is a "collaborative sandbox," bringing together students and faculty from different disciplines and enhancing and complementing what they are learning in the classroom.

Students can walk in with ideas for film and animation, games, and digital media and walk out years later with a marketable product.

David Long, MAGIC Spell Studios director and associate professor of motion picture sciences, said MAGIC Spell Studios will continue to help boost faculty recruitment and student enrollment.

Along with helping students, MAGIC Spell Studios is designed to stimulate the economy.

In 2016, RIT was named one of three Digital Gaming Hubs in New York state by Empire State Development to increase the economic impact to the state by fostering innovation and creating collaborative activities that spur new games or startups.

RIT students Sam Cammarata, left, and Noah Ratcliff discuss the video game they co-created along with Aidan Markham through MAGIC Spell Studios. *Crazy Platez* officially launched in December on the Google Play Store for Android and the App Store for iOS.

Outside companies are also invited to campus to work in a dedicated collaborative partner suite.

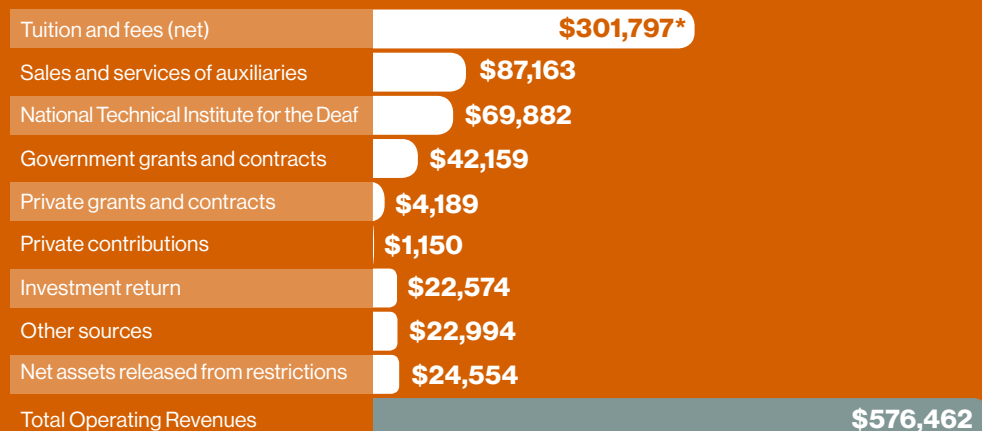
Funding came from New York state (\$13.5 million), Dell (\$3 million), Cisco Systems Inc. (\$12.4 million), The Wegman Family Charitable Foundation (\$1.5 million), and Trustee Austin McChord '09 (\$1 million).

Financially sound and growing

RIT's future success depends upon strong financial results and a growing endowment.

Operating revenue (in thousands)

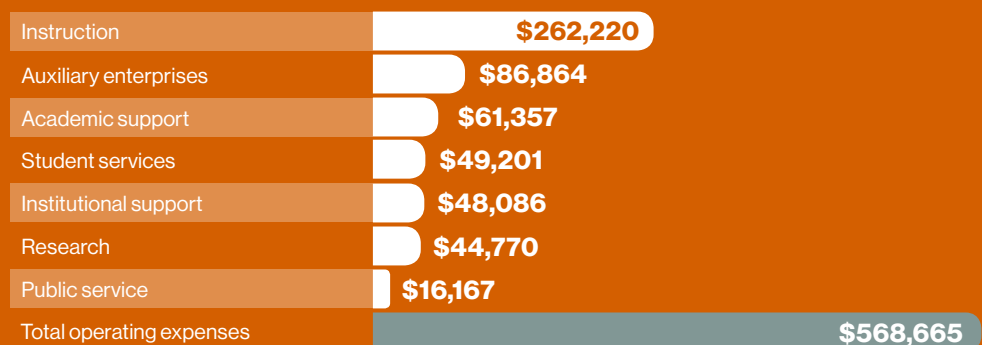
Fiscal year 2018



*\$506.5 million less \$204.7 million given in financial aid and scholarships.

Operating expenses (in thousands)

Fiscal year 2018



Total endowment by fiscal year (in thousands as of June 30 each year)

RIT's endowment has grown by more than \$184 million over the past five years, an increase of more than 24 percent.



RIT for Life highlights 2018

A house, a tour, reunions, and education for life were some of the highlights in 2018 for the office of RIT Alumni Relations and the RIT Alumni Association.

The Joseph M. Lobo '95 Alumni House began welcoming campus visitors in October. The 5,700-square-foot house is the first permanent on-campus facility built for RIT's more than 126,000 alumni, primarily by alumni.

Alumni Chapters around the country hosted Tiger Tour receptions for alumni, parents, and friends welcoming RIT President David Munson to the RIT family. The tour continues this year.

Reunions kicked into full gear during Brick City Homecoming & Family Weekend, which included special 50th anniversary celebrations for the RIT Henrietta campus and the placement of a historical

Deaf hip-hop artist Sean Forbes '08 entertained the crowd during National Technical Institute for the Deaf's 50th anniversary reunion last summer. More than 3,000 alumni attended reunion events.

marker where RIT's downtown campus stood until 1968. The 50th anniversary celebration for the National Technical Institute for the Deaf culminated last summer with a multi-day reunion.

