

MONTH IN REVIEW

March & April 2018



Things were a little bit quieter around the college in March with a week of Spring Break. We entered April feeling refreshed and ready heading into the final weeks of the semester. The University's signature event, Imagine RIT, was held a little earlier in the year this time around to accommodate the change in our academic calendar. Over 25,000 people ventured out on a cool, rainy April Saturday to see the remarkable projects that our students have completed throughout the academic year. We know that many future Tigers were inspired by the science experiments that our student groups hosted. And even the cool temperatures didn't diminish interest in a favorite Imagine RIT exhibit: Liquid Nitrogen Ice Cream! Many thanks to all of the countless volunteers who supported this event with their time and talent. We couldn't have done it without you!

Unfortunately, we also received some sad news in March as the College of Science & RIT lost a friend and tireless advocate when U.S. Representative Louise Slaughter died on March 16, 2018. Representative Slaughter held degrees in microbiology and public health and she was a strong advocate for student aid programs and for science, technology, engineering and mathematics (STEM) education. We are deeply saddened to lose such a strong leader and a fearless champion. You can read more about RIT's tribute to Rep. Slaughter's life work in the article below.

SOPHIA MAGGELAKIS
Dean, RIT College of Science



RIT Mourns the loss of U.S. Representative Louise Slaughter

Rochester Institute of Technology lost a great friend and tireless advocate with the passing of [Congresswoman Louise Slaughter](#).

Congresswoman Slaughter, who was 88, died March 16, 2018 in Washington, D.C. She had represented the district since being elected in 1986.

Congresswoman Slaughter visited campus to celebrate the [university's contribution](#) to the [first detection of gravitational waves from colliding black holes](#) by the Laser Interferometer Gravitational-wave Observatory, presenting researchers in RIT's [Center for Computational Relativity and Gravitation](#) with copies of her Congressional Record statement of Feb. 25, 2016, commending their role in the discovery. And she helped procure federal funding for research to combat the critical rise in [antibiotic-resistant bacteria](#) and advocated in bringing that [funding to RIT](#) and the Rochester region.

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Astrophysical Sciences & Technology Graduate program recognized in top 100 nationally

Six [Rochester Institute of Technology graduate school](#) programs, including the [Astrophysical Sciences & Technology](#) program in the School of Physics and Astronomy, have made the US News & World Report's 2019 edition of [America's Best Graduate Schools](#). The ASTP program was tied for 69th among the country's top physics graduate programs, climbing two slots from the last rankings compiled in 2014.



Researchers share work in first annual Science & Math Day event

The College of Science hosted its first annual Science & Math Day event on March 22, with faculty and student researchers sharing some highlights of their research in 10 minute talks and poster presentations throughout the afternoon. Over 60 people attended the event which was held in an open house style format in the Bruce & Nora James Atrium.

A full list of the day's presentations and poster sessions is [here](#).



Women in Science Spring Celebration

The RIT Women in Science program was honored this April at the home of President and Nancy Munson. Students, faculty, and staff involved in the program were recognized for their hard work and dedication in the WISE Student Ambassador Program, for WISE Outreach volunteerism, and students were awarded WISE Student Travel funds



MRS-RIT participates in Nanowebk at RMSC

RIT's chapter of the [Materials Research Society](#), mentored by Dr. K.S.V. Santhanam, participated in Nanowebk Celebrations at Rochester Museum & Science Center March 24-27 by demonstrating the properties of nanomaterials such as graphene with curious visitors to the museum.



Future COS students enjoy exhibits at Imagine RIT

The 11th annual [Imagine RIT Innovation & Creativity Festival](#) was held on a cool, rainy April Saturday, but even the wet weather couldn't dampen the fun that was brewing in Thomas H. Gosnell Hall and throughout the RIT campus! College of Science faculty and students hosted a wide variety of events throughout the Gosnell Building. Visitors could make their own [Lava Lamp Wave Bottles](#) with the American Chemical Society, play [Mathematical Fun & Games](#) such as PiRIT Putt-Putt, launch darts with an [electromagnetic dart launcher](#), build their own phage virus in the [Phun World of Phage](#), and conduct scientific experiments that they could replicate at home in [DIY Science](#). We can't wait to see these future Tigers on campus full time in a few years!



