

# R·I·T Science+Math

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## MONTH IN REVIEW

### Message from the Dean

Hello everyone,

I hope you're staying warm as we enter one of the busiest times of our academic year. Gosnell Hall has been busy too as we host distinguished speakers, visitors, and guests from the community.

Brick City Homecoming Weekend was an exciting time as we saw alumni, family, and friends return to the College of Science for our gala, our faculty speakers, and other events. We also hosted more than 300 area high school students at Gosnell Hall for Celebrate Science + Math, an outreach event held



**Sophia Maggelakis, Dean**  
RIT College of Science

concurrently with Brick City Weekend and welcomed back ten former students for our annual Alumni Honors Dinner.

Enjoy the last days of autumn as we move into November.

SOPHIA MAGGELAKIS  
Dean, RIT College of Science

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## October 2016

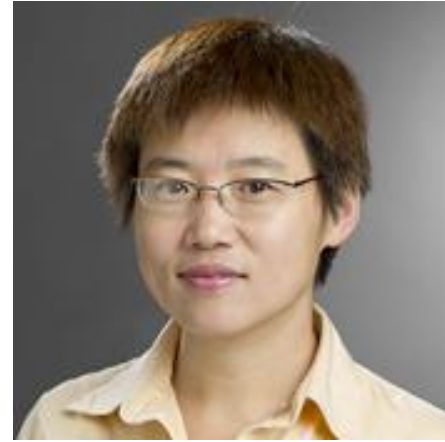
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### **RIT contributes to Optical Society's 100th anniversary meeting**

RIT had a strong presence at the centennial anniversary meeting of the Optical Society (OSA), an international organization with roots in Rochester. [Frontiers in Optics: The 100th OSA Annual Meeting and Exhibit/Laser Science XXXII](#) Oct. 17-21 in Rochester. The Future Photon Initiative had a technical exhibit promoting the university's presence in optics and photonics. The RIT initiative centralizes the university's related research to advance new photonic devices such as detectors, integrated silicon photonics and solar cells.



IT associate professor [Jie Qiao](#), founder and chair of [WiSTEE Connect](#) (Women in Science, Technology, Engineering and Entrepreneurship), collaborated with the OSA Foundation to organize the international symposium “Global Women of Light” as part of the OSA meeting. The symposium featured more than 20 international women entrepreneurs and leaders in STEM fields who will contribute to discussions on Intersecting Science and Entrepreneurship, a Work Smart Salary Negotiation Workshop and three roundtable discussions.



Additionally, the following from COS presented research at the conference:

- Grover Swartzlander, CIS associate professor and editor-in-chief of the *Journal of the Optical Society of America*, presented “An Orbiting Laserport for Low-mass Sailcraft Propulsion.”
- Recent alumna Alexandra Artusio-Glimpse, who earned her Ph.D. this year from RIT’s Center for Imaging Science, will present “Optical Energy Transfer from Relative Motion,” with Swartzlander and graduate student Jacob Wirth.
- Wenchao Ge, postdoctorate research fellow in RIT’s School of Physics and Astronomy, will present a poster on “Feedback-induced Bistability of an Optically Levitated Nanoparticle: A Fokker-Planck Treatment.” His co-authors are Brandon Rodenburg, postdoctoral fellow, and Mishkat Bhattacharya, assistant professor of physics and head of RIT’s Atomic, Molecular and Optical Physics Theory Group.
- Wyatt Wetzel, a physics major in Bhattacharya’s research group, will present a poster on “Multistability in Torsional Optomechanics” during the Symposium on Undergraduate Research at the OSA conference.

[University News >](#)

[Rochester Business Journal >](#)

[WXXI >](#)

### **COS hosts MAA Seaway Section meeting**

The Mathematical Association of America's Seaway Section held its fall meeting at Gosnell Hall October 21 and 22. The event was coordinated by Raluca Felea, associate professor in the School of Mathematical Sciences, and featured speakers from throughout the US as well as student presenters.

