RIT | College of Science

MONTH IN REVIEW

# March 2020

## Message from the Dean

March truly came in “like a lion” and changed everything we knew about college life. The COVID-19 pandemic has caused university leaders all over the country to come up with plans to protect the health and safety of students, faculty and staff. As government leaders issued States of Emergency and pushed for citizens to stay home, RIT leaders decided to extend the spring break to give faculty time to transition courses to alternative methods of delivery for our students. RIT also made the heart-wrenching decision to ask students not to return to campus for the rest of the semester.

Everyone has had to adjust to the complexities of social distancing, online teaching & learning, working remotely, and sharing bandwidth with family members. In true RIT fashion, our students, faculty, and staff have risen to the occasion. As the month ended, it was clear that while on-line learning may not be the typical college experience, it is a change that we have embraced. I applaud the way in which our faculty and staff have embraced this transition. They have done a fantastic job supporting each other and managing through this fast-moving complexity and the grand experiment on which we have embarked. I feel blessed to be leading such an amazing team. They are a true inspiration to all of us!

We are looking forward to the time when we can all be together again in person. Until then, we still have pleasant news to share in the bulletin below. We would like to acknowledge outstanding contributions faculty have made, awards, recognitions, and plans for future opportunities to contribute to the College of Science community. I hope you will see that even in these unusual times, the people in the College of Science are doing extraordinary things.

We will weather this storm by continuing to work together to maintain and build our community in these challenging times.

SOPHIA MAGGELAKIS
Dean, RIT College of Science

# Student & Alumni News

## John Wiley Jones award winners announced

Every spring, the faculty of each academic unit within the College of Science selects a student to receive the **John Wiley Jones Award for Outstanding Students in Science**. Multiple factors are considered in the selection of the award recipients: academic achievement, citizenship, contributions to the quality of campus life, and Mr. Jones' belief that protecting the environment and making the world safer and more productive should be a top priority of science. Our celebration of these outstanding scholars was cancelled due to the COVID-19 precautions, but we are delighted to share the names of the 2019-2020 John Wiley Jones award winners:

- Chester F. Carlson Center for Imaging Science: **Gregory Nero**
- School of Physics & Astronomy: **Grace Fiacco**
- School of Chemistry & Materials Science: **Emily Mahoney**
- School of Mathematical Sciences: **Quinn Kolt**
- Thomas H. Gosnell School of Life Sciences: **KayLee Steiner**

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## SCMS student named Goldwater Scholar

We are thrilled to announce that 4th year chemistry major, **Emily Mahoney,** has been named a 2020 Goldwater Scholar. The Barry M. Goldwater Scholarship is the premier undergraduate research award in the fields of math, natural sciences and engineering. Emily is the 27th College of Science student to receive this honor since 2005. Emily was mentored by Associate Professor **Suzanne O'Handley**, and **Hans Schmitthenner**, research associate professor, both in the School of Chemistry & Materials Science.

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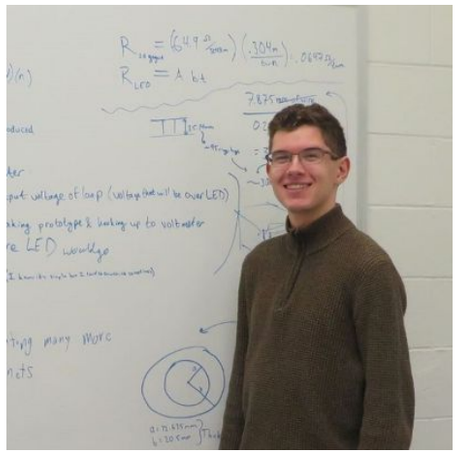

## CASTLE hosts LA Recruitment Fair

The **Center for Advancing STEM Teaching, Learning, & Evaluation (CASTLE)** held a virtual learning assistant recruitment fair for current students interested in joining the Learning Assistant program. The originally advertised date of March 18, was postponed due to the extended spring break. Interested students who missed the rescheduled event on April 1 can still get information on the program by checking out the recording of the Recruitment Fair on the LA website or by reaching out to **Emily Mehlman**, Learning Assistant Program Coordinator.

