# DEAN'S MID-ACADEMIC YEAR BULLETIN

**January, 2011**

This is a follow up to Bulletin III that was distributed at the end of last academic year. The purpose of these bulletins is to inform our faculty and staff and to give an update on the status of this year's initiatives and agenda items and on our progress towards meeting the goals and objectives of our College. Below is an outline of our accomplishments and work in progress.

## A. CELEBRATING OUR SUCCESSES

Congratulations to all our faculty, staff, and students for their accomplishments, successes, and contributions to our college and institue. We are making news on a weekly basis. For details and news releases, please check: http://www.rit.edu/cos/newsandevents_releases.php

## B. ACADEMIC EXCELLENCE AND STUDENT SUCCESS

**Undergraduate Research**: *Weekly Undergraduate Research Seminar* is taking place on Wednesdays at 1:00 to promote interdisciplinary collaboration – pizza and soda is served. Faculty and students participate to listen to presentations given by students from our science and math programs.

**Ranking of our AST Program**: Our Astrophysical Sciences and Technology (AST) Ph.D. program has been ranked among the top 70 by the US News and World Report.

**Master's in Environmental Forecasting, Disaster Preparedness and Response:** An integrated science master's program focusing on environmental forecasting and disaster preparedness and response has been introduced. This integrated program, which is funded by the National Science Foundation, wraps around existing master's degrees in imaging science (with an emphasis in remote sensing), environmental science, and computer science. Graduates will apply the specialty training to their main field of study and gain a comprehensive understanding of the linkages among the business, policy and scientific components of disaster management. The program is affiliated with the Council of Graduate Schools and was added to its list Professional Science Master's programs (PMS) ( www.sciencemasters.com.)

**Women in Science (WISe)**: We have launched the COS Women in Science (WISe) program (http://www.rit.edu/cos/WISe/index.html). The WISe program seeks to engage women in the sciences and mathematics by offering information, equity, and collaboration opportunities that will break down barriers and will enhance their education and career(s) throughout their journey. We are currently in the process of forming a WISe Internal Advisory Board that will help us build and grow our WISe program.

**Study Abroad:** Kayla Weber, a senior biology major, sailed on the tall ship Corwith Cramer as part of a 12-week study abroad program, SEA Semester, offered through Sea Education Association in Woods Hole, Mass.

American College of Management and Technology (ACMT), RIT's campus in Dubrovnik, Croatia, hosted a group of nine RIT's pre-med students led by Dr. Douglas Merrill in the fall quarter of 2010/2011 academic year. During the ten weeks in south Eastern Europe students were engaged in activities of Croatian public school of medicine in Rijeka, Croatian hospitals in Rijeka and Dubrovnik.

**Honors Program**: We have 171 students in our Honors Program; 52 of them are incoming freshmen.

**Innovative Freshman Experience program:** First-year Imaging Science students are part of the center's Innovative Freshman Experience, where students are challenged with active learning from the outset. The project—in its first year—replaces the traditional yearlong lecture-and-lab sequence and gives passive learning the boot. It began with six imaging science students in the fall. By winter term, the group had jumped to 15 students from different majors, including game design, biomedical photography and civil and mechanical engineering. Students are asked to create something useful right away and to learn by doing, to seek out knowledge on their own, as they need it, and to apply what they are learning in their classes to build a system. For more details see: http://www.rit.edu/news/story.php?id=48019

**Student Recruitment**: We had successful open houses and the feedback we received was positive. Our projected enrolment numbers of most of our programs are up.

**Calendar Conversion**: The calendar conversion process is underway. A number of our faculty members are working hard to convert courses and programs. The COS Curriculum Committee has spent many hours reviewing our foundation and general education courses and our programs; the Committee is following the timetable and is meeting deadlines for submission of our programs to the Institute Curriculum Committee (ICC). The M.S. & Ph.D. programs in both Color Science and Imaging Science have been approved by the COS Curriculum Committee, Graduate Council, and Academic Senate.

