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School of Graduate Studies, East Tennessee State University. 2017. Illuminated Magazine. Volume 7. Issue 1. Johnson City, TN: East Tennessee State University. <https://dc.etsu.edu/illuminated/15>

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GRADUATE STUDENT RESEARCH MAGAZINE

ETSU SCHOOL OF GRADUATE STUDIES
VOLUME 7, ISSUE 1
FALL 2017



illuminated



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FROM THE SCHOOL OF GRADUATE STUDIES

The East Tennessee State University School of Graduate Studies is proud to present *Illuminated*, a magazine that showcases the excellent work of our graduate students and their faculty advisors. There are over 2,400 students enrolled in graduate programs at ETSU. *Illuminated* presents some of our students' research and creative works that make meaningful contributions to various disciplines, and contribute to our strong graduate programs. *Illuminated* features research and creative projects that are currently happening on campus, and provides updates on alumni of ETSU graduate programs.

Enjoy!

Celia McIntosh, Ph.D.
Dean

Karin Bartoszuk, Ph.D.
Associate Dean

Scott Kirkby, Ph.D.
Assistant Dean

Are you excited about your research and would like to share your hypothesis or findings? You might be a perfect fit for *Illuminated*. There is more than one way to get involved!

For current graduate students and their advisors:

Are you or one of your graduate students working on a culminating experience (e.g., thesis, dissertation, capstone)? Your research could receive additional exposure through *Illuminated Magazine* and help educate the rest of the campus about your department and program. This is a unique opportunity to get your work recognized!

For current graduate students and their advisors:

Did you or one of your students get accepted into an excellent doctoral program or receive an excellent career opportunity? We want to hear about it! Share your story in the “Where Are They Going?” section.

For former graduate students and their advisors:

Do you know an outstanding student who graduated from ETSU more than a year ago? We want to hear from them! The “Where Are They Now?” section features former ETSU graduate students who are now professionals in positions across the country.

Form available: http://www.etsu.edu/gradstud/documents/illuminated_nomination_form.pdf
For more information on nominating students or getting featured in *Illuminated*, please contact:
Dr. Karin Bartoszuik, bartoszu@etsu.edu.





NORDIC NOIR

WRITTEN BY KATHLEEN TATRO | PHOTOS BY CARLYNN OWEN

Dr. Michael Cody and Bradley Hartsell

BRADLEY HARTSELL | ENGLISH, M.A. DR. MICHAEL CODY, FACULTY ADVISOR

Bradley Hartsell, a native of the Tri-Cities, attended ETSU as an undergraduate, and earned his bachelor of arts degree in English in 2012. He then spent two years working the beat as a newspaper reporter in the suburbs of Atlanta before deciding to return to ETSU to pursue his master of arts degree. It was here at ETSU that Bradley fostered his interest in Scandinavian culture, and found a niche in the world of literary scholarship that needed to be filled.

After Bradley began the program as a late addition in Spring 2016, he was happy to find that at ETSU he could explore other avenues and genres of literature by looking beyond his preconceived notions of what literature students had to study. He met Dr. Michael Cody, professor and Assistant Chair for Graduate Studies, when he took a course on literature and film, and learned that Dr. Cody had a passion for detective fiction. Bradley spent time discussing detective fiction with Dr. Cody, and found that it fit into

his interest in Scandinavian culture, because a huge export of Scandinavian culture is detective novels. Bradley found that there is an interesting paradox between how the Swedish live and the gruesome fiction they produce. This paradox led to the development of his thesis question which addresses why Swedish authors create these grisly works when, on most accounts, Sweden is an idyllic, progressive, and tolerant nation.

Swedish detective fiction began in the 1960s, and acted as a vehicle for social commentary and cultural criticism. Bradley's central idea behind his research was an evolution from exploring the source of the literature to investigating the Swedish identity and the politics behind it.

Bradley credits the Society for the Advancement of Scandinavian Study (SASS) conference in May of 2017 for illuminating the holes in his understanding of his topic, challenging his preconceived notions, and providing a more concrete

direction for his research. Prior to the conference, his work had focused on relationships of race, gender, and class in the works of several prominent Swedish detective fiction writers: Hennig Mankell, Helene Tursten, and the writing team of Maj Sjöwall and Per Wahlöö. These authors were all heavily influenced by the police procedurals first created by American author Ed McBain, which diverged from previous crime literature that focused on private investigators. These works by McBain—and those following from the Scandinavians—use an ensemble cast of characters, sometimes known as a conglomerate hero, working together through detailed investigative procedures to solve a crime.

During conversations with top scholars in the field of Scandinavian studies, however, Bradley was able to bounce ideas around, and find the direction that was most productive for his study. The conference experience has led Bradley to focus on the Detective Irene Huss series by Tursten. While Tursten's novels seem to follow a similar pattern to well-known counterparts, such as Mankell, Bradley learned upon deeper reflection and exploration that

Tursten explores gender in a novel way. While other authors feature women as nontraditional detectives not on the police force, i.e., medical examiners, reporters, photographers, Tursten created a female protagonist who was at the forefront of the investigation as a homicide detective. Bradley has also found that Tursten is unafraid to be critical of the phenomenon known as “Swedish guilt,” which is the residual result of inaction, complacency, and even sympathy related to the Nazi movement that a portion of the Swedish population exhibited during World War II. Swedish authors often try to absolve themselves, and their nation, of this guilt by creating a story that is more black and white than the reality was, so that their protagonists seem infallible as they easily maneuver around these delicate topics. However, Tursten is much more critical than Mankell and others of the role played by her nation, and her characters address lingering “Swedish guilt,” taking responsibility for the culture’s regrettable history. Tursten seeks to

humanize her characters instead of simply creating admirable heroes who solve muddled crimes without getting their hands dirty.

