

Message from the Dean

As we enter our second year as a research university, our College continues to demonstrate its excellence through increased research activities and grants, in addition to outstanding faculty accomplishments.



I am happy to report that a number of CSM faculty members received tenure and promotions this year. Acquiring tenure is Tom Dinzeo (Psychology), and Subash Jonnalagadda and Lei Yu (Chemistry/Biochemistry). Tom and Subash, along with Tricia Yurak (Psychology), have also been promoted to Associate Professor roles. Earning rank of Full Professor are Marlena Herman (Mathematics), David Klassen and Michael Lim (Physics/Astronomy). My heartfelt congratulations to a well-deserved group of talented and dedicated individuals whom I am proud to work with.

The New Year also brings changes within the Dean's Office, effective January 1. Dr. Tricia Yurak will become the

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CSM Department Listing

- Biological Sciences
- Chemistry and Biochemistry
- Computer Science
- Mathematics
- Nursing
- Physics and Astronomy
- Psychology

Google & Computer Science Bring Robots to a Worldwide Audience

For the third straight year, Google Inc. and Professor Jennifer Kay, of Computer Science at Rowan, are working together to expose primary and secondary educators to the wondrous world of computer programming.

The \$34,000 grant, graciously funded by Google's educational division, Computer Science for High Schools (CS4HS), has given Kay the opportunity to outreach not only local area teachers but also the entire world.

By creating what's called a MOOC (Massively Open Online Course), Kay elevates Rowan to a handful of online CS4HS providers that also include Colorado State University, the College of St. Scholastica and Harvard University.

"For the past two years (with funding from Google), I've held programs here at Rowan in which I taught 20-25 teachers the excitement behind computer programming - we found that the 2011 teachers reached about 200 students the following academic year," said Kay. "Imagine how many students will be reached in a course that spans across the entire country."

Thus far, Kay has over 1,000 individuals signed up to take the course.



Computer Science Professor Jennifer Kay's first MOOC course sponsored by Google Inc. signed up more than 1,000 individuals

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In the summers of both 2011 and 2012, Rowan received grants to fund programs in which Kay aimed to get teachers using robots in students' math and science classes, and even creating robotics clubs.

"There is little computer science taught in schools today," Kay pointed out, "kids are taught how to use tools to get by on a daily basis, but that's not deep enough. Students should know what is behind these apps and programs and how they work."

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CSM Embraces Increased Research Opportunities

In November of 2012, the public voted to approve the New Jersey Medical and Health Sciences Educational Restructuring Act — its intent was to provide invaluable opportunities for not only students from the Garden State, but from the tri-state area and beyond. As of July 1, 2013, the bill that Chris Christie signed into law is changing the landscape of higher education for not only the State, but for Rowan University, the pinnacle of higher education in South Jersey.

With the acquisition of the Rowan School of Osteopathic Medicine, the University has officially been designated as a state comprehensive research university, but the push for more research opportunities goes further back than that.

In 2009, the College of Science Mathematics' [then the College of Liberal Arts and Sciences] Dean, Parviz Ansari, launched a campaign to increase undergraduate research opportunities.

"Here at Rowan, our focus is on our undergraduates," Ansari said. "In my campaign, I wanted to push for not only more research programs, but for strategic research programs."

"In so doing, we started having post-docs in my college and this semester,

we had five post-docs working with our faculty and students in undergraduate departments" Ansari said.

Timothy Vaden, Assistant Professor of Chemistry and Biochemistry, believes that having post-docs working on grant projects adds a new dynamic that is essential to the growth of a research institution.

"While we are primarily an undergraduate research institution," said Vaden, "students do have commitments outside the lab, and are not always available to devote all their time to research — a post-doc's role adds stability to the lab because they are always overseeing the projects and pushing them forward."

Typically, a professor goes to an undergraduate institution for his or her Bachelor of Science, and then continues on to graduate school. In order to gain more experience in his or her disciplines before applying to companies or to become a member of a higher education faculty, he or she applies to institution for post-doctorate research opportunities.

Subash Jonnalagadda, Associate Professor of Chemistry and Biochemistry, said that experience as a post-doc provides individuals with the tools they'll need to

continue their careers.

"Someone cannot just have a PhD and expect to get into an industry or into academics," Jonnalagadda said, "becoming a post-doc is essential because it broadens someone's experiences in the lab and also teaches them new methods of teaching and learning."

While the push towards becoming part of the echelon of research institutions requires post docs, the main focus of Rowan and CSM still remains on undergraduate research.

"The amount of students I have assisting me in research has actually gone up since the post-doc," said Vaden. "[post-docs] create a research oriented environment by increasing the amount of projects available to undergrads, it helps create camaraderie in the lab and makes everything more interesting."

Dean Ansari feels that the progress that CSM is making is exceptional. "Post-docs are an essential part of our expansion because they establish a unique academic environment for our students," Ansari said. "However, we still have more work to do as we try to create more collaborative research programs for faculty and students and increase our grant funded activities."

Dean's Distinguished Speaker Series

The Dean's Distinguished Speaker Series culminated its third season this fall semester with two highly accredited speakers.

Beginning the fall showcase, Dr. Sarah Tishkoff, professor at the University of Pennsylvania School of Medicine and the School of Arts and Sciences, presented her work entitled "African Evolutionary Genomics: Implications for Human Origins and Disease."

In front of a packed audience of faculty and students in Boyd Recital Hall, Tishkoff highlighted the undiscovered and rich genomic and phenotypic variations that exist in an ethnically diverse Africa.

Gaining many insights into human molecular evolution, human disease and resistance to disease, the audience learned that Africa contains a very genetically diverse population that is highly valuable in understanding human genetics and evolution.

Tishkoff has won numerous awards for her research, including the NIH



Pioneer Award, a David and Lucile Packard Career Award, and is a Penn Integrates Knowledge (PIK) endowed chair.

Closing off the showcase was Paul Steinhardt, Albert Einstein Professor in

An App a Day Keeps Smoking at Bay

The College of Science and Mathematics made an addition to its already commendable staff, by welcoming Dr. Bethany Raiff to the Psychology Department in 2012. Just one year later, Dr. Raiff's impact in her department is being felt throughout the entire University.

"To receive grants and awards from the National Institutes of Health (NIH) is a huge accomplishment," says Eddie Guerra, Assistant Dean of Research and Grants. "She's been an amazing addition to the College and is producing fantastic results for just one year."

Raiff is currently working on three projects funded by NIH all dealing with smoking cessation, with one examining substance abuse more generally.

"Smoking is the number one cause of preventable morbidity and mortality in the United States, and most people who quit end

up relapsing," explains Raiff about her commitment to smoking cessation. "We want to use different forms of interventions, and set



Raiff demonstrates her carbon monoxide monitor for those taking part in game-based smoking cessation project

up contingency plans that people who are having trouble quitting will be more likely and willing to use than existing treatments."