All the programs of the Institute, including the programs of the College of Science, were reviewed through the Preliminary RIT Program Screening process that took place last April and May. Due to extremely low enrolments, a number of COS programs were identified as candidates for discontinuance. These programs were reviewed with the heads of the relevant COS academic units who in turn discussed these programs with their faculty. As a result of this analysis, the following programs will not go through the calendar conversion process:

- All the Associate Degree (AS) programs
- SCHW: Chemistry with Environmental Option, BS

- EEEO: BS Electrical Engineering/MS Material Science and Engineering
- SCLC: Clinical Chemistry, MS
- SCHM: Polymer Chemistry, BS
- SCHG: BS Chemistry / MS Chemistry
- SCHI: BS Biochemistry / MS Chemistry

There are no faculty or staff members who will be affected by this action. These programs will be deactivated until we hear from NYSED. We will need, therefore, to suspend the enrolment to these programs and to ask that this is noted in the appropriate bulletin and other marketing materials. We will also need to make sure that students who are matriculated in the above mentioned programs will receive the appropriate advising and will be able to complete their program of studies on time.

**Best Ph.D. Dissertation Award**: Congratulations to Rudy Montez, our first Astrophysical Sciences and Technology Ph.D. student, who is the recipient of one of the ten inaugural Rodger 'Doxsey' awards for the 'best Ph.D. dissertations' being presented to the American Astronomical Society meeting. The recipients were selected from among 103 Ph.D. dissertations and Rudy's thesis work was rated among the top 10% dissertations. His advisor is Dr. Joel Kastner.

**Best Paper Award**: Congratulations to Imaging Science PhD student, Grigorios Tsagkatakis, who received the best paper award at the 2010 Western New York Image Processing Workshop for their paper entitled "A Framework for Object Class Recognition with No Visual Examples" Abstract at the bottom of this email. His advisor is Dr. Andreas Savakis.

**National Scholarship Recipient**: Congratulations to James Wratten, a senior majoring in applied mathematics, who is the American Mathematical Society Waldemar J. Trjitzinsky Scholarship recipient. Jamie is an outstanding student with a fine career ahead of him. He is also a very fine young man with a great sense of social responsibility, spending the past two summers doing volunteer work and living in an orphanage in India.

**Successful Physics Graduates**: Two of our Physics graduates, Zack Dell and Michael Martini, who graduated last Spring attended the graduate Physics program at the University of Illinois Urbana-Champaign. Students entering that program have the opportunity to take a "free shot" at the Ph.D. qualifier exam upon entry before Fall began. About 20 (out of the more than 50 entering) graduate students in Physics opted to try their hand at the exam. Of those students, only 4 passed the exam! Two of them were Zack and Michael! This is an affirmation of the quality of our physics program!

**CIS Students Won Awards**: Congratulations to Kelly Canham and Nima Pahlevan, CIS students, have won awards from the Alexander Goetz Instrument Program from ASD, Inc.: http://www.asdi.com/alexander-goetz. Kelly will be using her access to a field spectrometer to

support the Remote Sensing archeology work in Oaxaca, Mexico, while Nima will be using his to support his water quality research on the Lake Ontario.

**Student Involvement**: I meet monthly with the College of Science Student Advisory Board (COSSAB) to give them an update on the COS activities, initiatives, challenges and opportunities and to hear their concerns and suggestions. I also met with the new leader of the College of Science African American, Latino American, Native American (COSAALANA) Student Board to discuss their goal to create a COS community of scholars and mentors to support AALANA students through social, research, academic, and community outreach activities. Our students had their Annual Gala on Dec. 4th at the Fireside Lounge; it was a success.

