RIT | College of Science

MONTH IN REVIEW

May 2020

COS Faculty and Staff

Message from the Dean

The month of May is always bittersweet at RIT as we celebrate the accomplishments of our new graduates and send them on their way to begin the next chapter of their lives. This year was especially bittersweet since we couldn't be together in person. Even so, we loved sharing the virtual celebration with the RIT community. The **College of Science Student Delegates** represented the **Class of 2020** well in their video messages and we were delighted to see so many messages of support and congratulations from family and friends near and far. Each of the schools in the college found ways to share the joy of the moment with their graduates in virtual celebrations. I could not be more proud of the innovation and creativity that our faculty, staff and students continue to show throughout this time of social distancing.

As the month came to an end, we were saddened by the civil unrest that our country is facing. At RIT, we are a community that values diversity and encourages discussions that help us understand one another's point of view and, while we're not perfect, we are striving to learn how to live and work together in harmony. I encourage everyone who has been touched by this to find time to attend the classes and workshops that are offered to the College of Science community through the **Inclusive Excellence** program or the offerings that are open to the entire RIT community through the **Division of Diversity and Inclusion**.

It is my sincere hope that you and each of your families are safe and healthy during this uncertain time. Be well. Be a force for good.

SOPHIA MAGGELAKIS
Dean, RIT College of Science

Student & Alumni News

Celebrating the Class of 2020

More than 23,600 people in 62 countries have watched a celebration of the Class of 2020 since it aired live on May 8. The event allowed RIT to virtually confer degrees, recognize graduates and celebrate their achievements. Watch the full ceremony on YouTube, and find more information about the 2020 celebration events at the RIT Class of 2020 website.

In addition to the official recognition events, in true RIT fashion, the student-run Electronic Gaming Society created a virtual RIT campus on Minecraft where they held a bonus virtual commencement ceremony a week after the official celebration. Minecraft users were able to participate in the ceremony in-game, while others could livestream the event on Twitch, YouTube and Mixer.

College of Science student delegates

Alaa Abdelmageed Ahmed and **Spencer Richman** were selected as the 2020 undergraduate and graduate student delegates, respectively, for the College of Science commencement ceremonies. Each college selects one undergraduate student and may also select one graduate student to represent degree candidates from the college – students whose overall personal achievement demonstrates the ideas of RIT including, but not limited to, academic achievement.

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College of Science 2020 Research Scholars

The Research Scholar designation recognizes graduating students who have displayed outstanding undergraduate research work. Students of excellence are nominated in each academic unit within the College of Science for this prestigious award. A full list of the 2020 Research Scholars can be found at the link below.

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COS students among a record number of HEOP graduates

For more than 50 years, the New York State Arthur O. Eve Higher Education Opportunity Program (HEOP) has provided academic support, financial assistance, and advocacy for eligible students who would otherwise be excluded from higher education due to academic and economic disadvantage. This year, a record 29 RIT graduates were HEOP participants, including 2 from the College of Science. Congratulations to our HEOP graduates!

- Cianna Hall, a biotechnology and molecular bioscience student from Rochester, N.Y. will be a maternal, child health and HIV/AIDS educator for the Peace Corps in Zambia.
- Nelmy Robles-Serrano, an imaging science student from Dunkirk, N.Y., will be an imaging science engineer for space and airborne systems at L3Harris in Rochester.

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Research propels student to top Ph.D. program

Newly graduated biotechnology & molecular bioscience major **KayLee Steiner** will continue to explore her passion for research at Vanderbilt University's School of Medicine.

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Biochemistry alumni inducted into professional honor society

A current RIT student and two recent graduates are part of the 2020 cohort of the American Society of Biochemistry and Molecular Biology (ASBMB) Honor Society XΩΛ, a select group of only 56 students from across the country. The students were recognized for their scholarly achievements, research accomplishments, outreach activities, and involvement in their ASBMB Student Chapter activities. The RIT inductees include **Nana Aikins**, a fourth-year biochemistry student originally from Ghana who now lives in Austell, Ga.; **Kevin Di Magno** ’20 (biochemistry) of Rochester, N.Y.;and **Sean Lewis** ’20 (biochemistry) of Delmar, N.Y. RIT has had 21 ASBMB XΩΛ Honor Society inductees since its inception in 2011.