Two of the projects, Game-Based Smoking Ces-

sation and Technological Innovations in the Behavioral Treatment of Smoking, examine a form of intervention that is easily accessible by anyone in the country.

The Game-Based Smoking Cessation project uses the Internet to implement an evidence-based contingency management intervention, which offers online incentives via videogames for not smoking. Using a web-camera and carbon monoxide monitors, researchers will be able to determine whether or not the participant has been smoking over

the previous eight hours, and deliver incentives when abstinence has been confirmed.

The rewards will involve unlocking new levels, getting access to resources, and receiving social support from other smokers who are also playing the videogame and trying to quit smoking. The game is being developed by Red Hill Studios and Entertainment Science, and will be similar to Facebook games Farmville and Cityville. The only difference between the two smoking cessation projects is that the Technological Innovation in the Behavioral Treatment of Smoking examines the effects of rewarding participants with small amounts of money that they previously deposited for the program, as well as additional monetary incentives.

Outside the University, Dr. Raiff continues to excel above all standards as she is collaborating with a number of institutions including the University of Florida, on a number of projects related to smoking cessation and diabetes management.

Science at Princeton University.

In a story that involved grand adventure, ex-KGB members and bears, Steinhardt captivated his audience in Boyd Recital Hall, with his fairy-tale like journey through the mountain ranges of Chukotka, located in Far East Russia, in search of the once mythical quasi-crystals.

Students and faculty were captivated by Steinhardt's demonstrations involving the structures of crystals and their application to daily life, and were left chuckling at the serendipity of Steinhardt's good fortune along his adventure.

In an effort to expose students to the



prominence that can be found in multidisciplinary fields of expertise, the Dean's Distinguished Speaker Series enlightens all audiences about the world they live in.

B3 Series Debut

Dr. Han Chang, Principal Scientist in the Bioinformatics group at Bristol-Myers Squibb, was the inaugural speaker for the new interdisciplinary speaker series that encompasses three disciplines: Biochemistry, Bioinformatics and Biophysics — the B3 Speaker Series. Chang discussed the importance of bioinformatics as a method to interpret data computed by progressing biological technology, and how understanding the human genome will assist in future disease prevention.

Message from the Dean

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new Associate Dean for the College. Dr. Courtney Richmond will be joining the team as Assistant Dean for Undergraduate and Graduate Students, serving part-time in this role, and remaining a faculty member in the Department of Biology.

This semester our College introduced 13 new full-time tenure-track faculty - an all time high figure at the College level. New faculty include Matthew Bealor and Mara Robu (Biological Sciences), Gustavo Moura-Letts, Behrooz Nazer, Chun Wu and Michael Tolocka (Chemistry/Biochemistry), Nasrine Bendjilali, Bethany Gummo and Ik Jae Lee (Mathematics), Anthony Angelow and Dawn Specht (Nursing), Kelly Trevino and Eve Sledjeski (Psychology).

Taking the well-earned road to retirement in August was Janet Cahill (Psychology). Joining Cahill in 2014 will be Lois Strauss (Psychology), Joel Crichlow (Computer Science), and Clarence Howe (Mathematics). I wish them all good health and happiness in their new ventures and thank them for their many years of service to the University.

In summer and fall of 2013, our College has been awarded over \$1.1M in grants from both government agencies and industry. With many proposals submitted and pending, this figure will only expand further and showcase our College as a major contributor to research at Rowan.

Our curriculum is expanding to support the new public health and health sciences initiatives recently mandated by the State. We are currently in the process of developing a Ph.D. program in Clinical Psychology (with a specialization in Health Psychology) and a concentration in Neuroscience, as well as specializations in Cyber Security and Mobile Computing. The new M.S. in Health Data Analytics program will be submitted to the Board of Trustees for approval in March. A B.S. in Biophysics recently was approved by the Board of Trustees and is now pending approval by the State of New Jersey. We are also working on innovative collaborative programs with Rowan University School of Osteopathic Medicine's Graduate School of Biomed-

ical Sciences (RowanSOM GSBS) with two accelerated degrees of 3.5 years at Rowan, and 1.5 years at GSBS. One program is a B.S. in Biochemistry+MS in Molecular Biology, and the other is a B.S. in Biochemistry+MS in Molecular Pathology and Immunology. Also going through the curriculum process is the post-baccalaureate in pre-health studies, a concentration in pre-med studies, and a concentration in pre-health studies.

All of these remarkable endeavors are the result of the immense efforts from our exceptional faculty and staff, for which I express my deep appreciation for their dedication, hard work and accomplishments!

Parviz Ansari, Ph.D.
Dean, College of Science and Mathematics

Learning 'Booted' Up Using Robots

Rowan University hosted the Seventh Annual *FIRST*® LEGO® League (FLL®) Competition on Saturday, December 7. Students from throughout New Jersey built LEGO-based robots to tackle real engineering challenges. Sponsored by FLL (For Inspiration and Recognition of Science and Technology), the event teaches critical thinking, presentation and math and science skills. Co-chaired by Jennifer Kay, Computer Science professor, and Hong Zhang, associate professor of Mechanical Engineering, this popular event allows students to explore engineering and technology, and encourages individuals to consider studying and pursuing careers in those fields.



Dr. Mark Hickman: Discoveries in 'Nature'

While some might enjoy watching the sunset, observing the stars or catching up on missed shows during the humid summer nights, Dr. Mark Hickman, Assistant Professor of Biological Sciences and Chemistry & Biochemistry at the College of Science and Mathematics, spent his nights a little differently.

"I would just lie in bed with my laptop," explains Hickman, "writing computer programs to process millions and millions of DNA sequences, attempting to find DNA mutations." It was quite the feat that ended with a publication in *Nature*, one of the most reknowned scientific journals in the world.

The sequences that Hickman observed were part of a year-long yeast experiment conducted at four institutions: Princeton, Harvard, Washington, and Rowan Universities. The experiment's objective was to observe the DNA sequences of 40 populations over 1,000 generations of growth, documenting the changes in DNA patterns, and how these changes affected the total population.

The main portion of the experiment was executed at Princeton University where the yeast cells were cultured and samples of these unicellular organisms were taken at various intervals. "Yeast cells reproduce every 90 minutes, giving us the opportunity to look at 1,000 generations in less than six months." After the DNA from these samples were extracted and sequenced, Hickman

played an important role in sequence bioinformatics, examining the billions of DNA bases that were sequenced. "We had terabytes and terabytes of DNA to comb through," laughed Hickman, but his findings left him with a sense of confirmation rather than giggles.

"It all made sense," emphasized Hickman. The results of the experiment provided invaluable insight into the genetic changes that occur during evolution.

