

R·I·T Science+Math

MONTH IN REVIEW

Message from the Dean

Welcome back for the Spring 2017 semester. It's been a pleasure to see the renewed activity in our building as classes and laboratories resume their important work.

With students away and faculty still on holiday, January tends to be a quiet month at the College of Science—but not this year. We've announced the appointment of a new university president, David C. Munson, Jr.



Sophia Maggelakis, Dean
RIT College of Science

Please join me in congratulating those involved in the many awards and accomplishments listed below. I hope everyone in the College has a productive and rewarding spring semester.

SOPHIA MAGGELAKIS
Dean, RIT College of Science

January 2017

Academic Senate chair and COS faculty praises appointment of new president

RIT students, faculty, staff and alumni Wednesday enthusiastically welcomed the university’s 10th president, David C. Munson Jr., who begins his new post July 1. Chris Collison, chair of RIT’s Academic Senate and an associate professor in the School of Chemistry and Materials Science, was pleased Munson spoke about the overlap of student-centered success and research success. Kara Maki, assistant professor in RIT’s School of Mathematical Sciences in the College of Science, said Munson “seems to align with RIT’s interests. He seems to value the things RIT values.”



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AISES receives \$1.5 million NSF grant to boost Native American STEM participation

In a program called Lighting the Pathways to Faculty Careers for Natives in STEM, Roger Dube, Science Exploration director, has been selected as a mentor with the goal of increasing the representation of those members who pursue faculty positions in STEM



disciplines at U.S. colleges and universities. Dr. Dube has been connected with two Native students, an undergraduate at Berkeley and a graduate student at UC Boulder. Dr. Dube will provide specific feedback related to finding faculty positions in STEM disciplines, general career advice, information on higher studies, technical information, and personal encouragement.

Nathan Cahill wins early career award from international optics and photonics society

Nathan Cahill, SMS associate professor and associate dean for industrial partnerships, was named a Rising Researcher by SPIE, the international society for optics and photonics, for his contributions to defense and security research. Cahill is one of 10 early career professionals selected to receive the new award. The first cohort of SPIE Rising Researchers was chosen for their work in defense, commercial and scientific sensing, imaging and optics or in product development.



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NSF funds new REU in multimessenger astrophysics

Joshua Faber, SMS associate professor and program faculty member of Astrophysical Sciences and Technology, will lead a new Research Experience for Undergraduates at the College of Science. The National Science Foundation has awarded the new Multimessenger Astrophysics REU \$244,789 over three years to support eight student researchers.



[AstroREU website >](#)

RIT wins NSF grant to transform physics graduate education admissions and retention

Casey Miller, SCMS associate professor and director of RIT’s materials science and engineering graduate program, is collaborating with the American Physical Society on a \$428,022 NSF Research Traineeship award in Innovations in Graduate Education to increase diversity and physics Ph.D. completion rates among women, African Americans, Hispanic Americans and Native Americans.



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RIT seeks partnership with Moscow State University; RIT students visit Russia

A contingent from the College of Science traveled to Russia for a conference focusing on



opportunities for collaboration and student exchanges between the two universities. The meeting was held at the Zvenigorod Biological Station outside of Moscow. Five RIT students attended a short course on winter ecology held concurrently at the field station and taught by Carrie McCalley, GSOLS assistant professor, and Celia Evans, a professor of forest ecology at Paul Smith's College.

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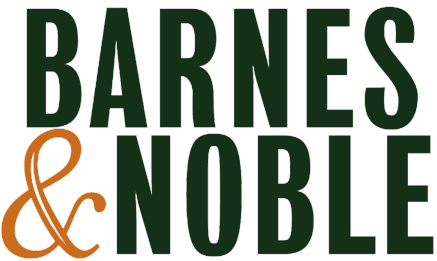
COS faculty return from Rwanda on Miller Chair–sponsored trip

Anthony Vodacek, CIS, traveled to Rwanda with Scott Franklin, SoPA, and Ernest Fokoué, SMS, to meet with the School of Inclusivity at the University of Rwanda College of education. The visit included the African Centers of Excellence in Higher Education, the ACE II in STEM education, a meeting on the topic of the "Internet of Things," and another on "Data Science." Dr. Fokoué gave a seminar at the African Institute for Mathematical Sciences. The group also visited the University Kibongo and met with the senior advisor for strategic development, research, and innovation.