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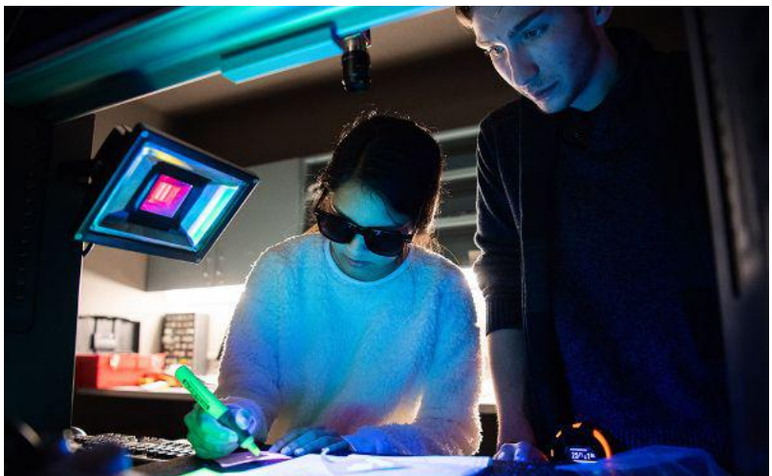

First-year students develop imaging system to study historical artifacts

A multidisciplinary team of first-year Rochester Institute of Technology students has been steadily working toward a singular goal since the fall: to develop an imaging system that can reveal information hidden in historical documents. The students are developing the multispectral imaging system for their **Innovative Freshmen Experience** project-based course.

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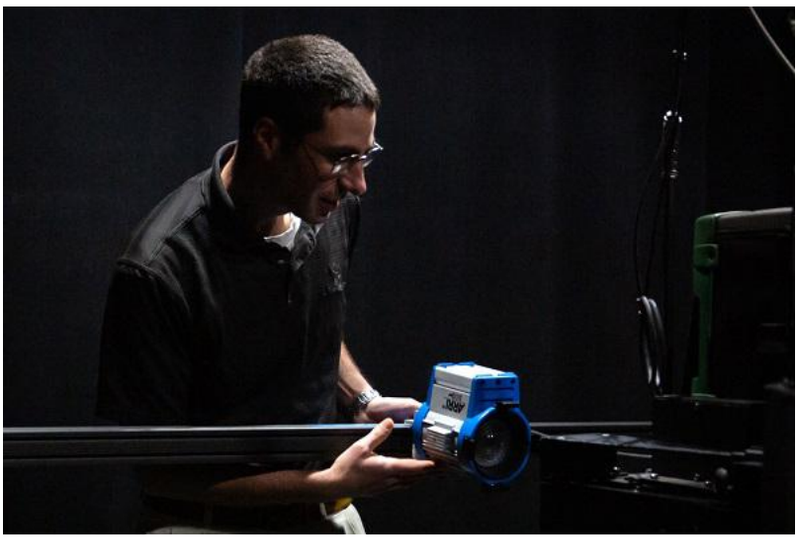

Student to Student: Remote Sensing

Benjamin Roth, Imaging Science Ph.D. candidate, credits his mentors for spurring his interest in remote sensing. His research focuses on retrieving accurate biophysical information on forest health from remote sensing platforms.

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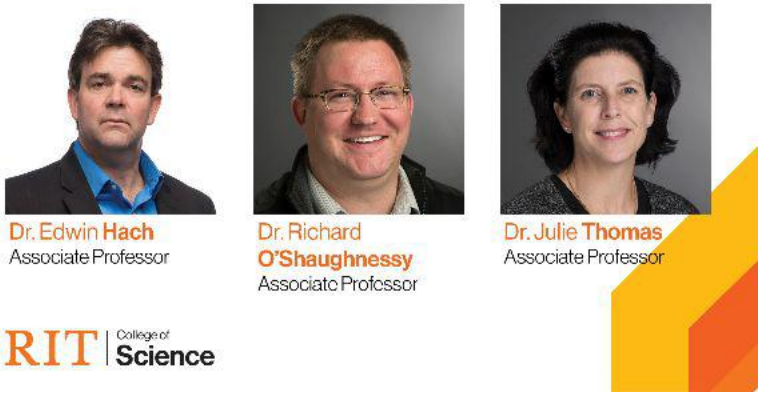
Our Stories, News & Updates



Promotions Announced

Please join me in congratulating our newly promoted colleagues for their accomplishments and thanking them for their dedication to our students and their contributions to their academic unit, our college, and the university.