According to Hickman, the results revealed this: at completely random times and in any cell, a driver mutation occurs. A driver mutation is a change in the genetic code of a cell that results in having a positive effect on cell growth, giving a cell an advantage over other cells. These cells due to enhanced growth, take over the entire cell population by dividing faster than all other cells in the population. In addition to driver mutations, other mutations occur that have no effect on cell growth. These mutations, if they arose in the same cell before the driver mutation, were carried along with the driver

mutation as the cell replicated. Thus these other mutations are referred to as "genetic hitchhikers." After reviewing terabytes of DNA sequences, "we now know that there isn't just one mutation that can drive evolution, but that many mutations accumulate together and have the ability to influence the fitness of an organism,"

Hickman reiterated.

In the broad area of biological research, this is extremely important,

as it provides a new perspective to molecular evolution. "This was the first major phase," Hickman stated, "and we can build upon the information we found and examine different kinds of genetic changes, like changes in gene copy number or genomic rearrangements."

Another platform for which Hickman's research is invaluable, is cancer research. "Yeast is used a lot to emulate cancer cells because of their rapid division," said Hickman. By examining the nature of DNA mutations in quickly evolving yeast populations, scientists can begin to understand how cancer cells "evolve" from normal cells by accumulating several mutations.



Mark Hickman reviewed millions of DNA sequences this past summer, which led to a successful publication in "Nature" Journal

Young Alum Achievements

For the past year, **Steven Gennaoui**, a graduate from the master's program in computer science, has been working with Boeing in Ridley Park, Pennsylvania, as part of the V-22 Osprey Software design team, used in the cockpit of the V-22 aircraft. Gennaoui assisted in the creation and updating process that aimed to combat the obsolescence issue within the craft. Having graduated just a year ago, Gennaoui has worked with Google Inc. in their Android sector, and has moved to the West Coast to continue his career with Amazon.com, Inc.

In May 2011, **Eric Greenhouse** graduated from Rowan with a BS in computer science, alongside four concentrations, including: programming languages and compilers, software engineering, artificial intelligence, and data structures and algorithms. Since then, Greenhouse has worked for EOIR Technologies, a Department of Defense contractor, and is setting up his future in Culver City, California as a software engineer for Symantec Corporation. His project is working with C++ and Objective C in order to develop a new product called Norton Identity Safe. Greenhouse is a part of the MAC iOS team, developing their version of the product.



*Recent alum
Steven Gennaoui*

Chance favors prepared minds...

Separated by an ocean, several countries and two distinct fields of scientific research, one would think that the chance of two individuals coming in contact with one another would be pretty much impossible; however, the beauty of serendipity is that it makes such events possible.

At a conference in New Delhi, India, such kismet occurred when College of Science and Mathematics chemistry professor Kandalam Ramanujachary [Dr. Chary] and the Institute of Chemical Technology's, Dr. Sutapa Ghosh, unexpectedly initiated a discussion that would lead to their collaboration here at Rowan University.

"The director of my group notified me that there were some individuals working with graphene, Nanoparticles and quantum dots, and wanted to know if I'd be interested in working with them," explained Chary, whose 35 years worth of

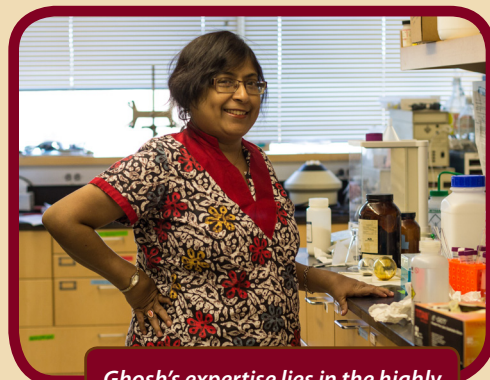
experience and published papers regarding Nanotechnology left him delighted at the opportunity.

"We began a discussion about her expertise and mine, and I couldn't have been more excited for the opportunity," Chary said.

"In India, I worked on isolating graphene from graphite, and here at Rowan, I'm trying to measure the quantum dots of graphene by creating molecular models of the dot," explained Ghosh. "Once we find the dot, Dr. Chary's expertise in metal oxides will allow us to identify and control graphene's bandwidth so it can later be applied to super capacitors."

Capacitors have a synonymous function to lithium batteries, but such batteries are inefficient at holding charges, as well as dispersing energy.

"Capacitors are more powerful and



Ghosh's expertise lies in the highly conductive layer of carbon, known as graphene.

more efficient than batteries," said Chary, "however, they are made from a toxic metal that isn't bountiful in the Earth, cadmium. If we can figure out how to make capacitors with carbon, which is safer and more plentiful, it will be monumental in the future of capacitors."

While Rowan University is providing the facilities for the collaboration, all of the funding for Ghosh and Chary's research is derived from a highly competitive grant program funded by the Raman Research Fellowship.

"Dr. Ghosh applied to a program that takes thousands of applications, and only around four or five are accepted a year," mentioned Chary.

The two have been collaborating since late October and are making big strides.

"The labs here are fantastic and are allowing me to make great progress on my research," said Ghosh. "It has been very fun working with the students and Dr. Chary."

While the program is temporary, Chary is excited for what will come next. "[Dr. Ghosh] will go back to India to continue developing her research, and we will hopefully publish several papers," Chary said. "This research is the first step towards the future of capacitors."

Planetarium has its own Blockbuster Hits

The Edelman Planetarium recently concluded a successful run of the full-dome digital movie "Astronaut," and its popular traditional holiday favorite, "Season of Light." Narrated by Noah Adams, "Season" provided 3D visualizations explaining the winter solstice, Christmas, Hanukkah, Santa Claus, the Star of Bethlehem, among other wintery topics.

This spring, look for two public showings, "To Space and Back," a movie about space exploration and how it has shaped our everyday lives, beginning January 12 through March 9; and the "Exploding Universe" deals with big celestial bangs and how they've influenced the formation of our solar system and us. This show begins March 16. For more information about planetarium shows, visit www.rowan.edu/planetarium.



Teaching Alternate Approaches

Dr. Phyllis Blumberg, from the University of the Sciences in Philadelphia, joined CSM this past semester to discuss learning-centered teaching approaches. Concepts she discussed included: emphasizing the importance of student development and mastery of meta-cognitive skills, assisting students in understanding course content, and assisting students



with making their own unique associations with course content. Also noted in her presentation was her encouragement towards professors in their instilling a desire of lifelong learning and information literacy skills in their students, and using authentic assessments analogous to those in the professional world. Faculty from all of CSM departments attended, as did faculty from other colleges. The presentation was well received, and provided an opportunity to consider new approaches to teaching courses.

Faculty and Staff Achievements

While most chemical reactions are done in a lab setting, cyberspace is providing a different platform in which these reactions can take place. Even the most complicated biochemical reactions can be observed, in magnificent detail, using only a computer program.

Yang Yang, Assistant professor of Chemistry and Biochemistry, conducts such molecular simulations in order to unravel the mechanics for different chemical and physical processes in various condensed-phase systems.

Using his expertise in computational and theoretical chemistry, Yang was able to co-author a research paper with one of his past professors, Qiang Cui, from his time in the department of Chemistry and Theoretical Chemistry at the University of Wisconsin.