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## Alumni Update: Returning to guide the next generation of imaging scientists

**Karen Braun** '96 Ph.D. (imaging science) returned to her RIT roots in August as the associate director for the Chester F. Carlson Center for Imaging Science. Braun is the first woman to earn her Ph.D. at RIT.

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## Virtual Student Life

RIT's Division of Student Affairs is keeping students connected with information about ongoing service offerings and new virtual programming opportunities, open to all students, on the new Virtual Student Life web page. Resource listings will continue to evolve and grow as new programming opportunities are available. This space will house information for all student experience related programming – not just those functionally situated within the Division of Student Affairs.

Critical information and updates for the entire RIT community are also available on the RIT Coronavirus website.

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### Calling All Alumni and Friends

**Are you interested in helping students or faculty during this unprecedented time?** Tutors, dissertation reviewers, and more are welcome. Complete our Alumni Volunteer Interest Form and we will connect you with the right person within COS.

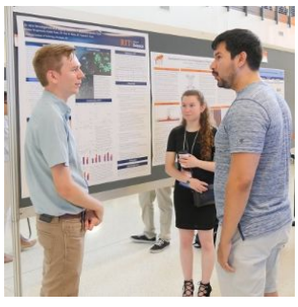
**Are you an alum doing good in the world?** RIT Tigers across the globe are doing great things to help during this global crisis and we want to celebrate your work! Let us know if you or other alums you know are Tigers Doing Good, and you might see your story in an upcoming RIT communication.

# Gifts from Alumni & Benefactors

### New undergraduate research fund established

We received a gift of $100,000 from Chemistry alum, **David Youngs, '76**, to establish the **Dr. Robert A. Clark Endowed Student Fund**. We are very grateful for this generous gift which will be used to support undergraduate research that was greatly valued and promoted by Dr. Clark.

Robert Clark was a professor of Chemistry from 1972 until his retirement from RIT in 2001. He served as dean of the College of Science from 1994-2001.



### Cancer research gets major boost

We received a gift of $100,000 from a generous benefactor to support the research project titled "*Highly Selective Anti-Cancer Chemistries*." This is an undergraduate research project led by GSoLS Professor **Gary Skuse** and **Ken Reed**, visiting research professor of Chemistry. The gift will continue the research efforts of a team of students including 3rd year biotechnology & molecular bioscience major **Emalee Wrightstone**, 2nd year chemistry major **Molly Roesch**, and 3rd year biomedical science major **Cory Kornowicz**.

# Our Stories, News & Updates

## COS Professor selected for distinction

Congratulations to **Manuela Campanelli,** professor in the School of Mathematical Sciences and head of the Center for Computational Relativity and Gravitation (CCRG), who is now recognized as one of **RIT's Distinguished Professors**. This honorary title signifies that, in the judgement of her peers, she has amassed a record of singular excellence sustained over the course of her career.

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## COS Professor honored for scholarship

Congratulations are in order for **Mark Fairchild,** director of the Color Science program and head of the Integrated Sciences Academy, who is one of the recipients of the **2019-20 Trustees Scholarship Award**.
The Trustees Scholarship Awards were established to recognize RIT faculty who have demonstrated outstanding track record of academic scholarship that is integral to all aspects of a student's educational experience at RIT. The selection process involves extensive review by a COS Trustees Scholarship Awards Committee, the COS Executive Council, and the Deans Council. The final selection is made by the Education Committee of the RIT Board of Trustees.