To the Rank of Senior Lecturer:

- **Dr. Jennifer Connelly**, School of Physics and Astronomy

To the Rank of Principal Lecturer:

- **Dr. Joel Dreibelbis**, School of Mathematical Sciences

To the Rank of Associate Professor:

- **Dr. Nathaniel Barlow**, School of Mathematical Sciences
- **Dr. Michael Cromer**, School of Mathematical Sciences
- **Dr. Gabriel Diaz**, Chester F. Carlson Center for Imaging Science
- **Dr. Edwin Hach**, School of Physics and Astronomy
- **Dr. Richard O'Shaughnessy**, School of Mathematical Sciences
- **Dr. Julie Thomas**, Thomas H. Gosnell School of Life Sciences

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Professor Emeritus receives Fulbright Fellowship

Rochester Institute of Technology Professor Emeritus **Roger Dube** was recently awarded a prestigious Fulbright Fellowship. The fellowship will fund a project to increase retention of First Nations students in STEM higher education programs.

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RIT Honors Distinguished Faculty Awardees for 2020

RIT honored its 2020 class of Distinguished Faculty, innovators who have been able to explain ripples in space and time, the complex science of bubbles and illustrate the beauty and intricacy of the body. Each has made an impression within the academic and science communities—all three have inspired new science, technology and art—and generously shared knowledge and experience with students.

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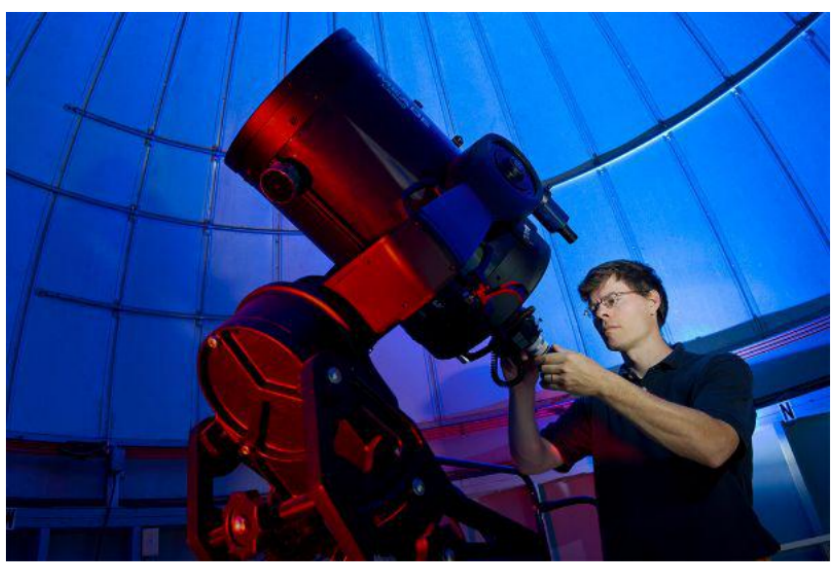

SoPA professor's passion for teaching physics and astronomy earns him the Eisenhart Award

Michael Richmond considers himself a "lucky guy." As a professor in RIT's School of Physics and Astronomy, he gets to spend his workdays talking about the subjects that have fascinated him since he was young. His passion for teaching physics and astronomy shines through so brightly that this year it earned him an Eisenhart Award for Outstanding Teaching.

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RIT scientists develop method to help epidemiologists map spread of COVID-19

Associate Professor in the School of Mathematical Sciences, **Nate Barlow** and Professor **Steven Weinstein**, head of RIT's Department of Chemical Engineering have collaborated to develop a method they believe will help epidemiologists more efficiently predict the spread of the COVID-19 pandemic. Their new study, published in *Physica D: Nonlinear Phenomena*, outlines a solution to the SIR epidemic model, which is commonly used to predict how many people are susceptible to, infected by, and recovered from viral epidemics.

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RIT researchers receive grant to study microplastic pollution in Lake Ontario

A team of Rochester Institute of Technology researchers will explore how tiny particles of plastic pollution are impacting Lake Ontario thanks to new funding from the National Oceanic and Atmospheric Administration's Sea Grant College Program. The multidisciplinary group led by Associate Professor **Christy Tyler**, from the Thomas H. Gosnell School of Life Sciences, will examine how microplastics are transported and transformed in the lake, where they ultimately end up and what effects they have on the ecosystem.