## C. RESEARCH AND SCHOLARSHIP

**Merging of LIAS with DIRs**: The Center for Imaging Science laboratories DIRs (Digital Imaging and Remote Sensing Laboratory) and LIAS (Laboratory for Imaging Algorithms and Systems) after some strategic thinking have decided to join forces and combine themselves into a single laboratory for remote sensing; Dr. David Messinger will direct the new merged lab. The combined lab has decided to retain the DIRs name because of the considerable name recognition already at work in the broad community.

**A New Research Center:** A subset of the Astrophysical Sciences and Technology (AST) faculty, who have common interest in multiwavelength astronomical observing and data mining, analysis, and modeling, established a new research center named The Laboratory for Multiwavelength Astrophysics (LAMA). The primary aim of LAMA is to foster the utilization and advancement of cutting edge techniques in multiwavelength astrophysics by RIT faculty, research staff, and students, so as to improve human understanding of the origin and fate of the universe and its constituents. Dr. Joel Kastner will direct the new center.

**A New Collaborative**: A Science and Mathematics Education Research Collaborative (SMERC) has been formed. The SMERC is building upon existing programs in education research, and it is developing new Discipline Based Education Research (DBER) programs in physics, biology, chemistry, biochemistry, and math. Its goal is to bring together existing DBER, to facilitate interdisciplinary collaboration, to foster new research programs in science and mathematics, and to develop a national presence in DBER and larger-scale collaborative programs. Dr. Scott Franklin is leading this effort.

**Rochester Academy of Science:** In November, we hosted the 2010 Rochester Academy of Science Symposium which was very well attended. There were 39 oral presentations, more than 80 posters, and approximately 300 attended the symposium. Many thanks to Dr. Harvey Pough who was the organizer.

**Sponsored Research**: Our faculty members are presenting their work at national and international conferences, they are publishing in peer reviewed journals, and they are involved in outreach activities. The sponsored research activity, from July 1st to November 30th, is as follows:

- Proposal submitted = 76
- PIs on Submitted proposals = 42
- Co-PIs on submitted proposals = 26
- Awarded projects = 68
- Awards received value = $3,796,232

## D. FACULTY AND STAFF SUCCESS

**Mentoring of Pre-tenure Faculty**: Monthly breakfast meetings were held with pre-tenure faculty. These meetings are helpful in identifying the kind of support that is needed to help our faculty succeed, to keep the communication open, to support each other, to shed light on any misunderstanding, and to keep faculty informed on policies and expectations. Some of the invited guests and speakers were faculty who got tenure recently and Darren Narayan who talked to them about undergraduate research and shared his experiences on how to win NSF REU and CCLI grants.

**Staff Professional Development and Career Advancement**: The COS Administrative Council had a number of discussions on this topic. We also had discussions with the Human Resources office. We plan to write a proposal on Staff Professional Development and Career Advancement that will be submitted to the upper administration and Human Resources.

**Nominations for Staff Awards**: We are lucky to have dedicated, hard working and outstanding staff. A number of our staff members were nominated for the various RIT staff awards for outstanding service to our college and the institute. Congratulations to *Dave Lake, Susan Lindsay, Brenda Mastrangelo, Anna Fiorucci, Carrie Koneski, Jennifer McDyer, Joyce Murphy, and Nicholas Rogers* who were nominated for this year's staff awards.

**Congratulations to Dr. Grover Swartzlander**: Congratulations to our colleague, Dr. Grover Swartzlander, who led an RIT research team that has proved the existence of stable optical lift—the use of a beam of light to move and manipulate particles (similar to how air is used to achieve airplane flight). Please check the article (http://www.rit.edu/news/story.php?id=47996) that was just published in the news and events. Grover's news has received an amazing amount of publicity! It's great having news break in a Nature publication and many other prestigious publications, such as BBC News, U.S. News and World Report, Scientific American, Discover Magazine, Popular Science, New Scientist, Investors Business Daily, Wired.

