

October 2019



Message from the Dean

October arrived in all its stunning glory. Students and faculty alike enjoyed the gorgeous weather during **Brick City Homecoming** in mid-October where we celebrated the **30th anniversary celebration of the Chester F. Carlson Center for Imaging Science**. We enjoyed welcoming many COS families and alumni throughout the entire college and sharing current projects with our homecoming visitors.

COS staff took advantage of the quiet campus during **Fall Break** to gather for a professional development workshop put on by members of the COSSAC (College of Science Staff Advisory Council) team and outstanding COS Staff were recognized for their work during the **Presidential Awards** on October 8. Our COS retirees gathered for fellowship and storytelling at our 4th annual **Retirees Reception** and the college welcomed two **distinguished speakers** this month!

As if that's not enough, all the usual amazing teaching, learning, research, and fun carried us through the busy month. Read more about this incredible place in the stories below and follow us on social media to receive the news as it happens.

SOPHIA MAGGELAKIS
Dean, RIT College of Science

Student & Alumni News



RIT researchers win first place in international eye-tracking challenge by Facebook Research

A team of Rochester Institute of Technology researchers took the top prize in an international competition held by Facebook Research to develop more effective eye-tracking solutions. The team, led by three Ph.D. students from the Chester F. Carlson Center for Imaging Science, won first place in the [OpenEDS Challenge](#) focused on semantic segmentation. Congratulations to **Rakshit Kothari** of India (left), **Aayush Chaudhary** of Nepal (front) and **Manoj Acharya** of Nepal (back), the Ph.D. students who spearheaded the project.

[Read More >](#)

Our new 'Student to Student' spotlight series began when students expressed interest in hearing what fellow classmates are researching within the college. We hope our students will learn and inspire one another through these stories of research and experience. We're proud of our students and their accomplishments!

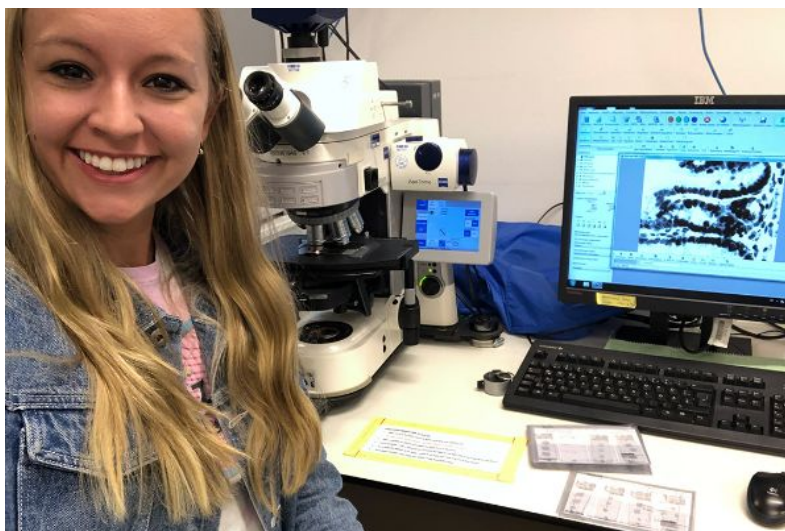


Student to Student: Degradation of blended polymers

Abby Rolston became aware of the amount of plastic waste that's thrown away each day while working as a veterinary assistant. Today her research is focused on the degradation of blended polymers provided by the Packaging

Science Department at RIT. She is a 2nd year Environmental Science MS student working with GSoLS Associate Professor Jeffrey Lodge.

[Read More >](#)



Student Spotlight: Pursuing research opportunities in Germany

Alexandria Shumway was selected to do research abroad over the summer through the Deutscher Akademischer Austauschdienst (DAAD) RISE program, or German Academic Exchange Service. Through this program, the fifth-year bioinformatics and computational biology (BS) and bioinformatics (MS) student from Delray Beach, Fla., traveled to Kiel, Germany, to complete her research at the Christian-Albrecht University of Kiel. Shumway stayed in Kiel from May to August 2019 conducting research on intestinal inflammation with a particular focus on ulcerative colitis, Crohn's disease and other chronic disorders. While there, she was advised by and worked with Berith Messner, a Ph.D. student from the University of Kiel.

[Read More >](#)



Ph.D. student selected for competitive fellowship

Astrophysical Science & Technology PhD candidate, **Brittany Vanderhoof** has been awarded an [IPAC Visiting Graduate Fellowship](#). This highly competitive award will fund Brittany to spend 6 months at the **Infrared Processing &**

Analysis Center at CALTECH next spring. She will work with Dr. Andreas Faisst on a project that will use observations of far infrared dust emission and CII (158um) line emission line from the Atacama Large Millimeter Array to study the properties of high redshift galaxies.



