

## FROM THE DEPARTMENT CHAIR



I took over as Chair of Biology in July 2016 after having been elected unanimously by my colleagues last spring. I was the only person running for the office, but still, unanimous support is appreciated.

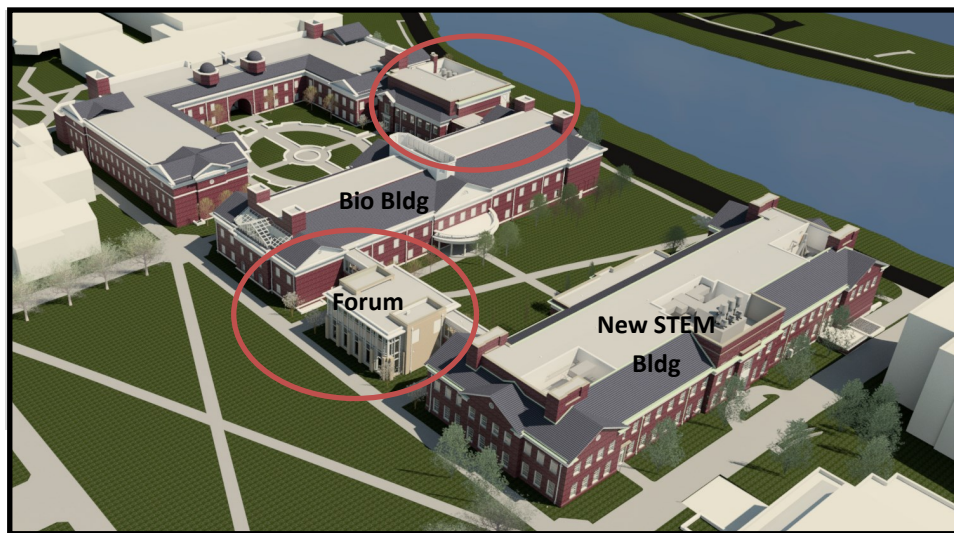
Outside of academia, department chair is viewed as a position of some power. Inside of academia, department chair is often seen as a burden for drawing the shortest straw. It was telling that the revelation of my election on my Facebook page was met with “congratulations” from my non-academic friends and “sorry” from my academic friends.

Despite these sentiments, I put my name forward to be the next chair of Biology because I believe strongly in the excellence of our students, faculty, and staff, and I wanted the opportunity to be their advocate and leader. To date, I have not been disappointed. As you will see in the pages of this newsletter, TCNJ Biology is doing amazing things. We are conducting interesting, impactful research and presenting our findings at conferences and in publications both nationally and internationally. We are offering a breadth of courses that are using state-of-the-art equipment and pedagogies. We are making a difference College-wide through the participation of faculty, students, and staff on committees and task forces in a variety of areas. Our building is being remodeled as part of a larger construction effort on campus and will have dynamic new spaces for all members of our community.

It is an exciting time to be a Lion, and I am proud of our pride. (My former students know that I could not finish this without a lame joke of some sort!)

~ Keith Pecor, Chair

## Biology Impacts Stemming from STEM



*Architect's rendering of new STEM Complex. Biology Bldg (center) connects at ovals with Chemistry in new construction at top, and with Forum at bottom.*

Progress is sure and steady on the new construction surrounding the Biology Building! At this writing, most all of the exterior structural framework is completed, and the buildings are now receiving their exterior coats of brick. Progress is undoubtedly moving along within the buildings as well—it's just harder to see that as one passes by!

While Biology majors will certainly benefit from these new buildings and all of the instrumentation, learning spaces and opportunities they will provide, the Biology Department is not directly gaining new space. In fact, as preparations are being made to physically connect the Biology Building to the two new adjoining spaces (the new Chemistry portion with a Chemistry Commons and lab space, and the new Forum), changes are being made to Biology spaces that are affected, with some loss of space as a result. On the first floor, a research lab will need to move; and on the second floor, the Microbiology Prep Room will be relocated. These changes will be occurring soon.

However, biology is all about adaptation—and our department is rolling with the flow of progress! The Botany Lab will be renovated to accommodate the complementary research of two faculty members, and after a brief game of “musical labs,” all research needs will be accommodated. There will even be an additional space for students to gather and study or discuss pertinent material.

“We are looking forward to the opportunities, especially for interdisciplinary work, that these new spaces and our connections to them will provide for our faculty, students and staff,” muses Keith Pecor, Biology Department Chair. “Biology has been at the figurative center of much of 21st century science, and now we will be at the literal center of science at TCNJ.”

Feel free to come and visit the campus soon to see all the new changes!

## NEWS BRIEFS

### ***O'Connell on Sabbatical***

Professor Marcia O'Connell, PhD, will continue her research on various aspects of the roles of maternal genes in the regulation of embryonic development in zebrafish at the renowned Pasteur Institute in Paris, France, while on sabbatical during the Spring and Summer of 2017. We wish her "bon voyage" and "bon chance!"

