

## FROM THE DEPARTMENT CHAIR



All TCNJ biologists past and present should rejoice – spring has

finally arrived in central New Jersey! The cherry trees are in bloom (Genus *Prunus*), the robins have arrived (*Turdus migratorius*), and Commencement for the Class of 2014 is just around the corner. Another spring arrival is this first, inaugural edition of *Evolutions*, the new newsletter from the Department of Biology.

The students, faculty, staff, and alumni of TCNJ Biology continue to build a thriving community of people dedicated to learning, science, and citizenship. It is our great pleasure to present this newsletter to keep you informed about happenings and accomplishments in our community. In this first edition, you will read about award-winning students, the many scholarly presentations made by faculty-student research teams at conferences throughout the country, and more.

Look for *Evolutions* twice a year, and send us notable news to feature in future additions ([biology@tcnj.edu](mailto:biology@tcnj.edu)). I send a special greeting to Biology alumni – please keep in touch and let us know what you are doing!

- Janet Morrison , Ph.D.

## BIO STUDENTS STRIKE GOLD(WATER)!



TCNJ Biology students **Syndi Barish, Daniel Chawla, Dylan McClung** (l to r) and **Andrew Goldfarb** (not in photo) have won “gold” this year: not from the Olympics, but from the Goldwater Scholarship and Excellence in Education Awards Program! Amazingly, *each one* of TCNJ’s four nominees received honors.

Biology and Applied Mathematics major Syndi Barish and Biology major Andrew Goldfarb were two of 283 nationwide recipients of the 2014 Goldwater Scholarship. Ms. Barish intends to pursue a PhD in Genetics and study genetic disorders. Mr. Goldfarb intends to pursue an MD/PhD in Clinical Genetics, and conduct research in genetic engineering. Biology majors Daniel Chawla and Dylan McClung were also recognized with an ‘honorable mention.’ Mr. Chawla is interested in earning a PhD in Neuroscience, and Mr. McClung is intends to pursue a PhD in Molecular Biology and Microbial Genetics.

The program, the most prestigious undergraduate award program in the sciences, was established by Congress in 1986 to honor the late Senator Barry Goldwater, and encourages excellence in STEM fields by offering a \$7500 scholarship to sophomores or juniors intending to pursue STEM careers. Competitive students must have a stellar GPA, demonstrate leadership potential, and be articulate in their reasons for pursuing a career in research. The awards are significant, and the academic qualifications of the recipients often gain the attention prestigious post-graduate fellowship programs.

Our heartiest congratulations are offered to these outstanding students, and to their mentors in the Biology Department: Dr. Wendy Clement (Syndi Barish), Dr. Donald Lovett (Andrew Goldfarb), Dr. Nina Peel (Daniel Chawla), and Dr. KT Elliott (Dylan McClung).

## NEWS BRIEFS

### *Excellence in Biology Awards Announced*

Ten seniors have been selected to receive this year's Excellence in Biology awards, based on the overall criteria of academic excellence, dedication, and involvement in the college community. The awards will be presented at the Annual Awards Banquet at the end of the semester.

Receiving the Susan Uyhazi Award are **Amanda Soler** and **Letitia Thompson**, with Honorable Mention going to **Jen Aleman** and **Wil Prall**.

Receiving the Joseph Vena Award are **Sydney Hope** and **Frank Stabile**, with an Honorable Mention to **Daniel Ferrer**.

Receiving the Faculty Award are **Sarah Hirsh**, **Colleen Stalter**, and **Alyse Volino**.

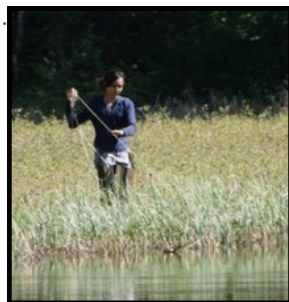
Our heartiest congratulations go to these seniors on their exceptional accomplishments!