Chemistry student selected to attend prestigious graduate school prep program

Second year Chemistry student, **Patrick Edwards**, was invited to attend the **Stanford Graduate School of Business** [Introduction in Diversity in Doctoral Education and Scholarship \(IDDEAS\)](#) program November 14 and 15.

Participants have the opportunity to interact with world-renowned faculty and current PhD students in an informal workshop setting. There are opportunities to ask questions about the PhD degree, get exposure to research and cutting edge research topics, and connect with peers who are also exploring an academic and research career. Travel and accommodations will be provided for this two day event.



National Labs Career Fair

The office of Career Services & Cooperative Education hosted fourteen National Labs at the **National Labs Career Fair** on October 16 to recruit COS students for co-op or intern, research, and full-time opportunities. Prior to the event, panelists who have worked at a national lab in the past year met with

students to talk about their experiences and to offer tips for student success at the fair.



Brick City Weekend

The campus was abuzz with activity on **Brick City Homecoming Weekend**, October 18-20. The College of Science hosted a variety of events to appeal to all visitors: **Classes without Quizzes** were led by our COS faculty, including topics such as Navigating Pseudoscience, What do Black Holes Sound Like, and The Art of Nanotechnology: Beautiful Structures with Complex Functions. Student groups hosted a variety of hands-on activities in the atrium, while other alumni, faculty and students gathered for a networking brunch. The highlight of the weekend was the celebration of the **30 year anniversary of the Chester F. Carlson Center for Imaging Science**. More than 200 alumni were in attendance to share memories and see where the center is heading in the next 30 years. Save the date to join us for [Brick City Homecoming next year](#): October 23-25, 2020.





Halloween in the COS

Students, staff and faculty all enjoyed some Halloween fun in the College of Science. Assistant Professor in the School of Mathematical Sciences, Nate Barlow, showed off his time traveling skills during his Math-231 class. Mike Meyers stopped by to help out in Dr. Hans Schmitthenner's Molecular Imaging Agents lab, and students were invited to visit school offices for some Halloween treats in the afternoon.

Our Stories, News & Updates



RIT researcher receives NSF grant to help build a synthetic neuron and neural network

RIT Associate Professor **Moumita Das** is teaming up with researchers from six other universities to build synthetic neurons and a programmable network of such neurons in an effort to better understand the rules of life. The project is part of the National Science Foundation's "[Big Ideas](#)" initiative— 10 bold, long-term research and process ideas that identify areas for future investment at the frontiers of science and engineering.

[Read More >](#)

Presidential Awards for Outstanding Staff



Matt Casella '16

Coordinator of Admin Lab Operations
Center for Imaging Science



Tania Kleynhans '17

Associate Scientist
Center for Imaging Science



David Lake

Facilities and Operations Manager
Office of the Dean



Mary Pryor

Web and Social Media Coordinator
Office of the Dean



Corinne Teravainen '14

Student Support Services Specialist
Mathematical Sciences

Outstanding COS staff recognized

On October 8, staff from all around the university gathered to recognize the accomplishments of their colleagues at the annual Presidential Awards for Outstanding Staff. Five College of Science staff members were among those nominated and we were all excited to cheer as **Matt Casella '16**, Coordinator of Admin Lab Operations in the Center for Imaging Science, received the Rising Star award which recognizes a staff member who has been at RIT for less than 3 years, but has already made a substantial impact. Also nominated from the College of Science this year were:

- **Mary Pryor**, Web & Social Media Coordinator for COS, Office of the Dean
- **Tania Kleynhans '17**, Associate Scientist, Center for Imaging Science
- **David Lake**, Facilities & Operations Manager for COS, Office of the Dean
- **Corinne Teravainen '14**, Student Support Services Specialist, School of Mathematical Sciences

Congratulations to all for the public recognition of your outstanding work!



[Read More >](#)



RIT joins LSST Corporation to prepare for the most ambitious all-sky survey of the universe

Scientists are currently building the Large Synoptic Survey Telescope (LSST) on Cerro Pachón in Chile, which will conduct the most ambitious all-sky survey of the universe to date, and Rochester Institute of Technology is thinking about ways to mine through the treasure trove of data it will produce. RIT recently joined the [LSST Corporation](#), a group of nearly 40 U.S. and Chilean institutional members focused on preparing the scientific community to use the new facility. The LSST will carry out a deep, 10-year imaging survey in six broad optical bands over the main survey area of 18,000 square degrees. Membership to the LSST Corporation is sponsored by the College of Science.