Science of Fuel Cells Professional Training

At the end of March, Alla Bailey (principal lecturer, SCMS) and Gerald Takacs (professor, SCMS) organized and hosted several high school science teachers for a one day laboratory training session on the topic of “Clean Energy/Fuel Cells for Electricity Generation”. Participants received an RIT Certificate of Attendance for professional credit, and were provided with workshop materials and equipment that they could take back to their high schools and incorporate into their curricula. The training session was sponsored by Constellation, an Exelcon Company, [“Energy to Educate”](#) grant.



HHMI Inclusive Excellence empowers and challenges

The HHMI Inclusive Excellence program hosted several events this spring focused on community, research and teaching mentoring, and personal development. In April, the Community Building Strand finished up a four-part workshop series utilizing Playback Theatre techniques.

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On March 8, [RIT HHMI Inclusive Excellence](#) hosted Academy Award Winning Live Action Short Film [The Silent Child](#). Open to the RIT and Rochester community, this 20-minute film left a room-filled audience of more than 65 people, in awe, and highly aware of a pertinent message. The message for parents, teachers and community members was clear regarding how deaf children are regarded and the need for sign language to be taught to deaf and hard-of-hearing children—both at home and within the school system.

Sandi Connelly (Principal Lecturer, GSoLS) and Scott Franklin (Professor, SoPA) hosted a Coffee Chat in April titled, “Flip the Script” to help participants practice identifying a person’s positive qualities and non-traditional strengths first rather than automatically focusing on their shortcomings.

CASTLE, Advance, and HHMI also hosted seminar speaker Kristina Mitchell in April for her talk on “Gender Bias in Student Evaluations”.

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The three strands of the program, Research Mentoring, Classroom Practice, and Community Building, have just wrapped up their first of five years, and are recruiting again for more faculty and staff members to participate in the 2018-2019 school year with the goal of increasing diversity among undergraduate science majors.

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John Wiley Jones

Outstanding Students in Science



John Wiley Jones Outstanding Students in Science

Five College of Science Students were honored with the John Wiley Jones Outstanding Students in Science Award in a ceremony on April 5. These students were selected in recognition of their academic achievement and service to the College and/or RIT. Congratulations!

- Nicholas Wilkins, School of Mathematical Sciences
 - Benjamin Catalano, School of Chemistry & Materials Science
 - Nicole Cavanaugh – Thomas H. Gosnell School of Life Sciences
 - Bryanne McDonough – School of Physics & Astronomy
 - Kevin Kha – Chester F. Carlson Center for Imaging Science
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Recognition for Outstanding Service

The American Physical Society recognized [CASTLE Director](#), Scott Franklin as one of its 147 outstanding journal referees in 2018. The highly selective [Outstanding Referees Program](#) was instituted in 2008 to recognize scientists who have been exceptionally helpful in assessing manuscripts for publication in the APS journals. About 150 of the roughly 67,000 currently active referees are recognized for their service annually.



Provost's Leadership Opportunity Grant Recipients

COS Professors **Carl Lutzer** (SMS) and **Paul Craig** (SCMS) were both selected to receive the [Provost's Leadership Opportunity Grant](#) (PLOG) sponsored by the Provost's office and Faculty Career Development in the Innovative Learning Institute. They were awarded funds to attend the New Directors Conference hosted by the National Collegiate Honors Council this summer.



Cornell University Faculty Leadership Program

Two of our College of Science faculty members have been awarded scholarships funded by the Faculty Career Development office in the Innovative Learning Institute and the Office of the Provost to attend the five-day [Faculty Leadership Program](#) hosted by Cornell University. Professors **Andre Hudson** (GSoLS) and **Christopher Collison** (SCMS) will participate in workshops designed to enhance leadership and personal effectiveness skills, reflect on career and personal goals, and connect with colleagues from other universities.



Researchers awarded National Geographic Grant for work initially sponsored by COS DRIG

Christy Tyler (associate professor, GSoLS) and **Chip Bachmann** (associate professor, CIS) were recently awarded a grant of nearly \$30,000 from the [National Geographic Society](#) for their project titled, "Improving estimates of salt marsh resilience and coastal Blue Carbon". Their project was initially supported by a COS Dean's Research Initiation Grant.

Promotions and Tenure

We are delighted to announce promotions and tenure awards for our colleagues in the College of Science. We congratulate them for their accomplishments and thank them for their dedication to our students and for their contributions to their academic unit, our college, and our university.