[science.rit.edu >](http://science.rit.edu)



### **RIT hosts workshop on unmanned aerial systems**

RIT hosted a workshop on unmanned aerial systems and the technological advances that are shaping this rapidly evolving field. “Low-cost, easy-to-use drone platforms have created an explosion of applications,” said Carl Salvaggio, professor in RIT’s Chester F. Carlson Center for Imaging Science, workshop sponsor and exhibits chair.

[University News >](#)



### **Women in Science host Yale epidemiologist**

RIT Women in Science welcomed Melinda Pettigrew, Professor of Epidemiology, the Associate Dean for Academic Affairs, and Title IX coordinator at the Yale School of Public Health. Pettigrew's presentation, "Tragedy of the commons: antibiotics and chronic obstructive pulmonary disease", was part of the WISE Distinguished Speaker Series.

[COS Events >](#)



## **COS faculty and students contribute to AMPrint Center**

3D-printed circuit board patterns processed in milliseconds and using a fraction of the electricity. Flexible solar cells that can be integrated into wearable technologies. An inner-ear drug delivery system consisting of small, powerful 3D-printed sensors. This is some of the innovative work underway at the New York State Center for Advanced Technology in Additive Manufacturing and Multifunctional Printing, or AMPrint Center that opened this month. Drs. Ken Reed, Scott Williams, and Chris Collison, as well as chemistry major Joseph Rose, contribute to the new center..

[University News >](#)

[3D Printing Industry >](#)



## **RIT Observatory celebrates 'International Observe the Moon Night'**

The Rochester Institute of Technology Observatory held an open house on Oct. 8 for [International Observe the Moon Night](#). The International Observe the Moon Night is an annual worldwide public engagement program intended to encourage observation, appreciation and understanding of the moon and its connection to NASA planetary science and exploration.

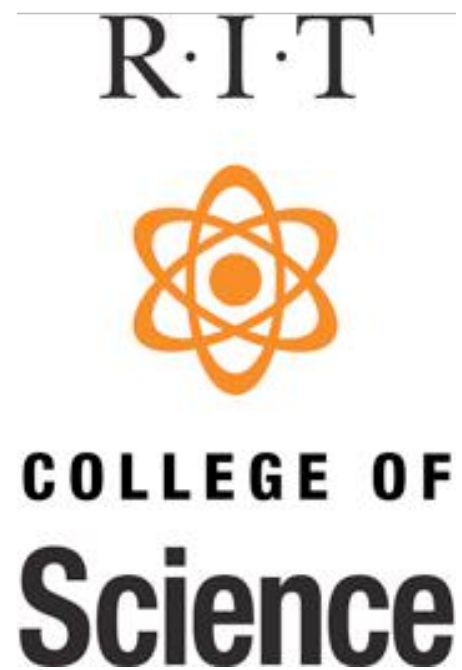
[University News >](#)



## **COS welcomes alumni back for alumni honors dinner.**

The College of Science hosted ten alumni and their families for a special recognition dinner on October 20.

[Biographies >](#)



## **COSSAB hosts Brick City "Speed Networking" event**

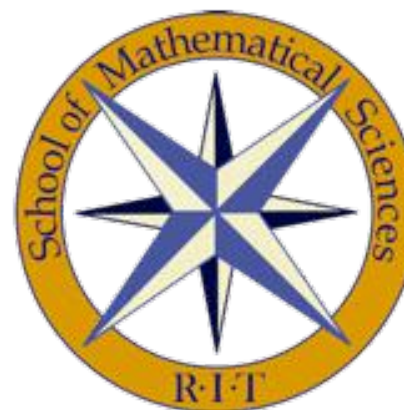
The College of Science Student Advisory Board hosted the First Annual Alumni, Faculty, Student and Families Speed Networking event during Brick City Weekend on Saturday, Oct. 15, 2016.



This inaugural event was the brainchild of [COSSAB](#) student members to formalize a process of engaging current students with alumni and faculty to gain sage advice regarding research, working in industry and academia, graduate school processes and work-life balance. Similar to speed dating rules, COS alumni, faculty, and students were given 3 minutes to discuss a pre-determined question before having to rotate to another table and discuss a different question. Afterwards, a general mingling time provided an opportunity to discuss topics in more depth.