### ***Norvell Chairs Med Careers***

Professor Amanda Norvell, PhD, has been named as Chair of the Medical Careers Advisory Committee, and officially begins in that position in January 2017. She has, however, already begun to guide and advise students looking to pursue a career in the health professions as a part of that role.

### ***AMSA Holds Mock Interviews***

Members of the student chapter of AMSA were recently afforded the opportunity to hone their interviewing skills with members of TCNJ's Physicians Advisory Council, in preparation for upcoming interviews with medical schools across the country. Conducted over the phone, the mock interviews provided constructive feedback for the students, and a chance for current and future alumni physicians to chat.

### ***BBB Scares Up Some Fun***

Members of TCNJ's biological honor society, *Beta Beta Beta*, served some fun to children at the Trenton Area Soup Kitchen (TASK) during its annual Halloween Party. Joining with TCNJ Bonner Community Scholars and TASK staff members, our Tri-Beta students provided enjoyable activities for both children and their parents.

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

**Helen Kull, Editor**

## Kress Receives R15 NIH Grant Award

The National Institutes of Health (NIH) has awarded Biology Department Associate Professor Tracy Kress, PhD, with a three-year Academic Research Enhancement (R15) Award of just under \$400,000 to support her research and that of her students into transcription and RNA splicing.

"The mechanisms by which RNA splicing is tightly coordinated with transcription to ensure accurate and efficient gene expression are not well understood," Dr. Kress explains passionately. "This gap in our knowledge represents a significant problem in understanding the molecular basis for how the mis-regulation of gene expression results in human disease, including neurological disorders and cancers."

The NIH award will fund Dr. Kress' research goal of using easily manageable  
(continued next column) (below, Kress lab)

yeast (*Saccharomyces cerevisiae*) as a model organism to investigate the mechanisms that reciprocally couple transcription with RNA splicing, and specifically the novel connections between RNA splicing and chromatin-modifying complexes, which are involved in transcription.

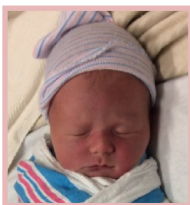
The three-year award will fund Dr. Kress' research expenses, as well as travel to collaborators' labs and to national meetings, and summer research stipends for two research students each year.

So-called "R15" awards support small-scale research projects at institutions that are not major recipients of NIH support. Their goals are to support meritorious research, expose students to research, and to strengthen the research environment of the institution. Congrats, Dr. Kress!



## NEWS BRIEFS continued

### ***Bio Babes Keep Comin'***



**Maeve Astrid Bunting** joined the extended Biology Department family on October 16, 2016. She joins big sister Zola at home, and of course Mom and

Dad, Assistant Professor Nina Peel and Sam Bunting.

**Grady Butler** has also joined the extended Biology Department family, the infant son of Lynn and Associate Professor Luke Butler. Congratulations and welcome, all!

### ***Faculty Promotions***

**Amanda Norvell, PhD** has been promoted to full Professor.

**Tracy Kress, PhD** has been promoted to Associate Professor.

### **SAVE THE DATE!**

**TUES FEB 28**

**Tasting the  
Tree of Life:  
Exploring  
Biodiversity  
through Cuisine!**

**More info on  
Bio webpage**





# SCHOLARSHIP

## Research Presentations:

Six TCNJ Biology students, accompanied by research mentor and Professor Janet Morrison, presented research posters in August at the Botany 2016 Conference in Savannah, Georgia. The presentations all considered some aspect of various ecological interactions among invasive species within suburban forests. The topics of their research presentations were:

**Mitchell Vaughn and Ryan Goolic:** “A clash of continents within New Jersey suburban forests”

**Elizabeth Matthews, and Marisa Grillo:** “An account of *Lonicera japonica* being aided by an invasive shrub while inhibiting a native herb, leading to its successful invasion”

**Jennifer Wells:** “Japanese stiltgrass and garlic mustard: forest invasion and priority effects”

**Scott Eckert:** Juvenile trees in suburban forests: insights from structural equation modeling”

Professor Janet Morrison was a co-author on each of the above posters, as well as primary author of the following poster:

**Janet Morrison:** “Herb layer response to deer exclusion and staged plant invasion within suburban forests”

Six TCNJ students attended the 19th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences in October at the University of Maryland Baltimore County, accompanied by research mentor **Jeffery Erickson, PhD.** **Sapna Shah** presented a poster on her research, and received first place in the morning Biological Sciences poster competition, with her poster, “Mother-infant interactions: The effects of serotonin-deficiency on ultrasonic vocalizations in neonatal Pet-1 knockout mice.”