### *βββ Blossoming!*

The Chi Upsilon Chapter of Beta Beta Beta Biological Honor Society recently inducted 35 new regular members and 25 associate members from the Biology Dept. at its annual ceremony in April. This year's officers have been **Colleen Stalter**, **Dylan McClung**, **John Spiegel**, **Jennifer Aleman**, and **Lauren Langbein**. **Dr. Leeann Thornton** serves as the faculty advisor for the organization.

Evolutions is published twice yearly by the Department of Biology at The College of New Jersey, and is edited by **Helen Kull** (biology@tcnj.edu).

## Biology Student Awarded a Fulbright Fellowship



Congratulations to **Ms. Krishna Parekh** (Biology, Dec '13), who was recently awarded a Fulbright Fellowship to conduct research in Finland on the evolution of stickle-back fish. Ms. Parekh conducted research with Biology Department professor **Dr. Matthew Wund** on particular aspects of adaptive evolution in both marine and freshwater populations of stickleback fish, and accompanied Dr. Wund on trips to Alaska to gather specimens and data.

Ms. Parekh (pictured above) will be working in Finland with Dr. Erica Leder of the Department of Biology at the University of Turku from September 2014 to May of 2015, continuing to compare adaptive differentiation among different populations of stickleback fish.

"I'm really honored and grateful to accept the Fulbright," said Ms. Parekh, "and couldn't have done it without the support of my TCNJ community, especially Dr. Wund, my supervisors, the Fulbright Program Committee, and my friends."

"I'm nervous about going abroad alone for the first time, but more so excited because I'll definitely meet new people and will be engaged in something I enjoy in a beautiful city."

## AMSA Hosts 2nd Hippocrates Luncheon

Aspiring undergraduate pre-meds were both encouraged and inspired at a luncheon hosted by AMSA on Sunday March 30 when a panel of former TCNJ students shared their perspectives on their career journeys within the healthcare profession.

"As students, we really enjoy the time spent with the alumni because it gives us a real and personal perspective of the arduous yet fulfilling pathway to becoming a health professional," said **Sanjna Sanghvi** (Bio '14), AMSA President and one of the organizers of the event.

Current medical school students **Jaya Kanduri** (Bio '13; Yr 1 at RWJMS), **Eric Goldwaser** (Bio '11; Yr 3 at Rowan DO/PhD program) and **Ari Goldwaser** (Chem '13; Yr 1 at Rowan NJSOM) joined with older TCNJ graduates in the informal setting. Representing a variety of medical fields were alums **Marvella Cephas** (Nurs '88), **Julie McGuire** (Nurs '82), **Patrick Rossi** ('73), and **Melissa Warta**. About two dozen undergraduates listened intently to the panel discussion, and then sat with the alumni at the luncheon, asking questions about the medical school application process and life at medical school and beyond. Biology professor and Medical Careers Advisory Committee Chairperson Marcia O'Connell and Staff Helen Kull of the Medical Careers Advisory Committee also attended the gathering held in the School of Education.



## SCHOLARSHIP

Five TCNJ Biology students presented research at the **NE District 2 Tri Beta Convention** at Mt. St. Mary's University in Emmitsburg, Maryland in March, and came home with 3 of the 4 awards given for the poster presentations.

Accompanied by Dr. KT Elliott, the students and their research topics were:

- **Jennifer Aleman:** "GLD-1 expression during germline development in *C. elegans*"
- **Lauren Langbein:** "Msc1 interacts with the kinetochore to ensure accurate chromosome segregation"
- **Dylan McClung:** "Genetic analysis of YggF, a predicted Holliday junction resolvase in *Acinetobacter baylyi* ADP1"
- **Ryan Moazamian:** "Examining the functionality of the NuA4/Swr1 complexes in gene expression"
- **Rob Myers:** "Neoplastic transformation of neural precursor cells to model glioblastoma multiforme"

The following five TCNJ Biology students recently attended the Annual Meeting of the NE Section of the American Society of Plant Biologists, held in Kingston, RI, accompanied by their research mentor, Dr. Leeann Thornton. Students Wil Prall and Amanda Soler presented their research posters.