The paper entitled, “Does Water Really Play an Important Role in Phosphoryl Transfer Reaction? Insights from a Theoretical Study of A Model Reaction in Water and tert-Butanol,” was not only a publication in the *Journal of Physical Chemistry*, but was also included in 2013’s Nobel Laureate in Chemistry, Professor Arieh Warshel of the University of Southern California, as part of his six “Insightful Discussions.”

Seth Bergmann, Associate Professor of Computer Science, represent-

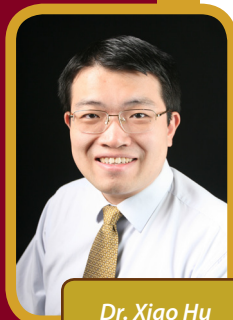
ed the College this past September at an international conference in Regensburg, Germany. Commentating on the conference’s discussion topic of books and publishing, Bergmann presented his paper entitled, “Open Source Textbooks.” He presented the benefits of Open Source, a new software that allows multiple individuals to publish academic information on one website, and explained how the software can help invoke the spread of information and ideas.

Keith Johnson, both Treasurer and Membership Chair of the Mid-Atlantic Planetarium Society, was named a MAP Fellow for his six-year tenure within the organization, as well as hosting a conference at his home turf -- Edelman Planetarium.

The second award came in the form of the MAP Award for Exceptional Service for Johnson’s volunteer work as Membership Chair and Treasurer.

Honoring Frances R. Lax Awardees

In honor of Frances R. Lax, a well-known Southern New Jersey philanthropist and community leader, eight junior faculty recipients received \$1,000 towards conference registrations, academic travels, student research assistants, and academic materials. This year, CSM is proud to have two of our faculty awarded stipends for Spring 2014.



Dr. Xiao Hu

The College would like to congratulate **Xiao Hu** of the physics department and **Bethany Raiff** of the psychology department on their outstanding achievement.



Dr. Bethany Raiff

Google & CS

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Kay's MOOC entitled, "Educational Robotics for Absolute Beginners," is a five-week course in which each week contains 10 lessons, and each lesson is made up of five to ten-minute videos explaining concepts, along with self-test questions, to assess understanding. Being a beginner's course, the projects will involve the programming of a LEGO® NXT robot.

The class is not only intended for teachers, but for anyone interested in gaining knowledge about how computer programming and educational robotics works. The first week does not require the use of a robot, but from thereafter, participants will need to have a robot in order to complete the projects and assignments. Teachers will need a colleague or principal to evaluate their end project of a successful program in order to receive a certificate of completion. The course is absolutely free, however, teachers will need to consult with their schools about providing a robot to complete the course.

Core principles that Kay hopes the participants will learn involve computational thinking skills. These skills do not only apply to computer programming, but also apply to daily life activities. According to Google's educational page on computational thinking, the skills that make up such methods involve how to analyze a situation, think logically about step-by-step processes to solve a problem, and how do several solutions solve the same problem.

"These courses are important because essentially all kids, whether or not they're interested in computers, will spend the rest of their lives communicating with computers and people who do work with computers," explained Kay. "When someone says 'the computer can't do that,' I want kids to have the confidence to say 'why not?'"

This self-paced course is free and open to all who are interested. To get started, visit <http://cs4hsrobots.appspot.com>.

Campus Turtle Species Diverse as Us

While the conventional way to start the semester may have been with textbooks in classrooms, such was not the case for a professor and some of his students.

Biological Sciences Professor Patrick Crumrine, chose a more earthly classroom through which to educate his students.

Spending three days a week, through the months of September and October, Crumrine's students waded through water and brush, not in search of their grades, but aquatic turtles taking up refuge on Rowan's Glassboro campus.

Like the University itself, they found that the turtle community on campus was rather diverse, discovering six distinct turtle species within 800 acres of land including: red-eared sliders, yellow-bellied sliders, Eastern painted, musk, snapping and red-bellied turtles.

"Aquatic turtles are somewhat indicators of water quality and environmental health," said Crumrine, an aquatic ecologist. "It's not a huge group of organisms, but we've found a good bit of diversity among the turtles on campus."

The turtle census is part of a larger, 30-institution study by undergraduate students led by Dr. Dave Bowne from Elizabethtown College in Pennsylvania. The National Science Foundation-funded study is researching the impact of urbanization on freshwater turtles.

Wright and Ambacher will present their findings on the turtles at the STEM Student Research Symposium on April 25.



Crumrine tags a turtle found on campus as part of a 30-institution study to determine the impact of urbanization on freshwater turtles.

Students Go "Mad" Over Finals

Post-it® notes, highlighters, computers and coffee containers were strewn across the Science Hall atriums and hallways as students "lost their minds" preparing for their final exams. "Study Madness," co-sponsored by the Office of Health Professions, the Pre-Health Society, Pre-Allied Health Society and the Biology Club, encouraged students to come together in order to demonstrate the importance of studying. On Friday, Dec. 13, "Study Madness" turned the page on its third straight semester of organized study sessions, professor review sessions, as well as providing some study fuel in the form of coffee and donuts. "There isn't a 'study day' on campus," says Tomas Varela, Health Professions Advisor. "We wanted to reinforce students coming out of their dorms and working together in a community that values studying."



Psych Professor Receives \$400K Grant to Study Autism Treatment

Dr. MaryLouise Kerwin, professor and chair of the Department of Psychology was recently awarded a 2-year, \$394,000 pilot grant from the New Jersey Governor's Council for Medical Research and Treatment of Autism and the New Jersey Department of Health to study parent-implemented interventions for autism. Autism Spectrum Disorder (ASD) is currently the most prevalent pediatric developmental disorder in the United States. Symptoms of ASD are generally observed before age 3 and include difficulties in social interaction, deficits in verbal communication, and increased repetitive behavior. Early intervention with intensive, empirically supported behavior therapies has been shown to improve prognosis.

The high prevalence rates of the autism and intensive time requirements for intervention have resulted in a need for the development of innovative service delivery models. Kerwin's research team, including fellow psychology faculty member Dr. Michelle Soreth, several expert consultants, and over 20 graduate and undergraduate students, is in the process of evaluating the effectiveness of several popular interventions specifically designed for implementation by parents. The results of the pilot study may provide the required preliminary data for a successful grant application to the National Institute of Health, which would allow the team to expand research in autism treatment at Rowan and offer families affected by autism opportunities to access high-quality supplemental treatment services and trainings at no cost.