### **Mathematical Modeling Ph.D. program holds informational session**

The School of Mathematical Sciences held an informational session for the Ph.D. program in mathematical modeling October 27. The program, which convenes in Fall 2017, trains students to become an expert in formulating complex real-world problems mathematically, integrating data with models, devising and implementing algorithms, analyzing and interpreting solutions, and communicating results to others.



### **CASTLE and Women in Science launch journaling club**

CASTLE and the Women in Science have introduced a new journal club/reading group for faculty, students and staff interested in pedagogical practices that support inclusivity. The club meets every other Tuesday at 9 a.m. Readings are short articles chosen for readability and effectiveness.



Breakfast food and coffee provided. RSVP to [jlssps@rit.edu](mailto:jlssps@rit.edu) appreciated but not required.

### **COS announces study abroad pathways**

The RIT College of Science has released a set of study abroad pathways to assist undergraduates interested in pursuing undergraduate education. Each of these curriculum lists clearly outlines how a student can integrate a semester abroad into their degree while minimizing impact on their time to completion.

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# Social Media

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# Halloween in the Atrium



Students from the College of Science and other RIT programs came in costume to Gosnell Hall October 31 for pumpkin decorating, refreshments, and a Facebook costume contest to see who could get the most "likes" from their followers. [Facebook Album >](#)



## **Celebrate Science + Math**

Students from Wheatland-Chili Senior High School try out the math maze at the October 14 Celebrate Science + Math event The College of Science hosted more than 300 high school students from 10 schools with exhibits representing all of our academic programs, a presentation from Dr. Bob Rothman about the Galápagos Islands, and tours of the community garden by Dr. Dawn Carter.

[Facebook Album >](#)



## Assessment: The Silent Killer of Learning

Eric Mazur, the Balkanski Professor of Physics and Applied Physics at Harvard University and Area Dean of Applied Physics, was the October speaker for the John Wiley Jones Distinguished Lecture Series. His talk, "Assessment: The Silent Killer of Learning", showed how traditional testing does not effectively measure student success and explored alternative assessment methods. [Facebook Post >](#)

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## Newsmakers

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**Manuela Campanelli**, director of the Center for Computational Relativity and Gravitation, presented "Black Hole Mergers, Gravitational Waves and their Gaseous Environments" at the Gruber Cosmology Conference at Yale University on Oct. 7 in celebration of the Gruber Cosmology Prize presented in July to Rainer Weiss, Kip Thorne, Ronald Drever and the entire LIGO team,

including members of Campanelli's center, for the first detection of gravitational waves from the collision of two black holes.

**Christy Tyler**, associate professor, Thomas H. Gosnell School of Life Sciences, collaborated with the Rochester Museum and Science Center to design \$1.2 million in "green infrastructure" features that allow stormwater to soak back into the ground through porous asphalt, rain gardens, stormwater tree pits, and other items. [RMSC >](#)

**Nathan Cahill**, associate professor, School of Mathematical Sciences, and Laura Rolston, '16 (applied and computational mathematics) won an honorable mention in the Best Paper Award category for "Interior and exterior shape representations using the Helmholtz equation," which published in the proceedings of the International Symposium ComplImage 2016.

**Jeffrey Lodge**, associate professor, Thomas H. Gosnell School of Life Sciences, was noted by the American Biogas Council for his project at Synergy Biogas in Covington to produce renewable energy from manure as well as launch a microalgae project to reduce an environmental concern, solve a disposal problem and lead to an alternative feedstock for fuel for vehicles. [ABC >](#)

**Joel Kastner** has been awarded a Smithsonian's Institution Short Term Visitor appointments for his for residency at the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts in March-April 2017.

**Kalathur Santhanam** received notice that a paper he has listed on Research Gate, "Electrochemical Deposition of Copper on Graphene with High Heat Transfer Coefficient" has reached the milestone of 100 reads.

**Renee Meinhold**, an applied mathematics major and honor student working with Nathan Cahill, has had a full paper accepted for presentation at the MIT Undergraduate Research and Technology Conference in November.