Promotion to the Rank of Senior Lecturer:

Michelle Chabot, School of Physics and Astronomy

Elizabeth DiCesare, Thomas H. Gosnell School of Life Sciences

Kristina Driscoll, School of Physics and Astronomy

Harold “Tim” Goodwill, School of Mathematical Sciences



Awarded Tenure:

Dr. Jie Qiao, Chester F. Carlson Center for Imaging Science



Awarded Tenure and Promotion to the Rank of Associate Professor:

Feng Cui, Thomas H. Gosnell School of Life Sciences

Moumita Das, School of Physics and Astronomy

Paul Wenger, School of Mathematical Sciences



Promotion to the Rank of Professor:

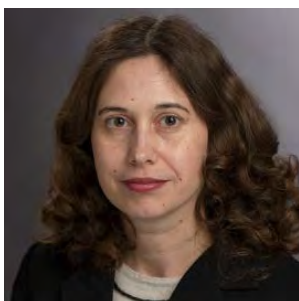
Raluca Felea, School of Mathematical Sciences

Christina Collison Goudreau, School of Chemistry and Materials Science

André Hudson, Thomas H. Gosnell School of Life Sciences

Akhtar Khan, School of Mathematical Sciences

Casey Miller, Office of the Dean



Visiting Assistant Professor making her mark on Rochester

[Kaitlin Stack Whitney](#), (GSoLS) visiting assistant professor in the science, technology and society department and the environmental sciences program, has been making her mark on the RIT community through a variety of publications, presentations, and community involvement. In March, she published an article on the accessibility of scientific papers and presentations for the journal *Frontiers in Ecology and the Environment*. Additionally, she presented on her ongoing research on highway roadside management as part of the first American Society for Environmental History Twitter conference on March 8–9. Dr. Stack Whitney was also invited by the Cards Against Humanity Science Ambassador Program to judge applications to their scholarship competition for college-bound women interested in science, technology, engineering or math.



Optical Society selects new member of Executive Committee

[Gabriel Diaz](#), assistant professor in the Chester F. Carlson Center for Imaging Science, has joined the executive committee of the Vision Technical Group of The Optical Society.



LSAMP & McNair Scholar selected for iREU experience in France

We're excited to share a [connection](#) to an RIT LSAMP (Louis Stokes Alliance for Minority Participation) and McNair Scholar who was selected to participate in the France/Belgium international Research Experience for Undergraduates (iREU) this summer. Xavier Thompson, a fourth-year economics major with a minor in chemistry, was selected to participate in the prestigious program during the summer of 2018. This research opportunity is offered annually in collaboration with Louisiana State University [\(LSU\) LSAMP](#) program. Congratulations, Xavier!

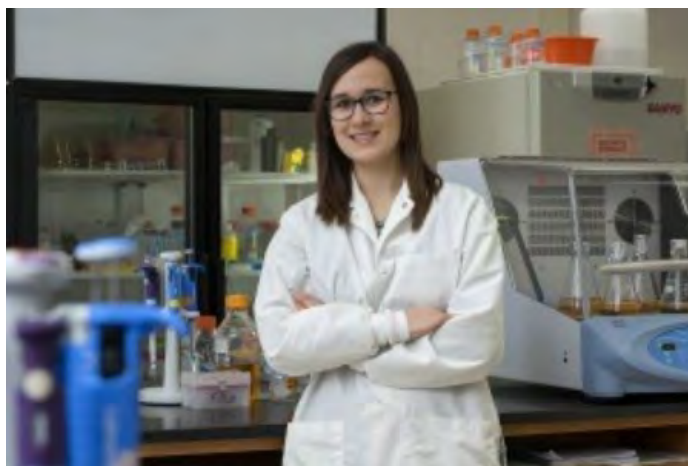
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RIT honors outstanding professors of the year

The [Celebration of Teaching and Scholarship](#), which honors the recipients of the annual [Eisenhart Awards](#), was held on Tuesday, April 17. The awards recognize members of the RIT community “who contribute significantly to student learning and academic scholarship.” Among this year’s recipients is [Nathaniel Barlow](#), assistant professor, SMS. Nate is the recipient of two awards, Richard and Virginia Eisenhart Provost’s Award for Excellence in Teaching and the Innovative Teaching with Technology Award. Congratulations Nate!