[Read More >](#)



‘Coming of Age’ describes how a signature program shaped RIT’s future

A new book published by [RIT Press](#) documents Rochester Institute of Technology’s trajectory from a teaching institute to a research university with an expanding portfolio of doctoral programs. “[Coming of Age: The Center for Imaging Science at Rochester Institute of Technology](#),” by RIT professor emeritus **John Schott**, describes the university-wide impact of the center and first Ph.D. program. Archival photographs accompany Schott’s narration, highlighting historical milestones and leaders who shaped the center.

[Read More >](#)



Distinguished Speaker Series continues

The College of Science bookended the month of October with two speakers as part of the 2019-2020 Distinguished Speaker series.

Dr. Michael Webster of the University of Nevada, Reno was invited by the Integrated Sciences Academy to present his research on **Adaptation and the Visual Experience to a standing room only crowd** on October 2.

The Center for Imaging Science invited **Dr. Nancy Chabot**, Planetary Scientist at Johns Hopkins Applied Physics Laboratory to speak to a packed house about **Imaging the Planet Mercury** on October 30.



Retirees gather for 4th Annual Retiree Reception

Research indicates that one of the qualities leading to the greatest job satisfaction is working with people that you enjoy. We agree! What a joy it was to be reunited with our friends and colleagues from the past at our **4th Annual Retiree Reception** on October 28. Over 20 retirees returned to the Bruce & Nora James Atrium to share stories and news of their adventures, hear updates on the State of the College, and reconnect with former colleagues.



Inclusive Excellence group hosts workshops

The HHMI sponsored **Inclusive Excellence** group hosted two workshops this month with a focus on **Active Listening** skills on October 11 and **Unconscious Bias & Diversity Awareness** with the **Playback Theater** group on October 25. Faculty, staff, and students developed skills to create a culture of inclusion and acceptance throughout the College of Science using role play, discussion, and storytelling.



Mathematics researchers gather at RIT

On October 11-13 the School of Mathematical Sciences hosted the 33rd Midwest Conference on Combinatorics, Cryptography, and Computing. Organized by SMS faculty **Darren Narayan**, **Anurag Agarwal**, **Jobby Jacob**, **Brendan Rooney**, and Ebrahim Salehi from the University of Nevada Las Vegas, the international conference was attended by over 50 researchers from all over the world, including university faculty, graduate students, and undergraduates. The conference was proudly sponsored by the Office of the Vice President for Research at RIT.



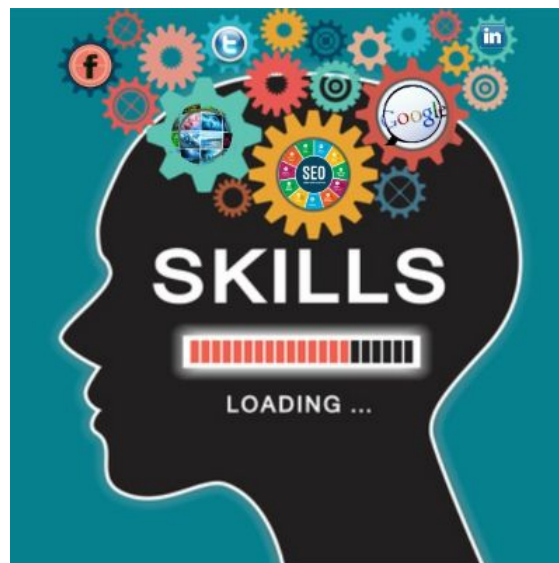
WISe Coffee Chat

Faculty, post-docs, and graduate students were invited to a coffee chat hosted by [Women in Science](#) in early October to learn about the Faculty and Dissertation Success Programs. Panelists introduced writing, time management, and planning resources available through RIT's institution membership in the [National Center for Faculty Development and Diversity](#). These resources can help writings to overcome writer's block, improve productivity, and navigate career transitions.



Sponsored Research Services hosts grant writing workshop

David Harrison and **María Cortés**, Senior Research Administrators for Proposal Development from the office of Sponsored Research Services, hosted a grant writing workshop on October 16. Faculty interested in developing grant proposals were led through a proposal development timeline and shown the basics of the PRF process and the resources that are available on the SRS website.



COS staff share digital skills

The **College of Science Staff Advisory Council** hosted a professional development workshop for staff members to share some tools that can help them in their daily tasks. **David Kozlowski**, Lab Safety Coordinator, uses fillable PDFs in his daily work. He walked participants through the basics of creating drop down menus and fillable forms using the Adobe Pro software package. **Christie Lutzer**, Sr. Staff Specialist in the Dean's Office shared her survey building skills using the Qualtrics tool.

Newsmakers

Sukanya Chakrabarti, assistant professor in RIT's School of Physics and Astronomy, has been awarded a [Scialog: Time Domain Astrophysics](#)

collaborative award from the Research Corporation for Science Advancement. Chakrabarti will use the funding to build an expanded dynamical map of the Milky Way using asteroseismic distances, expanding the map of our galaxy beyond Gaia's current all-sky view. The work will measure, for the first time, accurate distances for the outer galaxy and the halo of the Milky Way. The grant will also help fund astrophysical sciences and technology Ph.D. student **Peter Craig** as well as a postdoctoral associate to participate in the study.