**Dickinson GH, Nardone JA, McNicholl CG, Siegel KR, Tedesco D, Patel, S, Orihuela B, and Rittschof D.** 2016. Barnacle adhesion and biomineralization in a changing ocean: assessing the effects of seawater salinity and pH. Presented at 18th International Congress on Marine Corrosion and Fouling, Toulon, France.

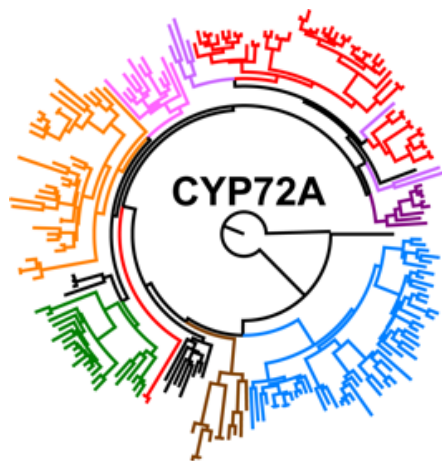


Sapna Shah (right, with award) and five other TCNJ students pose next to University of Maryland Baltimore County research mascot “True Grit” after attending the 19th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences.

## Newly Published:

**Prrall W, Hendy O, Thornton LE.**

2016. Utility of a Phylogenetic Perspective in Structural Analysis of CYP72A Enzymes from Flowering Plants. *PLoS ONE* 11(9): e0163024. doi:10.1371/journal.pone.0163024



**McClung D, Calixto A, Mosera M, Kumar R, Neidle E, and Elliott KT.** Novel heterologous bacterial system reveals enhanced susceptibility to DNA damage mediated by *yqgF*, a nearly ubiquitous and often essential gene. *Microbiology*, October 2016 162:1808-1821, doi: 10.1099/mic.0.000355.

Ming, X., Radhakrishnan, V., Kang, L. and **Pecor, K.** 2016. Gender, headaches, and sleep health in high

school students. *Journal of Women's Health* 25:930-935.

Grover, K, **Pecor, K.**, Malkowski, M., Kang, L., Machado, S., Lulla, R., Heisey, D., and Ming, X. 2016. Effects of instant messaging on school performance in adolescents. *Journal of Child Neurology* 31:850-857.

**Pecor, K.**, Kang, L., Henderson, M., Yin, S., Radhakrishnan, V., and Ming, X. 2016. Sleep health, messaging, headaches, and academic performance in high school students. *Brain and Development* 38:548-553.

**Dickinson GH,** Yang X, Wu F, Orihuela B, Rittschof D and Benjash E. 2016. Localization of phosphoproteins within the barnacle adhesive interface. *Biological Bulletin*. 230: 233-242.

Staflslien SJ, Sommer S, Webster DC, Bodkhe R, Pieper R, Daniels J, Wall LV, Callow JA, **Dickinson GH** et al. 2016. Comparison of laboratory and field testing performance evaluations of siloxane-polyurethane fouling-release marine coatings. *Biofouling*. 8: 949-968.

**Chawla DG, Shah RV, Barth ZK, Lee JD, Badecker KE, Naik A, Brewster MM, Salmon TP, Peel N.** *Caenorhabditis elegans* glutamylating enzymes function redundantly in male mating. *Biol Open*. 2016 Sep 15;5(9):1290-8. doi: 10.1242/bio.017442.

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# UPCOMING EVENTS

## Biology Colloquia, Spring 2017

Generally held in SC-P101 at 12:30 pm

**Friday, February 10**

**Brittany Graf, TCNJ '10 (?)**

of Rutgers University, on therapeutic properties of certain Latin American plants

**Friday, February 24**

**Rob Kulathinal of Temple University**

**Friday, March 10**

**Rebecca Lyczak of Ursinus University,**  
on the role of the centrosome in polarization of the *C. elegans* embryo

## MUSE!

The 2017 Mentored Undergraduate Summer Experience will run campus-wide June-July.

## Hippocrates Luncheon

**Sunday, April 2, Noon**

**School of Education, Rm 212**

AMSA's 5th annual Hippocrates Luncheon brings together students interested in med school with our health-professions alumni for an informal lunch and panel discussion about careers in medicine and the health professions.

## Tri-Beta Induction Ceremony

**Friday, April 28, 7 pm; Location TBA**

Some of our best and brightest will be inducted into *Beta Beta Beta*, the national biology honor society, at this annual event. The guest speaker for the evening is still being determined at the time of this writing.

## **COMMENCEMENT 2017!**

**Thurs May 18 and Fri May 19**

Celebrate with family, friends and alums as members of the Class of 2017 receive their diplomas and set off for fame and fortune! The time and location for the Biology Department Ceremony has not yet been announced, but will certainly be posted on the TCNJ website in the near future. The Main (College-Wide) Ceremony will be held in the Lions Stadium at a time yet to be announced over the course of the two-day event.

More information at  
<http://commencement.tcnj.edu/>