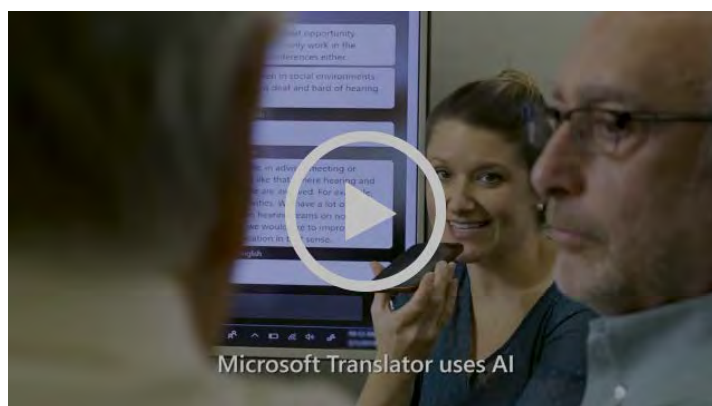
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RIT/NTID's Nicole Pannullo named 2018 Goldwater Scholar

Nicole Pannullo, NTID/SCMS, was RIT's only [Goldwater Scholar](#) this year among 211 total students nationwide and is also the first deaf RIT student to earn this prestigious award. She is working on a research project with **Lea Vacca Michel** (associate professor, SCMS), **Todd Pagano** (professor and associate dean, NTID) and several other mentors on a project titled "Probing the Two Orientations of Pal in Vesiculating E. Coli". She hopes that her research here will help her earn a PhD in regenerative medicine a career in the development of therapies for genetic disorders. Congratulations, Nicole!

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Microsoft Artificial Intelligence (AI) enhances live captioning for Deaf RIT students

Sandi Connelly, principal lecturer in GSoLS, made good use of new technology being shared with higher education through [Microsoft Translator](#) in her General Biology lectures this spring. On April 5, Microsoft announced its partnership with RIT to provide this service for students to receive live and automated transcription on their phones and computers. This initiative is aimed specifically at improving the quality of learning for students who are deaf or hard-of-hearing.

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RIT Honors its researchers and inducts new ‘PI Millionaires’

On April 18 several researchers from the College of Science were honored as recipients of Seed Funding Awards, NIH Grant Writer’s Boot Camp grants, and inducted as the latest RIT Principal Investigator Millionaires for the 2017 fiscal year. The celebration event, in RIT’s Fireside Lounge, was hosted by Sponsored Research Services, which has recognized 127 PI Millionaire researchers at RIT since 2001.

New class of PI Millionaires includes:

- **Charles Bachmann**, associate professor, CIS
- **Ben Zwickl**, associate professor, SoPA

2018 Seed Fund Award Recipients from COS are:

- **Pratik Dholabhai**, assistant professor, SoPA, for “Designing Advanced Complex Oxide Thin Films by Modifying Interfaces”;
- **Susan Farnand**, assistant professor, PoCS, for “Relating visual appearance to physical measurements for 3D printed samples exhibiting goniophotometric differences”;

2018 NIH Boot Camp funding recipients -- a program led by professors **Andre Hudson**, GSoLS, and **Hans Schmitthenner**, SCMS:

- **Moumita Das**, professor, SoPA;
- **Maureen Ferran**, associate professor, PoCS;
- **Lea Vacca Michel**, associate professor, SCMS

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University Gallery hosts exhibit of prints from space

Beginning March 22, an [exhibition of otherworldly photographic images](#) taken during NASA astronaut [Donald Pettit](#)'s time aboard three space flights is canvassing the walls at RIT's University Gallery through the end of April. The event kicked off with an opening reception in the gallery where nearly 200 visitors enjoyed refreshments while hearing from the astronaut himself about the techniques he used to capture these spectacular images. Later an audience gathered in Ingle Auditorium to hear more stories from space in a talk by Donald Pettit highlighting some scientific discoveries made while "just fooling around" during down time on his space missions.

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High Altitude Balloon 4 soars at Imagine RIT

Faculty researchers **Jennifer Connelly** (SCMS) and **Mihail Barbosu** (SMS) in RIT's Space Exploration program assisted student members with the [2018 launch](#) of the latest High Altitude Balloon (HAB4) over the Finger Lakes region to map vegetation density and orientation at this year's [Imagine RIT Innovation & Creativity Festival](#). The balloon infrastructure is equipped with stronger sensors, computer vision technology and lithium-polymer batteries, upgrades from previous years' versions. The [SPEX team](#) calls the equipment WUAP, which stands for "Where U at, Plants?" A GoPro camera onboard to record HAB4's path over numerous fields is covered by hand warmers, duct-taped onboard to keep it safe and warm, explains Drew Walters (5th year student, CAST). "It is probably one of the ambitious launches we've ever done," he says.

