

FROM THE DEPARTMENT CHAIR



Another academic year is nearly over, and it is a good time to reflect on the Department of Biology's overarching

strategic goal, which is "To develop a biology program that is nationally recognized for high quality education and scholarship." We are very proud to be a state college that educates many of the brightest New Jersey students, but we also know that a national reputation helps to recruit fantastic faculty and more diverse students to our department, and it opens doors to our graduates. So, how are we doing?

One way to assess our progress is to examine our recent graduates' outcomes. Our senior exit surveys for the last three years show that while many of our students remain in New Jersey, they are also reaching beyond the state, where they can help spread the word about our exceptional programs. Our recent alumni can be found in graduate schools, medical schools, jobs, the Peace Corps, and fellowships in Belgium, California, Connecticut, Dominican Republic, Finland, Germany, Iowa, Louisiana, Maryland, Massachusetts, Michigan, New York, Pennsylvania, Spain, Virginia, and Washington DC.

Greetings to all of our ambassadors both near and far! Send a postcard (or an email) to share your adventures, and whenever you have the chance please tell the world about TCNJ and your home department.

- Janet Morrison, Chair

Alumni Form Physicians Advisory Panel



Members of the Physician's Advisory Council and AMSA Executive Board at the Hippocrates Luncheon held recently. From l-r: Dr. George Roksvaag, Dr. Gautam Prasad, Dr. Ellen Deibert, Dr. Ben Levy, Prarthi Patel, Dr. Dan Egan, Sapna Shah, Dr. Tia Manning, Krishna Sheth, Colin Flannelly and Thomas Bucek.

It's a prescription for even greater success in preparing our students for medical careers, filled by our own alumni physicians.

A **Physicians Advisory Council (PAC)** has taken shape over the past several months, composed of alumni-physicians who will advise the faculty and administration of the College in preparing our students for 21st century medical education and careers. The effort has been spearheaded by members of the School of Science, the Medical Careers Advisory Committee, and the Division of College Advancement..

While TCNJ is recognized for its exceptional program in providing the foundation for graduate level medical study, the field of healthcare continues to change and evolve. The members of the PAC will offer valuable advice, counsel and resources; provide opportunities for shadow and research experiences; establish connections with institutions, industry and graduate programs; encourage and provide role models for current students pursuing medical careers, and reconnect with and support their alma mater in a most unique way.

Dr. George Roksvaag (TCNJ Biology, '74), Chief Medical Officer of Hunterdon Healthcare, chairs the Council. Other physician members include Dr. Crystal Denlinger '98, Dr. Ben Levy '03, Dr. Ellen Deibert '85, Dr. Gautam Prasad '98, Dr. Kishor Gandhi '97, Dr. Howard Chazin '84, , Dr. Teresa Ecker '82, Dr. Pawel Ochalski '99, Dr. Sindhu Srinivas '97, Dr. Dan Egan '98, and Dr. Gayatri Rao '99.

NEWS BRIEFS

Excellence in Biology Awardees Announced for 2015

Eleven seniors have been selected to receive the 2015 *Excellence in Biology* awards, based on the overall criteria of academic excellence, dedication, and involvement in the college community. The awards were presented at the annual Awards Banquet at the end of the semester, and include a monetary award as well as a certificate.

Dylan McClung and **Natella Maglakelidze** tied for First Place for the Becton-Dickinson Award, with **Bradford Newton** receiving Honorable Mention. **Haley Poquette** received the Secondary Education Award, with **Stefanie Ucles** receiving Honorable Mention. The Joseph Vena Award went to **Daniel Chawla**, with **John Stansfield** receiving Honorable Mention. **Jacob Perlman** received the Faculty Award, with **Emily Van Malden** taking Honorable Mention. The Susan Uyhazi Award was given to **Jessica Nardone**, with the Honorable Mention being given to **Colin Flannelly**.

Our heartiest congratulations go to these seniors on their exceptional accomplishments! We anticipate hearing of their work in the future.

Faculty Promotions

Marcia O'Connell and **Keith Pecor** have been promoted to Professor and Associate Professor, respectively, having fulfilled the requirements for such promotions. Congratulations to them both!

Evolutions is published twice yearly by the Department of Biology at The College of New Jersey.

