

**DEAN'S END OF THE ACADEMIC YEAR BULLETIN**  
**August, 2012**

I hope you are enjoying your summer!

I am pleased to share with you the 2<sup>nd</sup> Dean's Bulletin of the year which aims to inform you and to give you an update on the status of our initiatives, agenda items, and progress towards meeting the goals and objectives of our College. Below is an outline of our accomplishments and work in progress.

## UPDATES

**Calendar Conversion:** The Institute Curriculum Committee and Graduate Council has approved the converted curricula of all our programs, including foundation and general education courses, minors, and BS/MS programs. Almost all our programs have also been reviewed and approved by the New York State Department of Education. We are all very grateful to the COS Curriculum Committee members for the diligent effort they put into this important and time consuming task.

**Undergraduate Research:** Undergraduate research is central to the mission of our college and our institute. It combines faculty mentoring with student achievement, leading both groups to increased scholarship. The *Undergraduate Research Seminar* promotes interdisciplinary collaboration every Wednesday at 1:00 pm where faculty and students attend presentations given by students from our programs over pizza and soda. Over the summer our two NSF-REU programs attracted students from other universities who spent several weeks on campus conducting research with our faculty.

**Summer Undergraduate Research Fellowships:** Through fundraising we were able to support twelve Undergraduate Research Fellowships. Another ten fellowships were supported through the COS Honors Program funds.

**College of Science Staff Advisory Council (COSSAC):** A staff retreat was held last September, which resulted in our formation of COSSAC. They meet regularly and I join them once a month to receive updates, help advance their agenda, address any issues when they arise, and plan ahead.

**Staff Career Development Implementation Plan:** I worked with the COS Administrative Council and with COSSAC to develop a Staff Professional Development and Career Advancement plan that we will discuss with HR and plan to implement in the upcoming year.

**Evaluating Teaching Plan:** The COS Administrative Council and I developed a plan for evaluating teaching. This plan will be used in addition to course evaluations and will take effect in upcoming year.

**Course Coordination:** We have developed a robust Course Coordination plan that will be used for all COS multi-section courses in the coming year.

**Science Exploration Seminar for First Year COS Students:** We developed a model for an interdisciplinary and experiential learning seminar course for our Science Exploration program students. This will be piloted next year and it will be partially funded through a PLIG (Provost Learning Innovation Grant) grant.

**Retention:** We have developed a set of recommendations and best practices to be used for improving retention. Student grades will be reviewed quarterly and instructors will be asked to follow our recommendations for improving student success in courses identified by upper administration as problematic.

**Advising:** We have developed a COS Advising plan for our students and are in the process of aligning it with the advising plan of the Institute.

**Online Learning:** We are in the process of developing a plan for our college and identifying appropriate courses and programs that may be offered online.

**Student Involvement:** I continued meeting regularly with the College of Science Student Advisory Board (COSSAB) and the College of Science African American Latin American Native American Association (COSAALANA) to update them on COS activities, initiatives, challenges, and opportunities as well as to listen to their concerns and suggestions.

**Women in Science (WISe):** The Women in Science (WISe) program is off to a good start. We made significant progress this year through a number of successful activities:

- On April 19<sup>th</sup> we hosted a panel of female Ph.D. Candidates from the University of Rochester in the fields of Physics, Mathematics, Microbiology/Immunology, Biophysics, and Chemistry to talk about their experiences in graduate school.
- We had a Science, Technology, Engineering, & Mathematics (STEM) Career panel featuring successful STEM professionals who discussed with our students what they may do with their science degrees.
- WISe also hosted motivational speaker **Teena Fitzroy** who gave her presentation, "Overcoming Life's Challenges - 'Junk in My Trunk'" on April 13<sup>th</sup>. As well we brought in renowned astronomer **Thaisa Storchi-Bergmann** on July 12<sup>th</sup>, who gave a talk entitled, "Being a Woman Astronomer."

**Faculty Mentoring:** We developed and implemented two versions of the COS Faculty Mentoring Plan last September: one for the senior faculty and the department heads and the other for pre-tenure faculty. I held monthly breakfast meetings with the latter to provide support and to maintain open communication. We brought in guest speakers and held panel discussions on a variety of topics related to faculty success in the areas of teaching, scholarship, and RIT policy and process.

**Honors and Awards:** On May 11<sup>th</sup> we recognized a number of our outstanding faculty and staff at our 1<sup>st</sup> Annual Dean's Honors, Awards, and Recognition Ceremony. In addition to the COS Honors, Awards, and Recognition, a number of our faculty and staff were nominated and received Institute and other external honors, awards and recognition, which will be discussed later in this bulletin.