- **Wil Prall:** "Phylogenetic and functional analysis of the CYP72A enzymes contributing to secondary metabolism in flowering plants"
- **Amanda Soler:** "Molecular, genetic and biochemical analysis of the stress response activity of CYP72A enzymes from *Arabidopsis*," with co-authors **Sundeep Gidugu, Oliver Hendy, and Nikitha Yerram.**



TCNJ Biology students received three of the four awards given recently at the NE District 2 Tri Beta Convention held in March. Standing proud from left to right are Jen Aleman, Ryan Moazamian, Dr. Elliott, Lauren Langbein, Rob Myers, and Dylan McClung.

The following three students from Dr. Nina Peel's lab presented posters at the William Paterson University Undergraduate Research Symposium in April. **Jessica Lee** was honored with the First Prize in the Genetics category for her presentation.

- **Zachary Barth:** "Decreased tubulin glutamylation impairs male worm fecundity"
- **Daniel Chawla:** "Tubulin glutamylation: post-translational regulation of microtubule severing"
- **Jessica Lee:** "Combining mutations in 5 TLL enzymes to investigate the function of tubulin glutamylation"

**Letitia Thompson** was awarded a travel grant to attend and present at the 2014 Drosophila Research Conference in San Diego. Attending with her mentor Dr. Amanda Norvell, she presented a poster entitled "*grk* mRNA alternatively spliced during oogenesis."

Seven students attended the Mid-Atlantic Chapter of the Ecological Society of America's 2014 Annual Meeting at the University of Maryland at College Park in March. Dr. Janet Morrison accompanied her students presenting research:

- **Alison Ball, John Spiegel, Gio Tomat-Kelly, Nicole Mallotides, Priya Dalal, Danielle Leng, and Shane Wilkins:** "Recruitment of experimental garlic mustard and Japanese stilt-grass populations in metro forests"
- **Nicole Mallotides:** "Native tree seedlings and over-abundant white-tailed deer in the metropolitan forest"
- **Shane Wilkins:** "Variation in the abundance of a spring ephemeral wildflower in deer-ridden suburban forests"
- **Megan Wyles:** "Population genetic diversity and ecological invasion"

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## UPCOMING EVENTS

### COMMENCEMENT!

**Biology Dept Ceremony:**  
Thursday, May 15 at 9 am in the  
Recreation Center.

**Main (College-Wide) Ceremony:**  
Thursday, May 15 at 5:30 pm in the Lions  
Stadium (or indoor venues if necessary).

More information available at:

<http://commencement.pages.tcnj.edu/>

### MUSE!

The 2014 Mentored Undergraduate Summer Experience (MUSE) runs campus-wide June 2 through July 25. This year, seven Biology research labs will be filled with at least 15 research students gaining critical research skills, and contributing toward the work done at TCNJ.

## FACULTY SKETCHES

**DONALD  
LOVETT**

**Integrative  
Physiologist**



24 Years at TCNJ

B.A.S – University of Montana, Zoology  
B.S. – University of Montana, Fisheries  
M.S. – U. Michigan, Resource Ecology  
Ph.D. – U. Louisiana at Lafayette,  
Evolutionary and Environmental Biology

**Favorite Class as an Undergrad:**

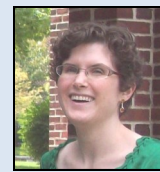
Desert Ecology, with desert camping

**Non-science Hobby:**

Photography; cooking; travel

**Research interests:** Osmoregulation in  
estuarine crabs; biota of Galápagos Islands.

**K.T.  
ELLIOTT**  
**Geneticist**



2 Years at TCNJ

B.S., University of Richmond  
Ph.D., University of Michigan,  
Microbiology and Immunology

**Favorite Class as an Undergrad:**

Prokaryotic development

**Non-science Hobby:**

Cheering on the Michigan Wolverines;  
Reading and doting on her dog Betsy

**Research interests:** Bacterial genetics -  
genome rearrangements and recombination

### WANT TO DONATE TO BIOLOGY AT TCNJ?

Send a check to TCNJ with "Biology Dept" in the memo line, or go online at <https://community.tcnj.edu/GiveNow>, specifying "other" and adding "Biology" in the box.