R·I·T Science+Math

MONTH IN REVIEW

Message from the Dean

The semester ended on a bright note last month as we said farewell to another group of talented undergraduates and graduate students. There was a heightened energy in the air at our college as students prepared for final exams, got their exhibits ready for Imagine RIT, and looked ahead to a new year of college or the next chapter of their careers as scientists or mathematicians.

As you will see in this month's newsletter, our faculty and students continued to win awards, earn grant funding, and produce exciting new research projects. The College of Science is a year-round research institution, and I am looking forward to seeing what we accomplish in our laboratories and in the field over the next two months.

Sophia Maggelakis, Dean
RIT College of Science

I wish you a restful, productive summer break, and if you are traveling, a safe

journey. I look forward to seeing you again in the fall.

SOPHIA MAGGELAKIS
Dean, RIT College of Science

MAY 2017

State education department approves MS in Data Science

The New York State Department of Education has approved our proposal to offer an MS in Data Science. This is a joint program with the Golisano College of Computing and Information Sciences and enables students to work with active researchers in the field of data science, analytics, and infrastructure.
RIT Program Page >

Teaming up helps capstone project take flight

A team of imaging science students spent the year giving wings to an idea that could help archaeologists find artifacts on the ground or buried a few meters below the surface. “The point of the project is to make an imaging system that clips onto a drone to fly over an archeological site,” said Leah Bartnik, project manager and a graduating senior in RIT’s Chester F. Carlson Center for Imaging Science.

University News >

Scott Franklin receives 2017 Isaac L. Jordan Sr. Faculty Pluralism Award

Scott Franklin, professor at Rochester Institute of Technology and director of the Center for Advancing STEM Teaching, Learning and Evaluation (CASTLE), won the 2017 Isaac L. Jordan Sr. Faculty Pluralism Award. The award is given to a faculty member at RIT for his or her commitment to diversity and inclusion at the university and within the Rochester community.

University News > RBJ >

Deaf RIT graduate defines strength in the face of adversity

Amie Sankoh has overcome many obstacles in her life—and her walk across the stage during this weekend's commencement ceremony for RIT's College of Science will mark the beginning of a new chapter. The biochemistry student, who is deaf and supported by the National Technical Institute for the Deaf, will begin studying in August for her Ph.D. at the University of Tennessee-Knoxville. One day she hopes to use her expertise to conduct groundbreaking research on vaccine development and disease prevention.

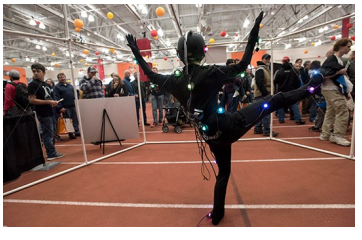
University News >

NASA astronaut photography gets big boost from students and faculty

An informal collaboration among RIT students, alumni and professors culminated in a meeting last week at NASA's Johnson Space Center in Houston. Kevin Moser, an imaging science student from Rochester, Minn., and RIT alumnus Peter A. Blacksberg '75 (photography) made the trip south to meet with the heads of various NASA departments and present an algorithm that Moser spent the last year developing under the Center for Detectors at RIT.

University News >

A decade of innovation and creativity engages thousands at Imagine RIT



The 10th Imagine RIT: Innovation and Creativity Festival drew big crowds, despite cool and rainy weather. Parking lots and exhibits were crowded as tens of thousands came to experience nearly 400 exhibits in science, technology, engineering, fine arts and mathematics, including student research projects and displays organized by campus clubs.

University News >

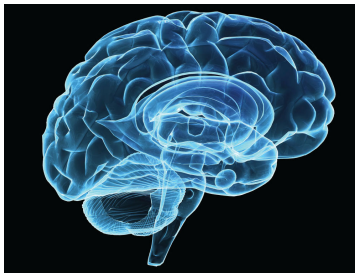
Ethan Wingenbach named new PC Systems Administrator

Ethan Wingenbach has been hired as the new ITS PC Systems Administrator in the College of Science replacing Michael Good, who has accepted a position at ITS Endpoint Engineering Services. Mr. Wingenbach will be joined by Jacob Shanks, a co-op student serving as his assistant.

Chip Bachmann honored at Provost's annual Faculty Scholarship Report launch party

Chip Bachmann, CIS, was a guest of honor at the Provost's Annual Launch Party for the Faculty Scholarship Report. He joined faculty from other RIT colleges, as well as NTID and RIT Croatia. The 2016 report marks yet another year of continued growth, with over 1,900 scholarly works included.