Incidence rates of ASD have skyrocketed over the last decade. New Jersey currently has the second highest rate of autism in the nation, with prevalence estimates as high as 1 in 49 children in the state identified with the disorder. The elevated rates in the state are likely due to increased awareness of the disorder and treatment resources that draw families affected by ASD into New Jersey. The NJ Governor's Council for Autism was established to encourage high quality biomedical and clinical autism research in the state, and the initiatives of the council are funded by a one dollar surcharge from motor vehicle violations and fines, a total of approximately \$4 million dedicated to autism research, treatment, and education each year. Kerwin's project is the first Governor's Council for Autism grant awarded to Rowan University, and allows for Rowan's Center for Behavior Analysis, Psychology Department, and behavior analytic faculty to continue to receive regional, state, and national attention for autism treatment and the training of future behavior analysts. To learn more or have a child who you suspect may have autism or could benefit from this project, visit www.rowan.edu/abacenter.

Sharing the "vision," One Mouse at a Time

While most are used to hooking up a single monitor or television screen to a computer, CSM computer science department is rethinking the way we interact with computers in the presence of a group.

Using a novel approach devised by professors Ganesh Baliga and Vasil Hnatyshin, with the help of several undergraduate and graduate students, the team is working to rise to a difficult technical challenge: how can numerous scientists use, in real time, a shared monitor with mice attached to their own respective computers?

The Concurrent Multi-cursor Project, led by CS majors Scott Stevenson in coordination with Kenneth James, Louis Szglasky and Winston Cheong, is a completed software which allows individual computer users their own cursor on a larger display.

Individuals can now manage their own windows without having to switch back and forth between them. The Multi-cursor project allows for multiple cursors or multiple users to interact on one screen, bringing everyone together towards a common goal.

In a collaborative setting of this nature, individual window ownership allows users to interact with their own data, and protect it from alterations. The benefits of the software also allow individuals to collaborate in times of critical environments such as nuclear testing facilities. The alleviation of moving from one station to another ensures that operators can make quicker and more accurate decisions where rapid analysis is required.

CSM Pitches New Home on College Row

Homecoming has been a mainstay on campus for many years, but this year introduced "College Row" to alumni and students with each college displaying tents full of fun, information and nifty give-aways.

Making its first appearance this year, the College of Science and Mathematics hosted a variety of science experiments that introduced kids to the fascinating world of science. Biology major **Nicholas Albertson** volunteered to entertain alumni and their families by conducting crowd-pleasing interactive experiments, that used vegetable oil, water bottles, food coloring and Alka Seltzer tablets to make colorful lava lamps.

Throughout the crisp fall day, alumni and friends stopped by the tent to converse with the Dean and learn about the new College. A telescope, donated by the Edelman Planetarium, was raffled off to lucky alum winner Amy Jordan Carpinelli '91, a Geoscience/Astronomy Instructor for



Washington Township Public Schools and Teacher of the Year Semi-Finalist in 2009.

Make sure to stop by our tent next October to see what fun and excitement our College has planned for your family.

New Spectrometer: Use Expands to Departments, Schools

In the words of Tabbetha Dobbins, Assistant professor of Physics and Astronomy, the Rowan University Science Hall will be getting a new “water cooler,” that she hopes all majors will be able to congregate around.

Thanks to a grant of \$280,000 from the National Science Foundation (NSF), Rowan University will be able to purchase a Combination Raman and FTIR Spectrometer. Not exactly a “water cooler”—but pretty cool anyhow.

In February of 2013, Dobbins, principal investigator of the grant, and her interdisciplinary team consisting of physics professors Michael Lim, Samuel Lofland, and Xiao Hu, and biochemistry and chemistry professor Timothy Vaden, submitted a proposal to NSF requesting funds to replace the current 20-year-old spectrometer.

Starting September 2013, NSF granted Rowan \$280,000 for two years towards a new machine.

“Our current spectrometer still gives us information, but it isn’t so easy to operate,” said Dobbins.

Spectrometers primarily use a laser in order to produce data. Compounds are placed beneath a microscope where an external laser shines upon it. The outgoing laser beam then carries information about the sample into a spectrometer chamber. Data is then sent to the user who uses it to determine the behavior of the bonds, types of bond vibrations by analyzing the changes in light patterns.

“Some of the parts are old and when we adjust them, it throws off the entire calibration and affects the experiment,” said Dobbins.

The new spectrometer features something that the current one does not, in that all the lasers are concealed within the machine, leaving no external laser mirrors and lenses to adjust.

“This makes the machine so much

easier to use, and now can encompass all different majors,” said Dobbins. She envisions more people collaborating on projects, as well different schools to interact with the machine. According to the proposal sent to NSF for the grant, 24 undergraduates, 16 graduates, and 216 other students per year will be affected by the new spectrometer in courses offered including: physics, chemistry, biology, forensic science, and electrical and computer engineering.

The faculty does not plan on disposing of the other machine just yet, but has another option in mind.

“Because the lasers are external on the old spectrometer, we can do experiments with it at wavelengths not available on the new instrument,” said Dobbins.

She also believes that the spectrometer will open doors to new experiences.

“Previously, with new equipment, several of our students have become fluent in



Dobbins spent last July at a conference near Pisa, Italy. The Gordon Research Conference on Hydrogen Storage materials invited her to be a discussion leader for the conference's proceedings.

the technology, resulting in other universities requesting assistance in operating and experimenting their own machines,” said Dobbins. “A machine like this gives hundreds of students the opportunity to learn something new and take it with them into their futures.”

CSM Latino Initiative Engages County Colleges

The College of Science and Mathematics is developing new pipelines for a more diverse population of students to increase their access to the education provided by the College and propel them into the science and technology workforce.

Two partners in this effort are Union County College (UCC) and Passaic County Community College (PCCC), both designated Hispanic-serving institutions by the US Department of Education.

Supported by a grant to UCC from the Department of Education, two UCC students participated in a six-week summer program at Rowan University hosted by our College. In May and June 2013, two students worked in the biochemistry/chemistry research laboratories of Dr. Timothy Vaden and Dr. Lark Perez, respectively. The summer program included tours of campus facilities, research talks, visits to both of Rowan’s medical schools, and a field trip to the Chambers Works facility of DuPont. As a result of this exposure, one student transferred from UCC to Rowan and as of fall 2013 is a biochemistry major in the Department of Chemistry and Biochemistry.

As part of a growing relationship with PCCC, a group of 16 of their students visited Rowan’s Science Hall in November. This group of students attended presentations from department representatives describing degree options and opportunities in CSM, research talks by several faculty, a tour of facilities, and a show in the Edelman Planetarium.

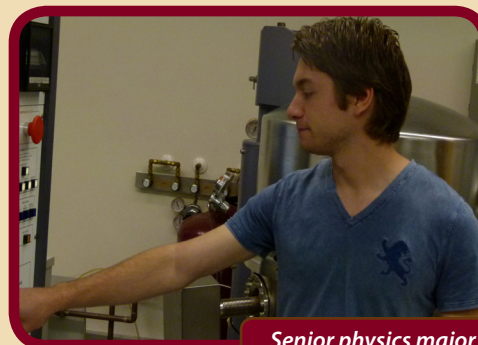
The PCCC visit and the program with UCC are part of a growing effort by CSM to recruit a more diverse population of students from county colleges and high schools in the region.