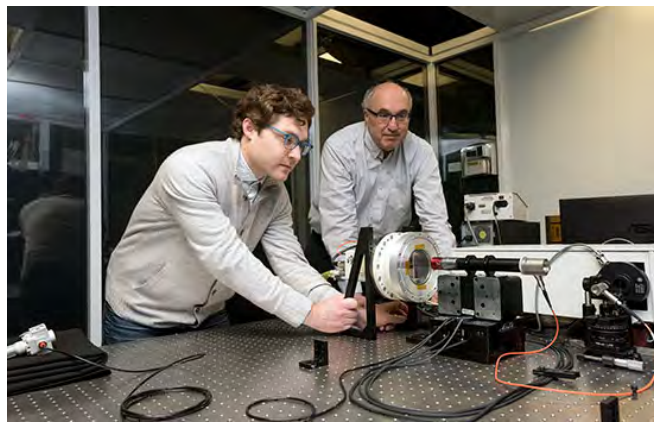
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Graduating biotech major found enriching experiences at RIT

Biotechnology and molecular bioscience senior **Ashley Adair** will be the first in her family to earn a college degree this May. She is also one of the first RIT students to graduate from a [CASTLE program](#) that equips STEM (science, technology, engineering and math) majors with skills for navigating college. Read more about Adair's journey to a career in biotechnology with mentor and research advisors **Dina Newman & Kate Wright** (GsoLS professors). Adair plans to pursue a master's degree in assisted reproductive technology, hopefully at her first choice school, Colorado State University.

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RIT scientist modifies digital cinema technology for future space missions

RIT scientist **Zoran Ninkov** modified Texas Instruments' [Digital Micromirror Device](#)—the micro-electro-mechanical systems, or MEMS, device found in Digital Light Processing projectors—to simultaneously capture light signatures from multiple objects in the same area of sky. The RIT astronomical imaging system is competing with other technologies for deployment on future NASA space missions for surveying star and galaxy clusters.

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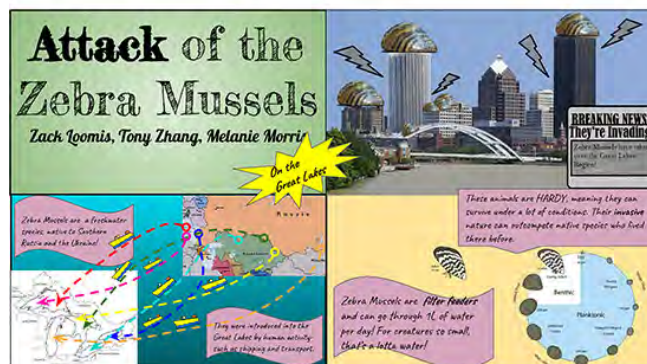


Study-abroad program adapts to better serve students

[Study abroad at RIT](#) has been undergoing a quiet transformation in the past five years with the growth of short-term international programs, an increase in faculty-led opportunities and a stronger connection to RIT's global campuses.

More than 400 students studied abroad in 2016-2017, a record number for the university and that figure is expected to increase in coming years. **Christy Tyler**, Associate Professor (GSoLS) and **Carrie McCalley**, Assistant Professor (GSoLS) talk about their faculty-led trip to Russia last year and this year's repeat visit with a new cohort of students.

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RIT students' Great Lakes research displayed at Port of Rochester

Shipwrecks, invasive species, and industrial production are just a few topics of Lake Ontario researched by Rochester Institute of Technology students, with their findings on display until mid-May at the Port of Rochester terminal building. The displayed posters and "zines," miniature magazines available for visitors, are the result of student group semester projects in a Great Lakes class, taught last fall in RIT's science, technology and society department. Each display covers a different topic related to the history of Lake Ontario, with topics picked and researched by the students, said **Kaitlin Stack Whitney**, a visiting assistant professor who taught the class. **Zack Loomis**, a third-year environmental science major from Erie, Pa., was part of a team that researched the impact of zebra mussels in the lake.