**Eisenhart Teaching Award for Outstanding Teaching**: Congratulations to our colleagues *Thomas Frederick, Patricia Clark, Paul Wilson, Robert Rothman, James Marengo, Roger*

*Easton, Andreas Langner, Linda Barton, Hamad Ghazle, Larry Buckley, Darren Narayan, KSV Santhanam, Scott Franklin, Mike Radin, David Ross, Hossein Shahmohamad, Manny Lopez, Cara Calvelli, Christina Collison, Harvey Pough, Christopher Collison, Anurag Agarwal, Simone Romero, Chris Wahle, Dina Newman, Josh Faber, Akhtar Khan, Robert Osgood, Kate Wright, Elizabeth Perry, Lea Michel, Sandra Connelly, John Oliphant, Helen Timberlake, Tim Goodwill, William Brewer, Edward Nelson, Carol Oehlbeck, Joe Delorenzo, Brian Koberlein, Joseph Delorenzo, Dennis Glanton, Tom Prevendoski, Deanna Olles, Michael Fahy, and Philip Dodge*. They have been nominated for the Eisenhart Teaching Award for Outstanding Teaching. They deserve our gratitude for their excellent job as teachers and for their dedication to our students.

## E. ACADEMIC OPERATIONS

**COS Strategic Planning**: We are in the process of framing our college's strategic plan and directions for the next five years. The COS Strategic Plan Core Committee (SPCC) has worked hard during the Fall Quarter to gather and interpret the data from our summer retreat (I had shared the data with you last July) and to brainstorm to identify main focus areas and directions that will be the main components of our strategic plan. We held two Focused Group Discussions that addressed:

- The development and support of academic programs that meet the challenge of declining US competitiveness in STEM education while preparing graduates for careers in a rapidly changing global marketplace.
- "The development and support of active, cross-disciplinary research clusters that attract excellent scientists to RIT, provide rich learning environments for our students and are supported by grants, foundations and industrial sponsorship.

More focused group meetings and discussions will be scheduled to gather your feedback that will help the SPCC create the framework of the COS Strategic Plan. Our next focused group discussion will address:

- The development and support of infrastructure, policies and a collegiate culture that facilitates career advancement and job satisfaction for all members of the College.

**Distinguished Lecture Series**: We sponsored the following talks:

- In September, Rebecca Skloot was invited to campus (this was a co-sponsored event with other colleges; the effort was cross-institutional, inter-collegial, and multidisciplinary) to give a talk based on her book "*The Immortal Life of Henrietta Lacks".* We estimated that Ingle Auditorium's five hundred seats were nearly all filled. In addition to attracting students, faculty, and staff from RIT, this event brought in groups from Nazareth and other area colleges, individuals from the community, and people traveling from Buffalo. Rebecca spent over an hour signing 150+ books, taking photos with students, and answering more questions after her talk.

- In October, Dr. Wouter van Hoven, Director Center for Wildlife Management, University of Pretoria, gave a talk on "*Some Challenges to Wildlife in Africa Today*."

**Faculty Searches**: The Physics Department and the School of Mathematical Sciences are conducting faculty searches on the following strategic areas:

- Optical Physics
- Nanoscale Materials Physics
- Soft-matter Biological Physics
- Biomathematics/Mathematical Biology
- Computational Mathematics
- Discrete Mathematics

**The Institute of Health Sciences and Technology:** The Institute of Health Sciences and Technology (IHST) has been launched. The IHST will include RIT's 9th College, the College of Health Sciences. This is an important initiative for RIT and will be the natural home for some of our programs. Additional details need to be flushed out to better determine the impact that the transfer of these programs will have on our college.

**Revision of the COS Policies and Procedures**: In collaboration with the academic unit heads, associate heads, and the feedback and endorsement of our faculty and staff we have made a good progress in revising and updating the COS Policies and Procedures. We have approved the Academic Affairs Section and subsections (Faculty Evaluation, Tenure Criteria and Review, Comprehensive Mid-tenure Review) of the Faculty Affairs Section. We are in the process of soliciting feedback and approval of the Policies, Procedures and Criteria for Promotion in Faculty Rank.