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## AST graduate program holds place in national rankings

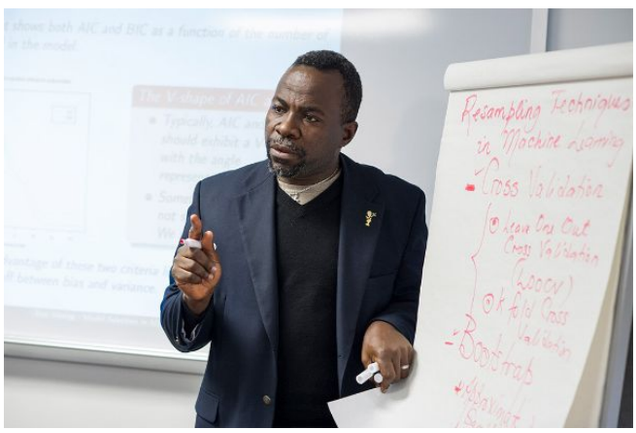
RIT's graduate program in Astrophysical Science & Technology has once again maintained its ranking among the top 100 schools in the US News & World Report's list of top graduate physics programs in the country. The AST program held it's spot at #69.

## Leadership Resource Allocation approved

**Manuela Campanelli,** director of the Center for Computational Relativity & Gravitation, was notified that her team will receive a significant resource allocation to conduct research on a project entitled “Supermassive Black Hole Approaching Merger: Accretion Dynamics, Jets and Electromagnetic Signals” using the new Frontera system at the Texas Advanced Computing Center. Additionally, a smaller Frontera allocation was granted to the research group led by Professor **Carlos Lousto**.

## COS welcomes new Marketing Director

We are pleased to introduce a new member of the College of Science team. **Cassandra Nickels** joined us this month as our new Marketing Director. In this new role, Cassandra will report to both the College and RIT Marketing & Communications to help strengthen and streamline our marketing efforts. With her substantial marketing background and data-driven mindset, Cassandra will help to develop a comprehensive marketing plan to elevate our core messaging and assist us in meeting our strategic goals. She will also ensure we align our college with the new branding initiatives implemented by RIT and work with each school to promote programs to increase enrollment and showcase our research.




## Exploring the art and science of statistical machine learning

UPDATED FROM FEBRUARY: Statistical machine learning is at the core of modern-day advances in artificial intelligence, but a Rochester Institute of Technology professor argues that applying it correctly requires equal parts science and art. Professor **Ernest Fokoué** of the School of Mathematical Sciences emphasized the human element of statistical machine learning in his primer on the field that graced the cover of a recent edition of *Notices of the American Mathematical Society*.

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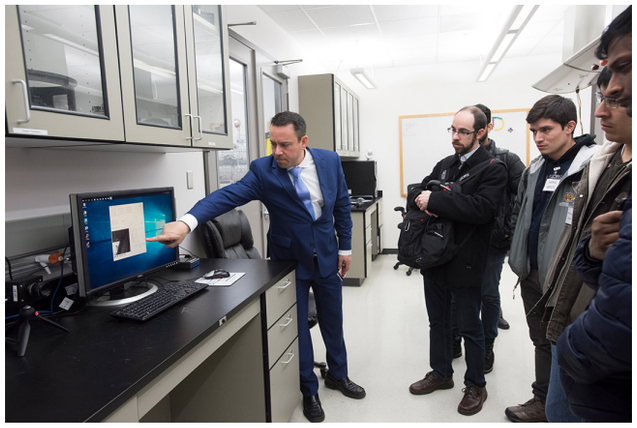

## RIT to host workshop exploring the intersection of photonics and quantum technology

Rochester Institute of Technology plans to bring international pioneers in the advancement of photonics for quantum devices to campus this summer for a special workshop. The **Photonics for Quantum Workshop 2** is planned for June 23-25 at the RIT campus, provided group meetings will resume by then. Organizers are monitoring the COVID-19 pandemic closely and will make a decision about whether to hold the event as a virtual workshop or delay it as the date approaches. You can follow updates on the workshop website.