Helen Kull, Editor
biology@tcnj.edu

Bio Chair Named First TCNJ Endowed Chair

The Biology Department is thrilled to have biology professor Dr. Janet Morrison named as the College's inaugural recipient of the first-ever endowed chair for the College, **The Barbara Meyers Pelson '59 Chair in Faculty-Student Engagement**. The very generous gift of \$1 million to the College "recognizes and supports faculty who have a distinguished record of faculty-student collaborative scholarship and teaching, and are exemplars of the teacher-scholar model."

The honor confirms what is plain to those of us who know Janet Morrison: she is deeply committed to teaching and fully engaging all students in learning, whether in the classroom or in the research lab. She has been recognized nationally as an advocate for and authority on mentored undergraduate research

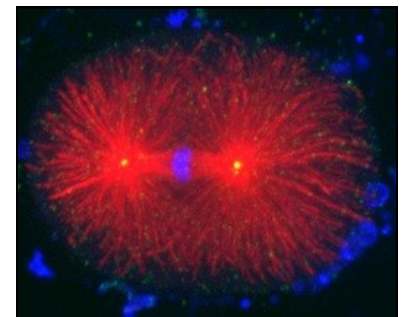
with two NSF grants, serving with the Council on Undergraduate Research (CUR), and in a national, three-year research seminar on mentoring undergraduates through Elon University.

"I feel very honored to be named the first Barbara Meyers Pelson '59 Chair in Faculty-Student Engagement," said Morrison. "Teaching and research with students have always been where I find my personal joy."

Activities to be supported by the financial support and reassigned time provided by the endowed chair will include collaborative research, scholarship and creative activity with students; campus-wide activities that enhance faculty-student engagement; and campus-wide lectures, presentations, and/or discussions. Dr. Morrison's three year term as the first endowed chair will begin in the fall of this year.

Peel Lab Receives NIH Grant

Assistant Professor Nina Peel, PhD, was recently awarded an NIH AREA (R15) grant to study microtubule glutamylation in *C. elegans*. Microtubules (in red, right) form tracks within cells, upon which motor proteins move cargo (chromosomes here, in blue) to specific destinations. The grant will enable Dr. Peel's lab to investigate whether glutamylation of the microtubules helps to regulate or direct the movement. Since the process also occurs in humans and its loss is associated with disease, this research will inform the understanding of basic disease mechanisms.



The National Institute of Health (NIH) is currently the primary funder of biomedical research in the US, and supports research that will ultimately enhance human health. The R15 program specifically promotes the involvement of students in the research process. The three-year award of \$200,000 provides funding for research supplies, stipends for summer research students, and will pay for Dr. Peel and her students to travel to international conferences to present their research findings. Congratulations to Dr. Peel and her lab!

SCHOLARSHIP

Neuroscience

Several of Dr. Erickson's independent research students won presenter awards at the combined 30th Annual Lehigh Valley Undergraduate Psychology Conference and the 6th Annual Lehigh Valley Society for Neuroscience Undergraduate Research Conference, held at Lehigh University in April.

Students presented three posters on ongoing work in the lab:

Ami Shah and Sapna Shah: "A cry for help: Ultrasonic vocalizations, serotonin deficiency, and the expression of mouse maternal behavior"

Shota Kikozashvili and math major **Anshu Patel:** "The effect of serotonin deficiency on "fictive" breathing in the isolated neonatal mouse brainstem/spinal cord" (Awarded First Place for Poster Presentation)

Jessica Nardone: "Does prenatal nicotine exposure alter serotonin neuron development in the Pet-1 knockout mouse?" (Awarded Second Place for Poster Presentation)

Tri Beta Convention

Our students also excelled at the Northeast District 2 Tri-Beta Convention in March, held at Cabrini College in PA. TCNJ attendees were **Andrew Goldfarb**, **Dylan McClung**, **Abigail Calixto**, and **Sabhya Gupta**, who all presented work that either they have done at TCNJ or over the summer at other colleges.

Andrew Goldfarb was awarded the Frank G. Brooks Excellence in Undergraduate Research Award at the convention, rendering him eligible to attend the Tri Beta national convention in St. Paul Minnesota in the summer of 2016. **Dylan McClung** was awarded second place for oral presentation, and **Abigail Calixto** was awarded third place for poster presentation.