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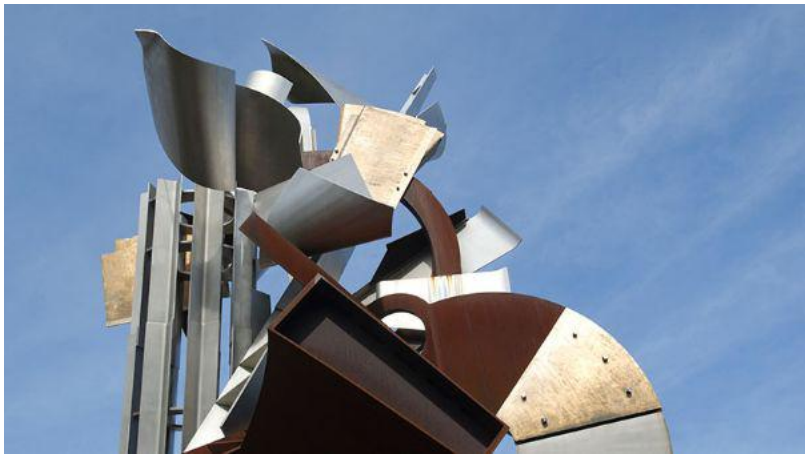
Student Government announces Extra Mile Award winners

Catherine Mahrt-Washington was one of four winners of the Student Government Association's Extra Mile Award. The RIT community was asked to nominate an individual faculty/staff member or a department on campus that goes the extra mile to enhance the student experience at RIT. This award honors those who truly go above and beyond the call of duty for students. The award was announced on April 28 at the annual Student Government Soiree.



2019 Faculty Scholarship Report

A new website was rolled out this month to highlight the successes of RIT faculty, whose research continues to promote innovation, collaboration and discovery. There are more than 1,800 scholarly works included in the **2019 Faculty Scholarship Report.** Many of RIT's students collaborated with our faculty on these projects. In all, 555 of the overall submissions were student-assisted.

When you visit the site, the main page recognizes featured faculty from across the university. Deans selected each of these faculty members for the outstanding contributions they've made in their fields. This year's collection represents the best of who we are as researchers, scholars and creative artists. You can also explore all faculty scholarly works from this site.

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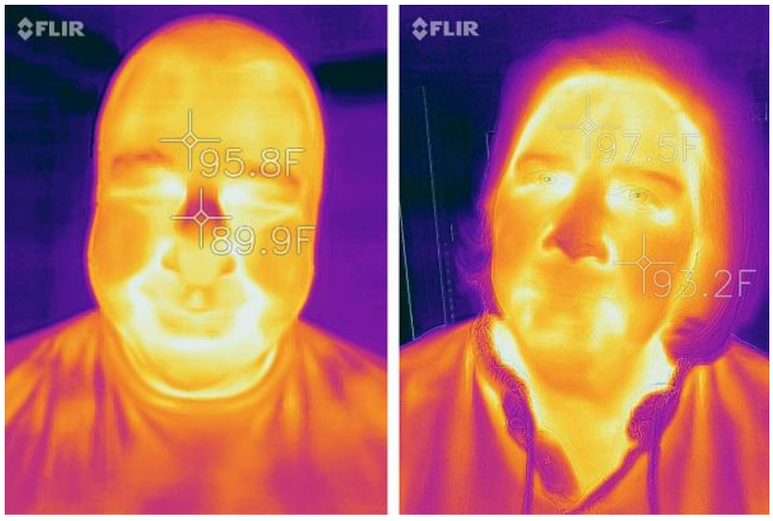

Real Life Science: Imaging Science Screening for Fevers with Thermal Imaging Technology

As the country continues to reopen, ensuring the health and safety of public areas remains a critical concern. Thermal imaging technology is one screening tool being utilized as part of a comprehensive health program.