**COS Advisory Board:** A College of Science External Advisory Board has been established. Its purpose is to support the mission and guide the vision of the College. The Board is comprised of a panel of prominent scientists and mathematicians, high-profile alumnae, individuals familiar with Federal or State science funding and policies, industry leaders, influential community leaders, and educators prominent in science pedagogy at the college and/or K-12 level. We held our first meeting on July 11<sup>th</sup>.

**COS Strategic Plan:** We completed our strategic plan which was presented to our faculty and staff for approval at our April 13<sup>th</sup> COS Faculty and Staff Meeting.

**Summer Math Institute:** In July, we held our 4<sup>th</sup> Annual Summer Math Institute. Approximately 60 teachers from school districts both in New York and other states attended the week-long workshop. We invited professionals from industry, government, and academia to give presentations describing how they use high school mathematics in their professions.

**Development Plan:** We developed a prioritized *Case for Support* for our college titled, *The Campaign for 21<sup>st</sup> Century Sciences*. The development plan includes a Space Renovation Plan for the Gosnell building.

**Conversion of Workload Model to Semesters:** We converted our faculty workload model to semesters. The converted model was discussed and endorsed by the Provost and the COS faculty.

**COS Structure:** We created a structure for the College operations that will support the administration of various academic units that now make up the five schools, as well as multidisciplinary and disciplinary programs, and research centers and laboratories. The

structure is part of the COS strategic plan and was approved by the Provost and our Administrative Council.

**Space Audit and Space Plan:** We conducted a thorough audit of the space we currently occupy. This will be used along with our strategic plan to devise our space plan.

**COS Webpage:** We are almost done with the restructuring of the COS webpage ([www.rit.edu/cos](http://www.rit.edu/cos)). The COS academic units are now using this model to redesign and revamp their own pages.

## CELEBRATING OUR SUCCESSES

Congratulations to all our faculty, staff, and students for their accomplishments, successes, and contributions to our college and institute. For more details and news releases, please check: [www.rit.edu/cos/in-the-news](http://www.rit.edu/cos/in-the-news).

**Five Million Dollar Gift:** The Institute recently dedicated the **Thomas H. Gosnell School of Life Sciences**, in part with a \$5 million deferred commitment from Georgia Gosnell to benefit the school's academic programs in biology, bioinformatics, biotechnology and molecular bioscience, and environmental science. To acknowledge this and many other investments and services dating back to RIT's founding, the family was awarded the *2012 Nathaniel Rochester Society Award*, the society's highest honor, on July 12<sup>th</sup>. Georgia Gosnell and her son, Arthur, a member of the Board of Trustees, accepted the award on behalf of their family.

**Plum Pox Virus Testing:** Joseph Hornak and Paul Rosenberg on behalf of the Chemistry Department's **Plum Pox Virus Testing** project won *\$1,500,000 from the USDA* to fund research over the next four years.

**Sponsored Research:** activity from July 1<sup>st</sup>, 2011 to May 30<sup>th</sup>, 2012:

**Publications:** There were 237 refereed publications (appearing) that were reported by academic units.

**Awards received value:** \$10,135,664

- Proposal submitted: 143
- Principal Investigators (PIs) on submitted proposals: 68

- Co-PIs on submitted proposals: 37 COS, 16 outside of division

**Fundraising:**

- FY12 Attainment (through May 31, 2012): \$5,942,837
- FY12 Alumni Participation (through May 31, 2012): 7.5%
- FY11 Alumni Participation (full year): 9.1%

**STUDENT SPOTLIGHT**

Publications:

College of Science students **Victoria R. Nachar**, **Francisco C. Savka**, and **Sean E. McGrody**, among others and Assistant Professor Andre Hudson were accepted into the academic journal, *Frontiers in Evolutionary and Genomic Microbiology* for their original research entitled, "Genomic and biochemical analysis of the diaminopimelate and lysine biosynthesis pathway in *Verrucomicrobium spinosum*: Identification and partial characterization of L,L-diaminopimelate aminotransferase and UDP-N-acetylmuramoylalanyl-D-glutamyl-2,6-meso-diaminopimelate ligase." Victoria received the College of Science Undergraduate Fellowship last summer, which funded much of their work.

Imaging Science Doctoral Candidate **Abdul Haleem Syed** (RIT BS '08, electrical engineering) co-authored a paper with his advisors, Eli Saber, Professor of Electrical Engineering, and David Messenger, director of the Digital Imaging and Remote Sensing Laboratory in the Center for Imaging Science. The work, "Encoding of Topological Information in Multi-scale Remotely Sensed Data: Applications to Segmentation and Object-based Image Analysis," won Best Student Paper at the *International Conference on Geographical Object-based Image Analysis* in Rio de Janeiro, Brazil this past May.