COS hosts Origins of Cognition symposium



The College of Science hosted faculty associated with brain and cognitive science at the University of Rochester. The group is proposing the creation of academic programs and a research center at RIT.

Women in Science hosts annual celebration and awards ceremony

RIT Women in Science held it's annual WISe Celebration on May 2 to award this year's Student Travel Award, and to announce the newly-formed WISe Student Ambassador program and its WISe Outreach Student Volunteers. Women in Science also recognized its sponsor, Laurie Axelrod, an RIT alumna and founder of the LEA Consulting Group.

COS approves five proposals to develop online courses

The RIT College of Science has approved funding for five faculty to develop online courses this summer. Those faculty members include Birgit Coffey, SMS; Michael Coleman, SCMS; Dawn Carter, GSoLS; Joel Dreibelbis, SMS; and Bernie Brooks, SMS.

Sponsored Research

Manuela Campanelli, CCRG, is the PI on a $300,000 National Science Foundation grant for a project titled "Collaborative Research: Curvilinear and Multipatch Methods for General Relativistic Astrophysics in the Gravitational Wave Era." The project will introduce two new techniques into the repertory of physicists studying strong-field gravity: multipatch methods and regularized spherical coordinates. The former is an infrastructure to permit efficient computation of heterogeneous systems involving multiple kinds of physics, multiple lengthscales, and multiple reference frames. Co-PIs are Joshua Faber,

Jason Nordhaus, and Yosef Zloclower.

Jan Van Aardt, CIS, is the PI on a $148,440 US Department of Agriculture and Cornell University project titled "Transforming White Mold Management in Snap Beans Through Remote Sensing." RIT w Cornell University support Cornell in their bid to the USDA for a study of remote sensing applied to the monitoring of disease in snap beans. This project will enhance the capacity of farmers to effectively capture the rapid advances recently made in the imaging sciences and precision agriculture for economic growth. Co-PI is Carl Salvaggio.

Joel Kastner, CIS, is the PI on a $135,015 NASA and Smithsonian Astrophysical Observatory grant titled "X-rays from Young Low-Mass Stars: Inhospitable Habitable Zones?" The irradiation of planetary-forming disks by high-energy radiation from magnetic and accretion activity at low-mass young stars likely plays an essential role in regulating the planet formation around such stars. To provide the X-ray data necessary to address the processes and timescales involved in the dissipation (loss) of protoplanetary disks around the lowest-mass stars, Kastner will conduct a Chandra X-ray Observatory imaging survey of a sample of previously established and newly-discovered very lowmass members of one of the nearest known young stellar groups, the 8-million-year-old TW Hya Association (TWA).

Paul Craig, SCMS, is the PI on a $97,372 grant from the National Science Foundation for a project titled "Collaborative Research: Using protein function prediction to promote hypothesis-driven thinking in undergraduate biochemistry education." This is a proposal for the second phase of a project bringing authentic research experiences into undergraduate biochemistry lab courses. In the first phase of this project, students on six campuses (California Polytechnic San Luis Obispo, Hope College, Oral Roberts University, Rochester Institute of Technology, St. Mary's University, and Ursinus College) have been participating in authentic research experiences in their undergraduate biochemistry lab courses. They have been integrating computational ("in silico") and wet lab ("in vitro") techniques as they characterize proteins whose three dimensional structures are known but to which functions have not been previously ascribed. Co-PIs are Herbert Bernstein, Jeffrey Mills, and Suzanne O'Handley.

Christy Tyler, GSOLS, is the PI on a $13,206 project entitled "Gateway Building Green Infrastructure Project." In partnership with the City of Rochester,

the Rochester Museum of Science Center, and the Water Education Collaborative, RIT faculty and Environmental Science students will develop and implement a monitoring program for the proposed Gateway Building Green Infrastructure Project. A keystone of our undergraduate environmental science program is our year-long group capstone course required of all majors during the final year at RIT.

Scott Williams, SCMS, is PI on a $10,255 grant from Metalcraft, Inc. for a project titled "Durable Black Ink Jet Ink Formulation for Aluminum: Nigrosine Optimization." The project will involve optimization of existing nigrosine black inkjet ink technology for direct write onto metal surfaces. Research will involve formula optimization to match the testing specifications of MetalCraft, Inc.