CSM Student Achievements

This past March, out of approximately 150 undergraduate students who presented their research projects over the five-day American Physics Society conference in Baltimore, Maryland, senior physics major and mathematics minor, **Christopher Rotella's** presentation on "Optimizing TiC films for CDC applications using Magnetron Sputtering," was the recipient of the "SPS Undergraduate Presentation Award" from the American Physics Society and the Society of Physics Students.

Under the guidance of Dr. Jeffery Hettinger and Dr. Samuel Lofland, professors from the Department of Physics and Astronomy, with some additional help from instrument coordinator Carl Lunk, Rotella and two other students, **Justin Buchicchio** and **Emma Cortes**, were able to submit their project abstract by the November 2012 deadline.

The project entailed using the technique of Magnetron Sputtering, which is a process that takes place in an ultra-high vacuum chamber that can reach approximately 1,000 degrees Celsius. With the use of electric and magnetic fields, as well as argon gas, the students injected small pieces of titanium onto a carbon substrate in order to orchestrate a reaction that would create Titanium Carbide (TiC), for the purpose of creating a Carbon Derived Carbide (CDC).



Senior physics major
Chris Rotella

Gearing up for the digital age, **Nicholas Silvestri**, junior computer science major, put his cyber skills to the test on the "Cyber Aces Exam," a test open to the entire country, not exclusionary to college students. Silvestri ranked 317 out of 3,403 national participants, also placing 20th out of 377 state participants. Out of all college test takers, Silvestri placed 12th out of 141, the top 91 percentile. Silvestri received the recognition of Rochelle Hendricks, Secretary of Higher Education, in an invitation for him to compete in the Governor's Cyber Aces New Jersey Championship competition to find the "best talent for careers in cyber security."

Senior physics major, **Emma Zulker**, was awarded \$2,000 from the New Jersey Space Grant (NJSJ) Academic Year Fellowship -- an award in recognition of academic excellence and research. Cooperating with the guidelines that require the recipients to work on a NASA approved project, Zulker will be working with Dr. Jeff Hettinger, on

the investigation of Z-N films and their properties for potential use in biomedical and nanotechnology applications.

Christopher Rotella, senior physics major, also received the award and will be researching Theoretical Quantum Physics with Dr. Hong Ling.

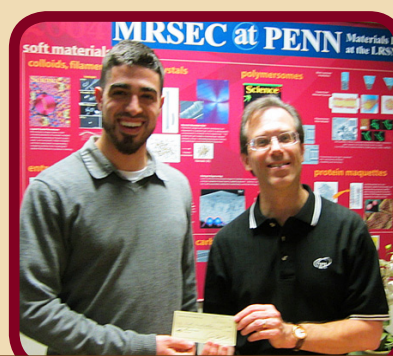
Both Rotella and Zulker will present their research at a state-wide NJSJ conference in of spring 2014, held at Rutgers University. The New Jersey Space Grant Consortium was estab-

lished in 1991 by a grant from NASA with the objectives of developing programs to further aerospace and STEM education, as well as fostering research and development in New Jersey.

Justin Buchicchio, a senior physics major, was awarded third place in the "Student Best Poster Award in Thermal Analysis Forum" at Delaware Valley 2013 Annual Meeting. At the University of Pennsylvania Laboratory for Research on the Structure of Matter (LSRM), Justin and his partner, **Joe Forys**, also a senior physics major, kept the academic

pace with the Ph.D. graduates from the University of Pennsylvania, Drexel University and Temple University in the poster competition in which there were ten

entrants. Both students were the only undergraduates in the competition.



Student Justin Buchicchio receiving his award at the annual business meeting held in December at the University of Pennsylvania.

Nursing Students Give Back to the ROWAN Community

Will the flu bring the best of Rowan's Glassboro campus under the weather? Not if the College of Science and Mathematics' nursing students have anything to do about it.

Students from Assistant Professor Patricia Price's Community Health Nursing course volunteered their time this past October to assist with flu vaccinations that were offered to Rowan employees, as part of the students' mandatory clinical component.

Under the leadership of Scott Woodside, director of Student Health and Services at Rowan University, Janell Conroy, Lisa Johnson, Stephanie Hummel, Jessica Saggiomo and Thorbjorg Thorisdottir were able to do their part in ensuring a healthy campus during the coming winter months.

The students obtained information from the community participants, asking them about specific allergies, and reminded the participants to practice good hygiene by washing their hands frequently, using tissues, disposing of them properly and if sick, they should remain at home in an effort to avoid of potential contamination of others, causing the spread of the flu.

The event was successful, immunizing over 100 people. The Wellness Center provided the necessary supplies, and also offered blood pressure screenings that day.



Rowan: Top Choice for Brazilian Scientific Mobility Program Students

This fall, Rowan University extended the reaches of its family to South America. Thanks to Rowan University's recent partnership with the Brazilian Scientific Mobility Program (BSMP), 17 Brazilian students of the science and technology majors will receive the chance to experience American culture firsthand, while making use of the University's exceptional educational resources.

In coordination between CAPES and CNPq, organizations within the Ministry of Education in Brazil devoted to both the expansion of higher education and science and technological advancement, with the cooperation of the Institute of International Education (IIE), the Brazilian government was able to award 100,000 full scholarships to the best Brazilian college students towards their explorations across the globe.

"This is an important program to be a part of because it allows students to view the world through a different cultural lens," says Timothy Torre, director of the Rowan International Program. "This experience will set these students apart in an up and coming globalized workforce."

The BSMP has existed for several years, and is an application-based program. Rowan applied last fall, and one year later, has the 17 students housed and scheduled for an academic year and a half.

"We cannot wait to go to class," chuckle Luis and Thiago, both in the second year of their four-year chemistry program, "and the labs here look amazing. We can't wait to finally be able to use them." Luis and Thiago both heard of the government sponsored program and applied immediately. When asked why they chose Rowan out of all other institutions

in the country, they responded: "we came to Rowan because we have some friends here in New Jersey," they explained, "who said that Rowan was one of the few schools involved in the program that had a fantastic chemistry program."

Beginning the spring semester, the students will begin their studies, and will have a summer break where they can stay in the states for academic training and internships. "Here in America, school is very different,"



Dean Ansari, President Houshmand, Tim Torre (Director Rowan's International Program) and Richard Jones (VP of Student Life) gather with the new international students at their inaugural welcome event.

says Thiago, "in Brazil, we just go to school and come home. Here you have a campus and fun things to do, and sports!" Besides their studies, the students hope to be able to attend the sporting events held at Rowan, and get the chance to participate in friendly pick-up games and intramurals.

Through this experience, the BSMP hopes to achieve its mission statement goals of promoting scientific research, increasing international cooperation within the scientific and technological scope, investing and funding for educational resources allocated both within Brazil and outside of the country, and initiating and engaging students in a global dialogue.