Summer Research:

Third-year Physics student, **Junghune Nam** will be studying abroad this summer in Grenoble, France through the *Bachelor Summer Program at the Universite Joseph Fourier*.

Chemistry student, **Diane Catlin** has received the *Dr. Terry Morrill Endowed Student Research Fund* for research this summer. She will be working with Dr. Loraine Tan.

Chemistry students, **Emily Newman** and **Matt Goodrich** each received the *Young Alumni Chemistry Award* that will fund research this summer. Emily will be working with Dr. Lea Michel. Matt will be working with Dr. Jeremy Cody.

Scholarships & Awards:

Graduate student **Benjamin Parker** received the *American Indian Science and Engineering Society (AISES) 2012 Google Scholarship*. The scholarship covers \$10,000 worth of tuition and related costs for the entire 2012-2013 school year. In addition to the funding, he is invited to an all-expenses paid trip to the 2012 Google Scholars' Retreat in Mountain View, CA, where he will attend workshops and have networking opportunities.

Imaging Science Graduate Students, **Alexandra Artusio-Glimpse** and **David Kelbe** won awards from the *National Science Foundation Graduate Research Fellowship Program* that will provide \$30,000 in annual stipends over three years. Artusio-Glimpse won support for her project, "Optical Lift: Innovating Devices that Fly by Light." She was part of a team led by Grover Swartzlander, Joint Associate Professor of Imaging Science and Physics, that discovered optical lift. Their results were published in *Nature Photonics* in 2011. Kelbe was awarded for his project, "Linking the Real and Simulation Environments of Airborne Small Footprint Waveform Lidar." He is working closely with collaborators at the National Ecological Observatory Network.

The following COS Students are *2011-12 Outstanding Undergraduate Scholars*. They were chosen based on a 3.85 or higher GPA, over 125 quarter credits of coursework along with creative work, independent research, and university, college, and community service

**John Costanzo**  
**Christopher Grieco**  
**Kyle Grimaldi**  
**Caroline Houston**  
**Pierre Jean**  
**Jennifer Reardon**  
**Michelle Tabisz**  
**Maria Tobias**  
**Andrew Zemke**

Fourth-year Physics student, **Steven Ulrich** was the winner of RIT's *Public Speaking Contest* this past May.

COS Student Delegates: At this year's Academic Convocation, **Philip Salvaggio** was selected to represent the Undergraduate arm of the College of Science and **Danielle Raymond** its Graduate section. In addition, they both addressed the College of Science at its Commencement Ceremony.



Performance:

Astrophysical Sciences and Technology Ph.D. student **David Saroff**, collaborated with Film professors Stephanie Maxwell and Peter Byrne, as well as Eastman School of Music Ph.D. student Elizabeth Kelly to create a *10-minute video performance at the Experimental Media and Performing Arts Center* at RPI in Troy, NY called "Signal." In a truly interdisciplinary event, the video incorporated sequences from the Solar Dynamics Observatory made by David, abstract animations from Stephanie and Peter, and music composed by Elizabeth.

**FACULTY SPOTLIGHT**

Recognition:

*Science* magazine awarded the **Explorations in Physics** program its top prize for Inquiry-Based Instruction. The program is an activity-based curriculum that engages non-science majors in the study of real-world physics questions. The award recognizes outstanding, inquiry-based science curricula that have demonstrated increased learning. The program was designed by RIT Physics Professor **Scott Franklin** and two Physics Professors from Dickinson College.

The College of Science honored four new *Millionaire Award* winners - Principal Investigators whose cumulative funding since 2000 has reached over \$1 million: **Scott Brown, Mark Fairchild, David Axon, and Hans Schmitthenner**

Color Science professor **Mark Fairchild** has been named a *Fellow of the Optical Society of America*. In addition to his work in the Munsell Color Science Laboratory in the Chester F. Carlson Center for Imaging Science, Fairchild is the Associate Dean for Research and Graduate Education for the College of Science. His advancement within the Optical Society of America recognizes Fairchild's research contributions and commitment to education in the fields of color science and imaging science.

Honors:

**Joel Kastner** has won a *Trustees Scholarship Award*. He is a professor in the Chester F. Carlson Center for Imaging Science as well as the director of the Laboratory for Multiwavelength Astrophysics. The Trustees Scholarship Awards recognize RIT faculty who have demonstrated outstanding track records of academic scholarship. Up to three professors in the Institute each year receive this honor.