Jon Rodibaugh '12 (MBA), executive director of Alumni Relations, said education for life has been a recent focus.

"We want RIT alumni to see

our activities as more than happy hours and ballgames and bowling nights," he said, adding that programming has more of a global reach than ever before. "We are trying to meet the needs of our alumni where they live and work, and sometimes that is New Delhi and Beijing."

Community service also remains a focus. More than 350 alumni and guests participated

in the Alumni Association's Global Day of Service, making a difference in their communities through service projects around the world, all on the same day.

Some of those participants were alumni who work at RIT. The Office of Alumni Relations has helped coordinate a burgeoning Alumni Faculty and Staff Chapter featuring nearly 350 active members.

More than 15,800 people attended **Brick City Homecoming & Family Weekend** events, which included 50th anniversary celebrations for our suburban campus.

NTID is a jewel in the crown of RIT and adds vitality to the campus.



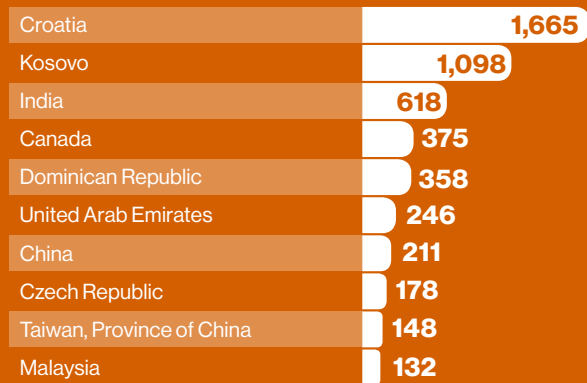
Alumni

RIT has more than 126,000 alumni, and they are active in chapters across the U.S. as well as internationally.

Top alumni employers

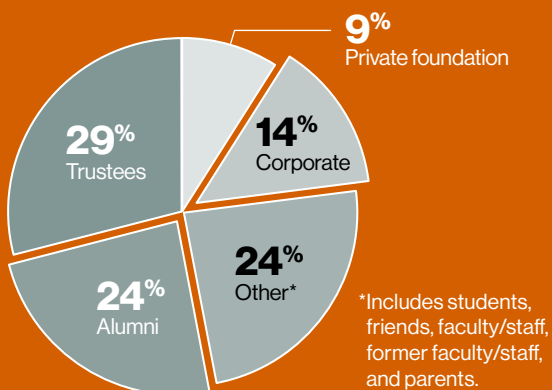
- Amazon
- Amazon Web Services
- Apple
- Cisco
- Eastman Kodak Co.
- EY
- Facebook
- Google
- Harris Corp. Communication Systems
- IBM
- Intel Corp.
- Lockheed Martin Corp.
- Microsoft Corp.
- Paychex Inc.
- RIT
- Rochester Regional Health
- University of Rochester
- Xerox Corp.

Where alumni live globally



Giving by source

Total philanthropic giving in fiscal year 2018: \$26,912,133



Alumni chapter participation



Transforming RIT

RIT publicly launched a \$1 billion campaign, the largest fundraising effort in the university's history.

The campaign, which was announced at a gala on July 12, is unique because it is a blended campaign. A blended campaign

seeks support from a variety of investors, including alumni and friends, government and corporate partners, and research foundations and agencies.

RIT President David Munson said the campaign is aptly titled, "Transforming RIT: The

Campaign for Greatness."

"This campaign will allow us to build upon our updated strategic plan, engage alumni, grow our status as a research university, and leverage relationships with government and corporate partners," he said.

The public phase of the campaign follows five years of giving. To date, more than \$560 million of the \$1 billion has already been raised.

The blended campaign impacts every area of the university. The four pillars are:



1

Attract Exceptional Talent—This includes \$200 million for increased undergraduate scholarship opportunities, enhanced diversity programs, new endowed professorships and teaching awards, and dollars for undergraduate and graduate student research projects.



2

Enhance the Student Experience
RIT seeks to raise \$280 million to broaden opportunities for experiential learning for students, as well as build innovative maker and learning facilities and strengthen performing arts programs.



3

Improve the World Through Research and Discovery
RIT is seeking \$400 million to promote interdisciplinary research centers, expand and enhance fundamental and corporate research activities, and improve facilities.



4

Lead Future Special Initiatives
The \$120 million goal will go toward building academic programs and growing unrestricted and endowment support.

Creativity on display



A Free Festival For Everyone

Imagine RIT: Creativity and Innovation Festival is the university's signature event, a showcase that attracts 30,000 visitors to campus.

When
Saturday, April 27, 2019
10 a.m.—5 p.m.

What you'll see
Nearly 400 interactive presentations, exhibits, research projects, hands-on demonstrations, and live performances displaying the ingenuity of students, faculty, and staff.

Learn more
www.rit.edu/imagine

On to
a world of
possibilities.