Research & Grants: Updates for Fall '13

Since Rowan's designation as a State Comprehensive Research University last July, the College of Science and Mathematics has been awarded over \$1.1M in grants and contracts, including a recent grant from the New Jersey Governor's Council for Medical Research and Treatment of Autism for work, directed by MaryLou Kerwin, professor and chair of the Psychology Department. Kerwin and her team, including fellow Psychology faculty Michelle Soreth, are examining different treatments for children with autism.

Tabbatha Dobbins, Principal Investigator, and her team consisting of fellow physics professors Michael Lim, Samuel Lofland, Xiao Hu, and Timothy Vaden from the Department of Biochemistry and Chemistry, were awarded a grant from the National Science Foundation (NSF) — a Major Research Instrumentation (MRI) program for the acquisition of a Combination Raman and FTIR Spectrometer.

Alison Krufka and her collaborators at the City College of New York and Hobart and William Smith Colleges, were awarded a NSF TUES Type II grant. This grant will allow them to integrate a transformative paradigm for undergraduate Biology education and test its effectiveness at each institution. Krufka, assistant professor in the Department of Biology, is also co-Principal Investigator with colleagues from the College of Engineering on an NSF grant award entitled "Enhancing the STEM Curriculum Through a Multidisciplinary Approach That Integrates Biology and Engineering."

Cristina Iftode, biology professor, is co-Principal Investigator with colleagues from the College of Engineering on two NSF grants: "Self-assembling Biomimetic Hydrogels with Bioadhesive Properties for Intervertebral Disc Repair" and "Enhancing the STEM Curriculum Through a Multidisciplinary Approach That Integrates Biology and Engineering."

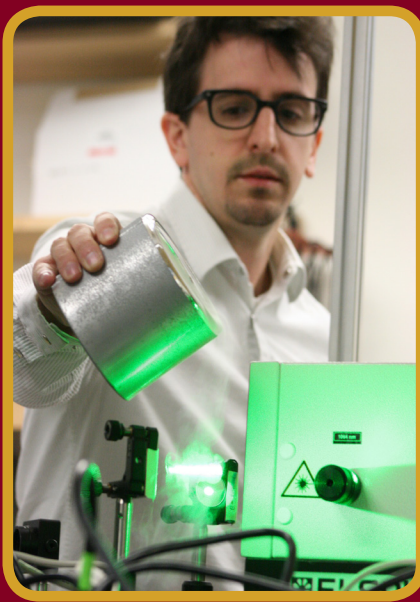
Physics professor Michael Lim is co-Investigator with colleagues from the College of Engineering on the grant award from UTRC/NJDOT to develop a laser tool for analysis of mineralogy of aggregates.

Several awards since July 1 have come from industry.

Subash Jonnalagadda leads a team including faculty from both the Department of Chemistry & Biochemistry and the Rowan University School of Osteopathic Medicine, have secured funding from NATREON Pharma to prepare pharmaceutical agents.

Lanix Exploracion has awarded a contract to Amos Mugweru and fellow Chemistry and Biochemistry faculty, Kandalam Ramanujachary, to determine elemental composition of minerals.

Mission Systems Engineering (MSE) has awarded a continuation of the J2EE Cloud Project, conducted by Vasil Hnatyshin and fellow faculty from the Department of Computer Science, Ganesh Baliga and Jennifer Kay.



Fulbright Scholar: Lauren Wederich

Roaring tides, rolling hills, winding roads, and bustling cultural cities that encompass the Southeast Asian country of Malaysia, will be nothing new to Lauren Wederich, both a seasoned traveler of Hawaii, Cancun, Italy, and the Appalachian Trail, and selection by the Fulbright English Teaching Assistantship program. Lauren, fresh off a stellar senior year sporting a nearly perfect 3.86 GPA, is preparing to spend nine months beginning this fall on the island nation in the Pacific as both a teacher in English and as an American Cultural Ambassador, seeking to submerge her senses in to the pristine cultural traditions that flow throughout the nation.



Lauren Wederich will spend nine-months in Malaysia, teaching English as an American Cultural Ambassador (Photo by Craig Terry)

Lauren's thirst for involvement and eagerness to learn about global cultures reflects back to her study abroad experience in Florence, Italy. Lauren, to future Rowan graduates states: "Study abroad changes you. It helped me feel independent and gave me a drive to keep traveling, to keep getting these outside-the-classroom experiences," she says, "it's one thing to open a textbook to look at the Berlin wall, it's a whole other thing to actually be standing there."

The Fulbright Scholar Program, established in 1946 under Freshman senator J. William Albright, was created to increase mutual understanding between the people of the United States and the people of other countries. It is sponsored by the Bureau of Educational and Cultural Affairs, and awards approximately 8,000 grants to students and teachers, both foreign and domestic per year.

Benefits Bountiful for Psychology Majors

Students in Rowan's applied behavior analysis courses have a unique opportunity to take courses while at the same time learning about the agencies that provide services to children and adults with special needs.

Initiated in 2008 by Dr. MaryLouise Kerwin, professor and chair of the Psychology Department, graduate courses in the Master of Arts and Certificate of Advanced Graduate Study in Applied Behavior Analysis have been offered at community agencies and are taught by adjunct faculty members who work in leadership positions at these agencies.

Some of the agencies that have part-

nered with Rowan include Devereux in West Deptford, Bancroft Neurohealth in Haddonfield, The Center for Neurological and Neurohealth in Gibbsboro and Y.A.L.E. School Southeast in Voorhees.

The current program coordinator and Associate Professor of Psychology, Michelle Ennis Soreth, favors this model because it provides students with the opportunity to directly observe the application of theory and procedures for clients and their families in these agencies. "Faculty members who teach these courses in their agencies appreciate the opportunity to teach the next generation of behavior analysts and showcase their agencies to Rowan's students," says Soreth.

In addition to being more convenient for these faculty members, this model also allows them to screen and recruit potential employees.

This unique arrangement benefits the students directly by expanding the expertise of faculty to whom they are exposed as well as allowing the students to experience the policies and procedures of each agency firsthand. The Department of Psychology has been pleased with this model for delivering some of its courses and continues to explore other creative ways to partner with community agencies for the benefit of our students, the agencies, and the University.

Tour For Diversity Makes Stop at Rowan

Tour for Diversity in Medicine (T4D) and the Aetna Foundation stopped by Rowan University last September in order to educate and inspire future physicians of underserved communities.

Rowan University Office of Health Professions in the College of Science and Mathematics sponsored the event in which more than 15 doctors, dentists and medical school students from across the country, gathered to provide a full-day, hands-on workshop to undergrad students at no cost.

"Our mission is to make a tangible difference in the lives of students and the broader community by offering the vision and real-world strategies to overcome barriers to address the need for greater diversity in the medical profession," said Dr. Alden Landry, co-founder of the Tour for Diversity in Medicine.