Mark Fairchild, professor and graduate program director of color science/Munsell Color Science Laboratory and head of the COS Integrated Sciences Academy, presented "What sets the state of chromatic adaptation?" at the [OSA Fall Vision Meeting](#) Sept. 18-22 in Washington, D.C.

Bernadette Lanciaux, lecturer in the School of Mathematical Sciences, published "[Rethinking the statistics curriculum in the digital age](#)" in the 2019 issue of [JMP Foreword](#) (page 14). The column highlights innovations in our general curriculum statistics course.

Professor **Casey Miller**, Associate Dean for Research & Faculty Affairs, has been invited by the president of the National Academy of Sciences to serve as a member of the [Astro2020: Panel on State of the Profession and Societal Impacts](#). The panel will gather information on the health and demographics of the astronomy and astrophysics community and make actionable suggestions to the Astro 2020 committee on the topics of demographics, diversity and inclusion, workplace climate, workforce development, education, public outreach, benefits to the nation, and relevant areas of astronomy and public policy.

Associate Professor **Michael Radin**, SMS, has written a textbook, titled "Difference Equations for Scientists and Engineering: Interdisciplinary Difference Equations" to be published this November by World Scientific Publishing Company.

Sponsored Research

Scott Brown, CIS, is the PI on a \$99,782 grant from the Department of the Air Force and Etegent Technologies to support the project titled "DIRSIG Development Support to Etegent Technologies PEMS program."

Aaron Gerace, CIS, is the PI on a \$1,336,868 grant from the DOI Geological Survey to support the project titled "Improved Strategies to Enhance Calibration and Validation of Landsat Thermal Data and Their Associated Higher-Level Products."

Aaron Gerace, research faculty in the Chester F. Carlson Center for Imaging Science, won a \$692,535 award from NASA for simulation and modeling to support definition of Sustainable Land Imaging (SLI) system requirements. The SLI program is committed to extend the nearly 50-year data record of space-borne measurements of the Earth's surface collected from Landsat's reflective and thermal instruments.

Adam Goodenough, CIS, is the PI on a \$44,932 grant from the Department of the Navy and Arete Associates to support the project titled "DIRSIG Development Support to Arete Surface Zone Modeling Tool (SZT)."

Jeyhan Kartaltepe, SoPA, is the PI on a \$199,974 grant from NASA and the Space Telescope Science Institute to support the project titled "Toward a Robust Method for Identifying Merger Signatures in Deep Hubble Images."

Michael Murdoch, ISA-PoCS, is the PI on a \$49,997 grant from HunterLab to support the project titled “Spectral Characterization of Non-Isotropic Materials II.”

COS in the Media

RochesterFirst.com

[New tech at RIT may help find other planets](#)

WROC-TV talks to student Justin Gallagher and Professor Don Figer, director of the Center for Detectors, about a sensor technology that may contribute to finding other planets.

The Christian Science Monitor

[Shedding Light on Black Holes](#)

Manuela Campanelli, professor and director of Center for Computational Relativity and Gravitation interviewed.

WXXI.org

[Research at RIT aims to build neurons from scratch](#)

WXXI talks to Moumita Das, associate professor in the School of Physics and Astronomy, about her work with neurons and an NSF-funded project to build synthetic neurons.

OneZero

[Bee-friendly companies are getting the science of the crisis completely wrong](#)

OneZero talks to **Kaitlin Stack Whitney**, assistant professor in the science, technology and society department and the environmental sciences program, about the effect of corporations' efforts to protect honeybee populations.

Terra Daily

[Lakes worldwide are experiencing more severe algal blooms](#)

Terra Daily features research by alum, **Nima Pahlevan** '12 (imaging science).

The Conversation

[Curious Kids: How do my eyes adjust to the dark and how long does it take?](#)

Mark Fairchild, professor of color science and director of the Munsell Color Science Laboratory, explains how humans' pupils and light-sensing cells work for the “Curious Kids” series.

Intersections: The RIT Podcast

[Episode 24: Sports Analytics](#)

Sports analytics, highlighted in the real-life story told in the popular book and movie Moneyball, is transforming the landscape of college sports as well.

Matthew Hoffman, associate professor in RIT's School of Mathematical Sciences, and Ryan Stimson, author of the book Tape to Space: Redefining Modern Hockey Tactics, talk about the RIT Sports Analytics Conference that they founded and how analytics is shaping the larger sports world and making data cool.

Our mailing address is:
College of Science
84 Lomb Memorial Dr
Rochester NY 14623