Congratulations to other nominees from the College of Science, **Don Figer, Carlos Lousto, Jeff Pelz, David Ross, Kalathur Santhanam, Tom Smith, Grover**

Swartzlander, and Jerry Takacs.

**Dr. Akhtar Khan** was the recipient of the *COS Scholarship Award*, sponsored by the Office of the Vice President for Research (OVPR).

Associate professor in the School of Mathematical Sciences, **Bernard Brooks** received an *Eisenhart Award for Outstanding Teaching*. The Eisenhart Award is one of RIT's oldest and most prestigious faculty awards and is given out annually to a very small number of full-time faculty members who have taught for over seven years.

Congratulations to other nominees from the College of Science, **Anurag Agarwal, William Brewer, Patricia Clark, Christina Collison, Rebecca Dagger, Phillip Dodge, David Barth-Hart, Dawn Hollenbeck, Andre Hudson, Vern Lindberg, Carol Marchetti, Dina Newman, Harvey Pough, Thomas Prevendoski, Harvey Rhody, David Ross, Jessica Salamone** (Adjunct), **Eric West**, and **Tamas Wiandt**.

The College of Science also had a handful of nominees for the *Outstanding Teaching Award for Non-Tenure Track Faculty*. Congratulations to **Dawn Carter, Rebecca Dagger, Dennis Glanton, Edwin Hach, Brian Koberlein, Carrie Lahnovych**, and **Thomas Prevendoski**.

Congratulations to **Andre Hudson**, nominee and one of the finalists for the *Richard and Virginia Eisenhart Provost's Award for Excellence in Teaching*. The award recognizes high quality teaching from faculty members who have taught for three years or less.

The following COS faculty members have been granted the title of *Professor Emeritus*:

**Dr. William Basener**, School of Mathematical Sciences

**Dr. G. Thomas Frederick**, Thomas H. Gosnell School of Life Sciences

**Dr. James Kern**, School of Physics and Astronomy

**Dr. Jerome Wagner**, School of Physics and Astronomy

**Dr. Paul Wilson**, School of Mathematical Sciences

### Research & Other Awards:

Imaging Science Professor **Roger L. Easton** was part of a team that recently recovered formerly illegible contents of an 1871 field diary kept by famed British explorer *David Livingstone*. They led the multispectral imaging work, including illuminating the diary with different light wavelengths that allowed the forgotten words to be read again.

Assistant Physics Professor **Mishkat Bhattacharya** has been granted a *Cottrell College Science Award* by the Research Corporation for Science Advancement. The award will provide



seed money to jumpstart his research program.

Chemistry Associate Professor **Tom Kim** has received a *Collaborative Research for Educational Assessment and Teaching Environments (CREATE) Fellowship* worth \$40,000 for his proposal, "Evaluation of spatial reasoning and its impact on learning in Organic Chemistry and Biochemistry." The Fellowship will fund Tom's sabbatical work next year at the CREATE for STEM Institute at Michigan State.

Four College of Science faculty members have received the *Boot Camp Seed Funding Award*, which includes a two-day workshop in persuasive writing and peer review supported by the Wallace Center and the Vice President for Research. The intention of the seed is to lead to more external funds. These faculty members are: Life Sciences Visiting Assistant Professor **Gregory Babbit**, Mathematics Assistant Professor **Elizabeth Cherry**, Imaging Science Assistant Professor **Jinwei Gu**, and Mathematics Assistant Professor **Kara Maki**.

*Faculty Evaluation and Development (FEAD)* grants provide monetary assistance to RIT faculty members who wish to pursue areas of professional development that address the Institute, college, or department's educational goals or strategic plans. This year, the following professors received FEAD grants: Mathematics Associate Professor **Nathan Cahill**, Chemistry Assistant Professor **Jeremy Cody**, Life Sciences Assistant Professor **Sandi Connelly** and Visiting Chemistry Assistant Professor **Loraine Tan** (joint proposal), Mathematics Assistant Professor **Baasansuren Jadamba**, Life Sciences Professor **Michael Savka**, Life Sciences Assistant Professor **Susan Smith**, and Life Sciences Assistant Professor **Christy Tyler**.

#### Dean's Research Initiation Grants:

The purpose of the Dean's Research Initiation Grants (D-RIG) is to provide seed funding that will help to jump start research projects and cross-disciplinary research clusters that will promote rich learning environments for our students and faculty. The following were the recipients of the First Call for Research:

##### *D-RIG Seed Funding Grants:*

Assistant Professor of Physics **Mishkat Bhattacharya**, Assistant Professor of Biological Sciences **Andre Hudson**, Assistant Professor of Mathematics **Akhtar Khan**, Assistant Professor of Chemistry **Lea Michel**, and Assistant Professor of Physics **Michael Pierce**.