Social Media

RIT graduation

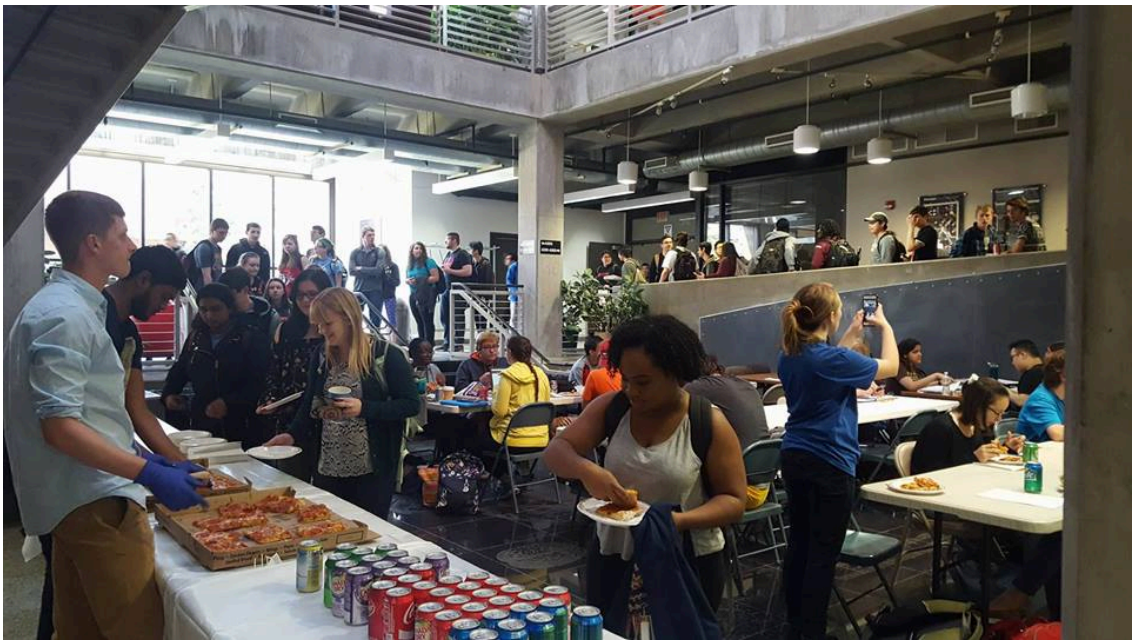
The College of Science bid farewell to its Class of 2017 undergraduates and graduate students and a sunny morning on May 20 in the Polisseni Center. Facebook Album >

Imagine RIT

The College of Science hosted more than 40 exhibits in Gosnell Hall and elsewhere on campus for the 2017 Imagine RIT Innovation and Creativity Festival. Facebook Album >

Imaging Science Air Force Alumni

In conjunction with the ImagineRIT festival, CIS hosted a successful reunion of Imaging Science Air Force alumni from across the country. Pictured here are the attendees, representing 40 years of the program's history.



Math Crash

The School of Mathematical Sciences held its annual Math Crash on May 14 to help students get ready for finals week.

Spring Picnic

Luke Laffey, a physics major, and Durnian Parulski-Seager I, chemistry major, work the grill May 12 for the COS Spring Picnic hosted by the COS Student Advisory Board.

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Newsmakers

Lake Erie Pollution

Matt Hoffman, SMS, was interviewed by WTVG in Toledo, Ohio, about his research on plastic pollution in the Great Lakes.

Gabriel Diaz, CIS, has been invited to be a subcommittee chair for the Vision and Color Section of Frontiers in Optics, the annual meeting of the Optical Society of America, that will be held Sept. 17-21 in Washington, D.C.

Joel Kastner, CIS, was quoted in a May 25 *Scientific American* article entitled "Newly Found Exoplanet May Have Ring System Dwarfing Saturn's."

Grant Tremblay, a Ph.D. graduate of AST and NASA Einstein Fellow at Yale University, was invited to speak at Awesome Con, a science fiction and popular culture convention in Washington D.C. June 16-18. Dr. Tremblay uses the world's most advanced space- and ground-based telescopes to study supermassive black holes and the evolution of galaxies where they reside.
Awesome Con >

Seneca Park Zoo has signed a formal partnership with RIT to suppose the zoo's initiatives. RIT students have worked with the zoo over the years in the areas of environmental science, museum studies and new media and game design however future collaboration may include students and faculty from hospitality, marketing, photography and K-12 education.
Rochester Business Journal >
Rochester Democrat and Chronicle >

Kaitlin Stack Whitney, GSOLS, published a guest essay May 19 on *Ensia* entitled "How grizzlies, monarchs and even fish can benefit from U.S. highways."