Spring Science Cafés set to begin

The Rochester Science Café series resumes at the Pittsford Barnes and Noble with COS faculty on the schedule. Dr. Jeyhan Kartaltepe, SoPA, will speak on February 28 at 7 p.m. on the topic of "How Cosmic Collisions Shape the Universe." Also scheduled is Dr. Matthew Hoffman on April 25 and Dr. Jason Nordhaus on May 23.



Tamas Wiandt completes general education online development program

Tamas Wiandt has completed the program requirements for the Guided Online Learning Development (GOLD) program offered through the Innovative Learning Institute. He met with Teaching and Learning Services consultants for advice and assistance in developing a course and followed the Quality Matters rubric for course quality.



Commencement 2017 delegates announced

The College of Science has chosen **Melissa Koch**, a fourth-year Chemistry major, as our undergraduate student delegate, and **Tania Kleynhans**, MS candidate in Imaging Science, as our graduate student delegate for this year's Convocation and Commencement.



COS faculty receive Dean's NTT Faculty Professional Development grants

The following COS faculty members received funding under the Dean's NTT Faculty Professional Development program

- **Greg Trayling**, SoPA
- **Elizabeth DiCesare**, GSOLS
- **Deanna Olles**, SMS
- **Dawn Carter**, GSOLS
- **Bernadette Lanciaux**, SMS



Undergraduate workshop features sheep's heart dissection



Jamie Kunzmann, left, a second-year math and computer student at Stony Brook University, and Rachel Baumgarten, a fourth-year biomedical engineering student at RIT, dissected a sheep heart for the first time during the undergraduate Workshop on Dynamics of Excitable Systems, held Jan. 8-14 in RIT's College of Science. The workshop introduced students to using biology, math and engineering disciplines—especially electrophysiology—for understanding the heart's functions. Through lectures and collaborations, 18 students from RIT and other universities learned how mathematical models and computer simulations can advance research in medical cyber-physical systems and lead to future cardiac therapies. Elizabeth Cherry, associate professor in the RIT School of Mathematical Sciences and director of the mathematical modeling Ph.D. program, led the outreach effort associated with her National Science Foundation grant, Cyber Physical Systems: Frontier, Collaborative Research: Compositional, Approximate and Quantitative Reasoning for Medical Cyber-Physical Systems. Photo by A. Sue Wiesler.

Newsmakers

Mishkat Bhattacharya, assistant professor in RIT's School of Physics and Astronomy, gave three invited talks as part of the Quantum Information and Coherence program at the Indian Institute of Technology in Kanpur, Dec. 23-30, 2016. He also gave three invited presentations at a workshop on "Optomechanics, Orbital Angular Momentum and Spin-orbit Interactions of Light" at the Indian Association for the Cultivation of Science in Kolkata, Jan. 11-13.

Carlos Lousto, professor in the School of Mathematical Sciences and the Center for Computational Relativity and Gravitation, was presented with an award from the mayor of Lanùs, Argentina, his hometown, for his contribution to society and international science. Lousto's research contributed to the discovery, by the Laser Interferometer Gravitational-wave Observatory, of the first gravitational waveform created by the collision of two black holes. He was also awarded a \$267,736 allocation on the National Science Foundation-supported supercomputer, the Extreme Science and Engineering Discovery Environment (XSEDE). The continued allocation of computational resources, visualization and storage will support the center's research of gravitational waves from extreme black hole binaries.

Kristina Punzi, astrophysical sciences and technology Ph.D. candidate was featured in *Astronomy*, Jan. 10, in an article titled "[This small star may be dimming because it ate a Jupiter-sized planet.](#)"

Scott Franklin, SoPA professor and director of the Center for Advancing Science/Math Teaching, Learning & Evaluation was quoted in *AAAS*, Jan. 3 in an article titled "[Experts Seek to Boost Knowledge and Allies for Teaching STEM](#)"