##### *D-Rig Cross-Disciplinary Research Group Grants:*

For their joint research, **Nathan Cahill** (PI), Associate Professor of Mathematics, **Jinwei Gu** (co-PI), Assistant Professor of Imaging Science, **Raja S. Kushalnagar** (co-PI),

NTID Dept. of Information and Computing Studies, and **Sonia Lopez Alarcon** (Senior Personnel), Assistant Professor of Computer Engineering.

We are pleased to announce a new call for D-RIG proposals that will be due on September 1<sup>st</sup>, 2012.

### Community Work:

Environmental Science Professor, **John Waud** and his wife, Doris, a teacher at Fyle Elementary School in Henrietta, have spent part of every summer for the past twelve years doing conservation work in the Chiapas Region of Mexico on the Guatemalan border. Last June they worked alongside the congregation of Christ Clarion Presbyterian Church to donate \$6,000 to install a drinking-water treatment system in the village of Nueva Flor. They are also working with the nonprofit organization Fundación Cántaro Azul (Blue Jug Foundation) to provide the underserved village a water disinfection system using ultraviolet radiation.

### STAFF SPOTLIGHT

The **COS Department of Chemistry Stockroom Staff (David Lake, Paul Allen, John Gallucci, David Kozlowski, and Erin Madden)** was nominated for the team *Staff Recognition Award*, part of the Presidential Awards for Outstanding Staff.

### ALUMNI SPOTLIGHT

Astrophysical Sciences and Technology Ph.D. graduate **Rudy Montez** was awarded a *Chrétien International Research Grant* by the American Astronomical Society. He will receive \$8,500 to cover travel, salary, and publication expenses to travel to multiple countries working with many overseas planetary nebula research collaborators during his post-doctorate position at Vanderbilt University.

Bioinformatics BS/MS Graduate **Allison Griggs** was one of many co-authors published in the cover article of the June 14 issue of *Nature*. The article, "A framework for human microbiome research," describes the structure, function, and diversity of the healthy human microbiome.

### EVENTS

RIT hosted the **Project Kaleidoscope Upstate New York (PKAL-UNY)** regional network conference meeting this past January.

On June 5<sup>th</sup>, the **RIT Observatory** held the *Venus Transit Open House*, inviting the public to come and check out our neighboring planet when it was visible in the sky. The event received coverage from both YNN and an article in the *Democrat & Chronicle* entitled "Hundreds watch Venus transit of sun."

The *2012 Joint Workshop on Disaster Response* was held May 30 – June 1 at the Chester F. Carlson Center for Imaging Science Auditorium, with a field visit hosted by the University of Buffalo Center for Geohazards Studies. Featured speakers from federal agencies and the commercial sector included Brenda Jones, Disaster Response Coordinator from the U.S. Geologic Survey; Matthew Pritchard, Professor of Earth and Atmospheric Sciences at Cornell University; Ron Eguchi, President and CEO of ImageCat Inc.; and Shay Har-Noy, CEO of Tomnod Inc.

Over 200 COS faculty, staff, and students participated in 44 exhibits during the *Imagine RIT Festival* on May 5<sup>th</sup>. Here is a small sample of the exhibits included:

- 3D Imaging for Medical Applications
- Science in your Kitchen!
- 3D Planetarium!
- Cloud Chamber
- Environmental Explorations In Your Own Backyard
- Game Theory: Mathematizing your gut-feelings
- How do you Smash Black Holes in a Supercomputer?
- Hydrofracking 101
- Larger-Than-Life Piano
- Laser Maze
- Life of Stars: The Exhibit
- Liquid Nitrogen and Frozen Fun!
- Non-Traditional Bone Conduction
- River Otter Outreach

## SPEAKERS

We sponsored three lectures as part of the **College of Science Distinguished Speaker Series** - one during each quarter. All these lectures were well attended. For more information, see [www.rit.edu/cos/distinguished-speaker-series](http://www.rit.edu/cos/distinguished-speaker-series).

On April 17<sup>th</sup>, as part of the *College of Science Distinguished Speaker Series*, Emeritus Professor, **Varadaraja V. Raman** gave a talk titled, "Science and Religion in Today's World."

As part of the COS Alumni Speaker Series and in collaboration with Kevin McDonald, RIT was proud to welcome alumnus and renowned geneticist, **Dr. Rick Kittles** (Biology '89) to come and give a lecture, "The Role of Diverse Populations in Personalized Medicine" on April 30<sup>th</sup>.

Respectfully,



Sophia A. Maggelakis, Ph.D.  
Dean of the College of Science  
Professor of Mathematics