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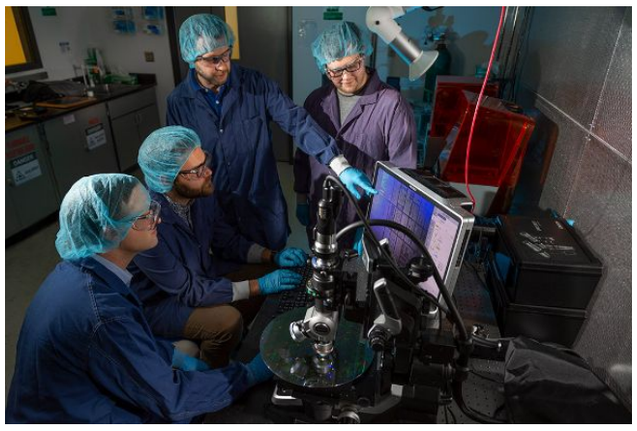

## Making a quantum leap

Researchers from RIT's **Future Photon Initiative**, in collaboration with the Air Force Research Laboratory, have produced the Department of Defense's first-ever fully integrated quantum photonics wafer.

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## RIT professor designated as an American Astronomical Society Fellow

UPDATED FROM FEBRUARY: A Rochester Institute of Technology professor is being honored as one of the first American Astronomical Society Fellows. **Joel Kastner**, a professor in RIT's Chester F. Carlson Center for Imaging Science and School of Physics and Astronomy, is part of an initial group of more than 200 Legacy Fellows recently named by the society.

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## Sponsored Research

**Peter Bajorski**, SMS, is the PI on a $11,262.00 grant from Rochester General Hospital Research Institute to support a project titled “Statistical Methods for the Serum Antibody Response Investigation.”

**Gabriel Diaz**, CIS, is the PI on a $393,205.00 grant from DHHS National Institutes of Health to support a project titled “Development and Assessment of Virtual Reality Paradigms for Gaze Contingent Visual Rehabilitation.”

**Earnest Fokoue**, SMS, is the PI on a $87,279.00 grant from the National Science Foundation & the University of North Carolina – Chapel Hill to support a project titled “Games, Decisions, Risk and Reliability (Yearlong program at the Statistical and Applied Mathematical Sciences Institute).”

**Yosef Zlochower**, SMS, is the PI on a $439,675.00 grant from National Science Foundation to support a project titled “Collaborative Research: Frameworks: The Einstein Toolkit ecosystem: Enabling fundamental research in the era of multi-messenger astrophysics.”

## Conferences & Publications

**Michael Murdoch**, assistant professor in the color science program, was elected to the Board of Directors of the Inter-Society Color Council, the principal professional society in the field of color in the United States. The ISCC runs annual conference events, many in partnership with its member color organizations, as well as webinars and other educational events.

**Grover Swartzlander,** professor in the Chester F. Carlson Center for Imaging Science, co-authored a feature titled “Light Sailing Into the Great Beyond” that was included in the February edition of Optics & Photonics News.

## COS in the Media

*WROC-TV*
**Measuring greenhouse gases in your backyard could soon be a reality**
WROC-TV talks to **Kalathur Santhanam**, professor in the School of Chemistry and Materials Science, and **Reeba Thomas**, a materials science graduate student, about a device that measures greenhouse gases in real time.

*Universe Today*
**Weekly Space Hangout: March 4, 2020 – Did RIT Scientists Find a Baby Giant Planet?**
Graduate students in the Astrophysical Science & Technology program, **Annie Dickson-Vandervelde** and **Emily Wilson** appeared on the Weekly Space Hangout video chat with their graduate mentor, Professor **Joel Kastner**, to discuss their discovery of what they initially thought was the youngest-known substellar object (aka “baby giant planet”) within about 300 light years of the Sun.

*The Conversation*
**How does the coronavirus test work? 5 questions answered**
Molecular biologist and viral researcher **Maureen Ferran**, associate professor of Biology in the Gosnell School of Life Sciences, answers some basic questions about how these diagnostic tests work – and if there are enough to go around.

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