Phi Kappa Phi

Abigail Calixto, a Gateway junior in Dr. KT Elliott's lab, has also been awarded a *Phi Kappa Phi* Student-Faculty Research Award.



Biology of the Seed Plants class members investigate the many varieties of plants at Longwood Gardens with Dr. Thornton.

Sigma Xi Conference

Western Connecticut State University was the destination for Wendy Clement PhD, and five of her research students to present research at the Sigma Xi NE Regional Research Conference in April.

Syndi Barish presented research on "Optimization of microsatellite loci for study of *Viburnum* population dynamics;"

TJ Stammer discussed "The evolution of seed shape and implications for seed dispersal in *Viburnum*;"

Alanna Cohen presented on the topic of "Complex evolutionary histories and their effects on phylogenetic analysis in *viburnum*;" and

Amanda Goble and **Patrick Gallagher** presented on "Unearthing the *Viburnum* phylogeny for study of taxonomy and historical biogeography."

Mid-Atlantic ASPB Meeting

Students from the Thornton Lab presented research recently at the Mid-Atlantic Meeting of the American Society of Plant Biologists. **Tiffany Piatt** discussed "Environmental stress responses mediated by CYP72A enzymes," assisted by fellow research students **Ed Jung**, **Kevin Mesina**, and **Ariel Moskowicz**.

AND... Senior Biology major **Dylan McClung** was recently awarded an NSF Graduate Research Fellowship.

Nat'l Shellfisheries Meeting

Gary Dickinson PhD and three of his students presented research at the National Shellfisheries Annual Meeting in Monterey, CA. Research topics presented were "Characterizing barnacle glue proteins" (**Julian Sison**); "Assessing the effects of ocean acidification on Tanner crabs" (**Shai Bejerano**); and "Effects of ocean acidification on juvenile king crabs" (**Aparna Yarram**).

ASCB Conference

Research students **Danielle Flood**, **Stefanie Ucles**, **Nikita Paripati**, **Daniel Sprague**, **Kristen Randolph**, **Daniel Chawla**, and **Andrew Goldfarb**, from the labs of Amanda Norvell PhD, Tracy Kress PhD, and Nina Peel PhD, traveled to Philadelphia in December to attend and present several research posters at the Annual Meeting of the American Society of Cell Biology.

Newly Published....

Spriggs, E.L., **W.L. Clement**, P.W. Sweeney, S. Madriñan, E.J. Edwards, and M.J. Donoghue. 2015. Temperate radiations and dying embers of a tropical past: The diversification of *Viburnum*. *New Phytologist*. doi: 10.1111/nph.13305.

Congratulations to everyone!

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THE COLLEGE OF NEW JERSEY

TCNJ



cALL INg all Bio Majors!

The Biology Department won the First Annual "Best TCNJ School of Science Department Contest" a few weeks ago (<http://biology.tcnj.edu/2015/04/24/biology-dept-earns-first-ever-best-dept-title/>); now it's time to step up and win the

Young Alumni Giving Competition!

It's time to go **ALL IN** for the

Biology Department!

Visit <http://givingcompetition.tcnj.edu/science/> and score for BIO!!!!

Think back on all those great times with the awesome professors, and help us take first place!

THANKS!

FACULTY SKETCH

Leeann Thornton, PhD

Associate Professor

Plant biologist

8 years at TCNJ

B.S., Biology

James Madison University

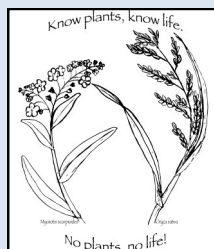
Ph.D., Plant Biology

Favorite course as an undergrad: Plant Physiology

Favorite non-science course as an undergrad: Ballroom Dancing

Research interests:

Cytochrome P450 regulation of plant environmental responses



Dr. Thornton recently submitted artwork for a t-shirt design contest for "Fascination of Plants Day," an international initiative to raise global awareness of the importance of plants for people and the environment. Her design (left) was selected by the American Society of Plant Biologists as the top choice for distribution in the plant biology community.

Dr. Thornton will be on sabbatical next year at the Boyce Thompson Institute at Cornell University, conducting research on plant-insect interactions. We wish her well, and will miss her!