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Computational Mathematics major in Tiger Tanks Finale

On April 5, three College of Science students took First Place in the finale of the [RIT Tiger Tank competition](#)! **Nicholas Wilkins** (Computational Mathematics), **Caleb Kellicut** (Computational Mathematics), **Ambar Itzel** (Applied Mathematics and Imaging Science), worked with students from Industrial Engineering, Computer Science, and Mechanical Engineering on a project called SignSpeak, A communication system for deaf and hearing users that interprets American Sign Language into English and transcribes spoken English conversations when interpreters or captionists are not available. Congratulations on your accomplishment! **Nicholas Wilkins** was also one of the recipients of the 2018 John Wiley Jones Outstanding Student awards and the [2018 RIT Outstanding Undergraduate Scholars award](#).

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Interim Ombudspersons appointed this spring

Lee Twyman, RIT's ombudsperson, will be out of the office until May 14. **Laura Tubbs**, SCMS and Bill Moore will be sharing the role of interim ombudsperson in her absence. Tubbs is a professor in the College of Science, SCMS, and has served in a variety of roles, including RIT ombudsperson prior to Twyman's appointment. The [Omsbuds Office](#) provides confidential, impartial, independent assistance to the entire RIT community to help manage and resolve conflicts, complaints, concerns, problems or help answer any questions.

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SPONSORED RESEARCH

Peter Bajorski, SMS, is the PI on a \$72,244 grant from the DHHS, NIH/Litron Laboratories to support the project titled, "Next Generation Testing Strategies for Assessment of Genotoxicity"

Manuela Campanelli, SMS, is the PI with Co-PI **Yosef Zlochower**, SMS, on an \$8,155 grant from NSF to support the project titled, "Collaborative Research: Photos from Binary Black Hole Inspirals"

John P Kerekes, CIS, is the PI on a \$699,919 grant from the DOD Department of the Air Force, Materiel Command/Kitware, Inc. to support the project titled, "Global Surveillance Augmentation Using Commercial Satellite Imaging Systems (Phase III)"

Robert Kremens, CIS, is the PI on a \$40,024 grant from USDA Forest Service to support the project titled, "USFS FBAT Instrumentation Upgrades"

Darren Narayan, SMS, is the PI on a \$66,993 grant from NSF/Mathematical Association of America to support the project titled, "PIC Math: Preparation for Industrial Careers in the Mathematical Sciences"

Andrew Robinson, SoPA, is the PI with Co-PI **Michael Richmond**, SoPA, on a \$73,393 grant from the Space Telescope Science Institute and NASA to support the project titled, "Revealing the circum-nuclear torus: HST imaging of active galaxies observed during a Spitzer reverberation"

Hans F Schmitthenner, SCMS, is the PI with Co-PIs **Irene Evans**, GSoLS, and **Joseph Hornak**, CIS on a \$474,279 grant from DHHS, NIH to support the project titled, "High Relaxivity PSMA-Targeted Contrast Agents for MRI of Prostate Cancer"

NEWSMAKERS

Newer Horizons: Scientist Pitch Pluto Probe as a Unique Deep-Space Telescope

Michael Zemcov, assistant professor, School of Physics and Astronomy, featured, *Scientific American*, March 12 ([Link](#))

Connections: The life and work of Stephen Hawking

Brian Koberlein, senior lecturer of physics, and Roger Dube, research professor and director, science exploration program, interviewed, WXXI.org, March 14 ([Link](#))

[RIT researcher reflects on Stephen Hawking's legacy](#)

Manuela Campanelli, CCRG and SOPA, was quoted in an article and video about Stephen Hawking, March 14, 2018. WROC-TV

[Are tennis balls green or yellow? They're both, according to science](#)

Mark Fairchild, professor and director, Munsell Color Science Laboratory, quoted, *SB Nation*, March 22 ([Link](#))

Being the CEO of your career

Jie Qiao, associate professor, Chester F. Carlson Center for Imaging Science, featured, *Optics and Photonics News*, March 26

https://www.rit.edu/news/pdfs/Qiao_and_WiSTEE.pdf

Chinese space station headed toward earth

Don Figer, professor and director, Center for Detectors, interviewed, WROC-TV, March 28 ([Link](#))

ART | 'Portraits of a Planet: Photographer in Space'

Exhibit at RIT's University Gallery featured, City Newspaper, March 27 ([Link](#))

Space weather storms could set modern high-tech life back hundreds of years

Roger Dube, professor of Imaging Science, Newsweek, March 30 ([Link](#)) and The Conversation, March ([Link](#))