**New NMR and Organic Chemistry Lab**: The Chemistry Department celebrated the inauguration of their new 500 MHz NMR spectrometer, which is located in Building 76, Room A200, and the opening of the newly renovated Organic Chemistry Lab 08-2113.

**Budget:** The COS budget presentation is scheduled to take place on February 10th. An open and transparent process will be followed that will allow each academic unit head to present to the members of the COS Administrative Council the budget requests from their academic unit. The COS Administrative Council will review the rationale of the requests, will discuss them, and we will prepare a prioritized list of our budget requests.

**COS Webpage**: We have just started the process of revamping the COS Webpage. Our plan is to redo the main COS webpage and use it as a model to redesign and revamp the COS websites and the webpages of all the COS academic units.

## F. ALUMNI

**COS Alumni Speaker Series:** We have formed a COS Alumni Speaker Series. The first speaker will be presenting in February; more details will be forwarded soon. Our goal is to invite, each quarter, a successful alumna or alumnus to speak to our students and faculty.

**Internal Alumni Advisory Board:** We established an Internal Alumni Advisory Board which consists of faculty/staff from each academic unit, including 2 alumnae. This group will meet on a quarterly basis; the feedback generated by this group will be shared with the College of Science Administrative Council.

**Art Piece Donated**: Artist, Ms. Jan Hewitt Towsley, has donated to our college a beautiful art piece that is now displayed on the cement wall of the Gosnell Building atrium.

## G. FUNDRAISING

Fundraising attainment for the COS in FY11 is $1,181,093 through December 3. This includes a significant additional commitment of ENVI and IDL software from ITT Visual Information Solutions to the Chester F. Carlson Center for Imaging Science through fiscal year 2012 – 2013. ENVI and IDL are software programs critical to many imaging science courses and much of the research conducted in the Digital Imaging and Remote Sensing (DIRS) Laboratory.

Total fundraising income (cash) to COS in FY11 totals just under $100,000. This figure includes outright gifts made this year, payments of pledges for gifts made in prior years, plus corporate matching gifts.

## H. K-12 COLLABORATION AND OUTREACH:

**Participation in the STEM Summer Camp**: Our colleagues, Joe Pow, Doug Merrill, Robert Osgood, Bernie Brooks, and Tamas Wiandt played a major role in making the STEM summer camp a success. They worked with 6$^{th}$ and 7$^{th}$ graders of the School #19.

**Rochester City School Teachers attending our Classes**: A couple of years ago, as a result of a suggestion that was made in connection with our Summer Math Institute (SMI), RIT adopted a new policy: any high school teacher can audit any RIT mathematics course for free. Michael Conover, from the Rochester City School District took notice of SMI this past year, and decided it was a good thing for his teachers. He urged many of them to attend the SMI this past summer and advertised the free auditing of math classes to his teachers. This Winter Quarter we had four teachers attending our math classes.

**RIT-Nazareth Program:** In response to the national need to produce more science and mathematics teachers, RIT, though its excellent and robust STEM discipline (Science, Technology, Engineering and Math) programs, and the Nazareth College, through its excellent graduate programs in Education, joined efforts to expand the pipeline of qualified STEM teachers. As some of you might know, we have established an articulation agreement between the two institutions that allows interested RIT undergraduates to complete their BS degree at RIT while simultaneously beginning the pursuit of a master's degree in education at Nazareth. Key to this intent was to design a creative program that met the quality standards of both institutions while enabling participating students to complete these two degrees in a shorter period than that would be required by a sequential completion of a RIT degree and then enrollment and completion of a Nazareth Master's of Education program.

The program is gradually growing and more of our students are becoming aware of its existence. We are pleased that the RIT-Nazareth articulation agreement exists and it is making it possible to attract math and science students interested in education and education students interested in science and mathematics by easing the transition of our RIT undergraduate students into Nazareth's education programs at the graduate level.