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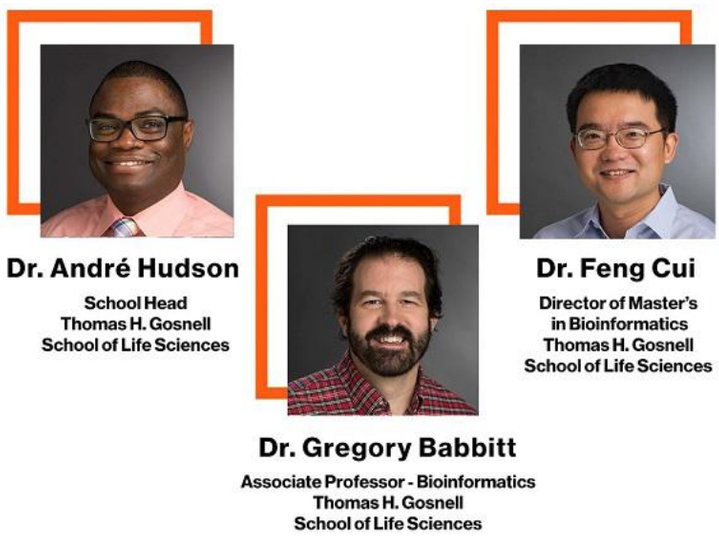
How to Mathematize the World Around Us

Faculty from the **School of Mathematical Sciences** hosted a discussion about how math modeling and other applied math specialties are used in real world scenarios, including the COVID-19 outbreak. Additionally, interested participants were able to get an overview of the MS in applied and computational mathematics, a 2-year graduate degree that sets job applicants apart from their peers in positions where reasoning, deduction, and logic are valued.



The Next Big Thing in Data Science: Biology

People interested in coding and computer science who also want to make a difference in personalized medicine or genomics were invited to attend a virtual information session about RIT's MS in bioinformatics hosted by faculty members in the **Thomas H. Gosnell School of Life Sciences**.

Building community during social distancing

Inclusive Excellence hosted a virtual **Diversity Theater Workshop** where participants were invited to share self-reflections, realizations, appreciations, and new ways of building community during this unprecedented time in history.

Mid-Infrared Sky Explorer project awarded

Assistant Professor of astrophysics and Center for Detectors faculty member **Michael Zemcov's** Mid-Infrared Sky Explorer (MISE) proposal was one of 8 projects selected out of 23 by NASA in their Astrophysics Science SmallSat Studies (AS3) program. The goal of the mission are broad, including the identification of near-Earth asteroids, measuring the Extragalactic Background Light (EBL), and investigating the properties of dust in nearby galaxies and AGN. The project will continue the tradition of injecting students at all levels in developing and using forefront astrophysics missions.

Sponsored Research

Manuela Campanelli, SMS-CCRG, is the PI with co-PI **Yosef Zlochower** (SMS-CCRG) on a $9,994.00 grant from the National Science Foundation to support a project titled "Supermassive Black Holes Approaching Merger: Accretion Dynamics, Jets and EM Signals."

Jie Qiao, CIS, is the PI on a $250,006.60 grant from the National Aeronautics and Space Administration & Aktiwave LLC, USA to support a project titled "Phase 2: Ultrafast Laser for 3D fabrication of waveguide lasers."

COS in the Media

WROC-TV

Lake Erie has 50 times more plastic pollution at the lake floor than at the surface

WROC-TV talks to **Matthew Hoffman,** associate professor in the School of Mathematical Sciences and mathematical modeling Ph.D. student, **Juliette Daily** about a new study on plastic pollution in Lake Erie.

Cleveland.com

Rochester Institute of Technology estimates 381 tons of plastic in Lake Erie – most of it on the bottom

Cleveland.com talks to mathematical modeling doctoral student **Juliette Daily** and Associate Professor Matthew Hoffman about their research on plastic pollution in Lake Erie.

City Newspaper

How much plastic is in the Great Lakes? Tons and tons.

City Newspaper talks to **Juliette Daily**, mathematical modeling Ph.D. student, and **Matthew Hoffman**, assistant professor in the School of Mathematical Sciences, about their research on plastic pollution in Lake Erie.

The Conversation

Coronavirus tests are pretty accurate, but far from perfect

Essay by **Maureen Ferran,** associate professor in the Thomas H. Gosnell School of Life Sciences, published by *The Conversation*.

WHAM-TV

Daily dose of COVID-19 numbers: advice for sorting out what's important

WHAM-TV talks to **Ernest Fokoue,** professor in the School of Mathematical Sciences, about sorting out COVID-19 data.

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