Rowan is the third stop on both organizations one weeklong tour of the Northeast to five other colleges including: Delaware State

and Bowie State Universities, and the Georgetown University School of Medicine. Each stop along the tour featured full-day sessions about the medical school application process, admission tests, and interviewing skills. Students got to work one-on-one with others within the profession, who were able to offer personal insights following their experiences.

This year will feature something different from the usual tours in that the organizations will reach out to high school students at the D.C. visit of Georgetown University, in order to expose them to academic habits, college preparation, and healthcare skills.

"As our nation's population becomes increasingly diverse, we need to ensure that future health care providers reflect the racial and ethnic diversity that will help further positive health outcomes today and for future generations," said Dr. Garth Graham, president of the Aetna Foundation.

The Tour for Diversity in Medicine is part of Hip-Hop Health Inc. and has reached over 1,400 students since its inception in 2012. Their mis-



More than 15 doctors, dentists and medical school students attended Tour of Diversity program at Rowan University.

sion statement "is to help diversify the health care profession by giving minority students the advice and tools they will need to pursue medical careers."

The Aetna Foundation is an independent charitable and philanthropic division of Aetna Inc. Since 1980, the Foundation, in conjunction with Aetna Inc., has contributed more than \$427 million dollars in scholarships and grants, \$14.6 million in 2012 alone. As a national health foundation, they are vested in promoting wellness, health, and access to high-quality health care.

Mole Day Measures Up to a Fun Time for Chem Students

The smell of freshly popped popcorn and pizza fresh out of the oven, and steam from the pouring of liquid nitrogen filled the Science Hall atrium; a carnival extravaganza in honor of the Italian chemist, Amedeo Avogadro's, discovery of the constant, 6.02×10^{23} as being the basis of measuring small particles.

On Wednesday at 6:02 am, on 10/23, the American Chemical Society (ACS) at Rowan ushered in "Mole Day."

The ACS club members showcased several events to show their devotion to chemistry including: "pin the electron on the orbital," where students were blindfolded and were to try and place their name on the atomic shell of the atom, "ACS-ium." "Guess the element" featured some liquid nitrogen ice cream as a prize if students could guess the element symbol before them, and a raffle in which participants guessed the amount of candy corn and M&M's for a free t-shirt as well as the candy.

"Most people will guess 6.02×10^{23} ," joked Lydia Hannah, a junior biochemistry major and the club's treasurer, "but that would be too much candy to fit in that jar."

A lot of the group members had been up past 1 a.m. on Wednesday preparing for the celebration, such as junior biochemistry major and club Vice President, Tim Kain.

"It's a chemistry thing, it gives us an excuse

to be nerdy," said Kain, "just like March's Pi Day [3.14]."

Although the holiday began at 6:02 a.m., ACS held their carnival from 11 am to 3 pm introducing students who were unfamiliar with the mole to its usefulness and importance.

"Mole Day has been around for about 20-30 years," explained club advisor and Treasurer of the South Jersey American Chemical Society, Dr. Timothy Vaden. "In the past the ACS has done small things to get the word out, but this year the students wanted to do something bigger, and they did a great job."

This year's Mole Day was different from last year in that the ACS incorporated a carnival theme with the third floor of Science Hall's pillars decorated in multi-colored streamers, windows covered in molecular drawings and balloons with mole faces lining the hallways. Also significant to the event was the free pizza generously donated by the SJACS.

"Last year's e-board didn't apply for a bud-

get and we really wanted to have this event, so Dr. Vaden asked for the support of the SJACS

and they helped us get all of our pizza," said Kain. "Dr. [Michael] Miller also helped us to get the popcorn machine as well."

A cornerstone of the event was the liquid nitrogen ice cream made from cream, sugar and vanilla, which drew many confused glances. Trying it for the first



time was Hannah.

"It's... different," Hannah laughed, "It's vanilla, not as thick as regular ice cream, but with chunks of ice from the nitrogen - it's like a milkshake."

Junior biochemistry major and ACS Club President, Pallavi Chary, thought that the event was extremely successful.

"It exceeded my expectations, and I'm happy that we had support from Dr. Vaden and Dr. Miller and all of the club members," Chary said. "The past couple Mole Days were very small and we set out to change that, and we did."

Save the Dates:



April 11 Dean's Senior Recognition Ceremony

April 17 40th Anniversary Psychology Conference

April 25 STEM Symposium

May 15 Graduate Commencement

May 16 Undergraduate Commencement

Rowan's Alumni Engagement is seeking nominations for 2014 Rowan University Alumni Association Distinguished Alumni Awards. Categories include:

**Distinguished Alumnus Award
Distinguished Young Alumnus Award
Lifetime Service Award
Alumni Ambassador Award**



To nominate, visit www.rowan.edu/alumni.
Hurry! Last day to submit is February 7, 2014.

Alumni Spotlight



By Stacy Lepo McGuigan, '92

Graduating May of 1992 with a BA in Mathematics, I highly value the undergraduate education I received from Rowan. The faculty was a great help when I was studying complicated new formulas and concepts. My experience provided a strong foundation for how I would approach my future professional employment with Mellon Bank and The Ritz-Carlton Hotel Company.

The path to my dream job didn't exactly begin with a big bash. I was headed for a career in number-crunching, landed a job handling investments at Mel-

lon Bank, NA for their Private Wealth Customers. As a portfolio assistant I was responsible for making percentage changes to investments that were affected by the stock market. I learned the importance of watching the stock market, stock's earnings and estimates, research public offerings, understanding the current state of the economy, and obtaining successful financial results.

After three years, I realized that the numbers for my success weren't adding up. The Banking Industry for me was blah, too boring. I realized that life wasn't always black and white like the answers to my calculus problems. I was ready for a job that was, well, more fun.

I worked as a concierge at The Ritz-Carlton in Tysons Corner, Va., and was promoted to public relations/marketing assistant in less than a year. Six months later, I was heading the hotel's PR and marketing department, which included executing and promoting all events.

When it was time to start a family, I finally confirmed that my talents were better suited to a ballroom than a boardroom. My children unleashed my passion for event planning and I knew I found my answer.

Parties are my passion, and it was time to also make it my business. I launched my event business in 2010 and haven't looked back. And my math degree? It still serves me well. I know how to budget and I have an eye for detail. It all adds up to a perfect combination: I am living my dream by helping others create the celebration of their dreams. This all began with that educational foundation I built at Rowan.

The Scope

Fall 2013

Parviz Ansari	Dean
Ieva Zake	Associate Dean
Cheryl O'Neill	Editor
Ethan Stoetzer	Writer
Amanda Stout	Designer
Joshua Darpino	Photographer

Contact:

(856) 256-4850 | (856) 256-4921 (fax)
www.rowan.edu/csm

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Send suggestions and comments to:
College of Science and Mathematics
c/o Editor – The Scope
Rowan University
201 Mullica Hill Rd.
Glassboro, NJ 08028-1701

or email csm@rowan.edu
www.facebook.com/rowanCSM