“**ASK QUESTIONS...
BE RELENTLESS IN
YOUR EFFORTS AND...
NEVER FEEL THE NEED
TO SETTLE.**”

The mentor-mentee relationship developed throughout graduate school is a valuable asset to students during and after their time at ETSU. Dr. Cody credits Bradley’s ingenuity and work ethic for his success during his research. He describes his approach to mentoring as hands-off, allowing Bradley to explore multiple avenues, even reaching out to authors of Swedish crime literature, like Tursten herself, to sit down and discuss these ideas about the genre. Bradley thanks Dr. Cody for constant encouragement that helps him feel confident in company and

contact with important thesis-related scholars and writers from California to Sweden, taking his vague interest in Swedish culture and turning it into a viable thesis.

Bradley plans to graduate in December of 2017 with his master of arts degree in English. His future plans include applying for doctoral programs in Scandinavian Studies, where he hopes to continue his present research. He has also applied for a Fulbright scholarship to conduct more intensive research in Sweden. Should he be granted the Fulbright, Bradley plans to meet with Tursten to discuss her works and viewpoints on Swedish crime literature and why her work has not caught on like that of other Swedish writers, such as Mankell and Stieg Larsson.

After his time at ETSU, Bradley would offer this advice to current and future graduate students: to not limit yourselves, to ask questions, to communicate with your peers and teachers, to be relentless in your efforts, and to never feel the need to settle. •



Displayed are some of the books that Bradley and Dr. Cody have been discussing during Bradley’s time at ETSU.

RESEARCH GRANT AWARD RECIPIENTS

2017-2018

SHINA BHATIA BIOLOGY, M.S.

Functional Validation of The Role of Wrinkled Orthologs in Avocado Oil Biosynthesis
Dr. Aruna Kilaru, Committee Chair

BYRON BROOKS PSYCHOLOGY, PH.D.

Intrapersonal, Interpersonal, and Sociological Factors Associated with Increased HIV Risk Among African-American Men Who Have Sex with Men
Dr. Jameson K. Hirsch, Committee Chair

JESSE D. DANIELS BIOLOGY, M.S.

Effects Of Invasive Cirsium Arvense On Pollination Of Native Plant Communities: Integrating Indirect And Direct Interactions
Dr. Gerardo Arceo-Gomez, Committee Chair

WESLEY DREW GILL BIOMEDICAL SCIENCES, PH.D.

Epigenetic Mechanism of Transmission Within the Neonatal Quinpirole Rodent Model of Schizophrenia
Dr. Russell Brown, Committee Chair

JESI HALL COUNSELING, M.A.

Perceptions of Confidentiality and Use of College Counseling Services
Dr. Sarah Likis-Werle, Committee Chair

AREEJ MOSA BIOLOGY, M.S.

Does Microgravity Increase the Chances of Female Astronauts Developing Uterine Cancer
Dr. Allan Forsman, Committee Chair



JOSEPH KUSI

ENVIRONMENTAL HEALTH SCIENCES, PH.D.

Biological Effects of Silver Nanoparticles on Invertebrates and Microbial Community Function in Freshwater Sediment
Dr. Kurt Maier, Committee Chair

CLAIBORNE DANIEL SEA

GEOSCIENCES, M.S.

Archaeological Investigations of the Singer-Hieronimus Site Complex in Scott County, Kentucky
Dr. Eileen Ernenwein, Committee Chair



A few of the research grant recipients proudly display their awards. | Photo courtesy of ETSU

Where are they now?

OLUSHOLA AROMONA

PROFESSIONAL COMMUNICATIONS, M.A.
| FALL 2016



Why did you choose ETSU for your education?

ETSU had the program that I wanted and the people passionate and genuinely committed to student success. The Department of Media and Communication felt like home with faculty and staff who showed so much interest in my success, and were readily available to guide me through the process.

What is your current position and research?

I am a doctoral student and an instructor of record. My research is on social media for social change, political participation and civic engagement.

What does your current position and research entail?

I teach information literacy which satisfies one of the core learning outcomes for students at the University of Kansas. My position entails helping students learn how to gather, evaluate, analyze, and synthesize information; apply critical thinking to evaluate their information sources for credibility, and how to properly attribute information. My current research is looking at the use of social media for civic engagement, political participation, and social change.

How did your time at ETSU prepare you for your career?

I had professors who ensured students had opportunities to learn and use current competencies, skills, and tools for industry as well as academia. Particularly, I had the opportunity to work on research projects as well as teach an introductory course on media literacy in the Media and Communications Department. These experiences prepared me with the competencies needed for my present role.

What advice would you offer current or future graduate students?

Engage. Graduate school is demanding but graduate students should find time to engage and network with faculty, students, and the community. •





Where are they
now?

NATHAN CUNNINGHAM

HEALTH SERVICES MANAGEMENT & SERVICES,
M.P.H. | SPRING 2014

How did your time at ETSU prepare you for your career?

I wholeheartedly believe my career in health care administration is due to ETSU, and in particular, the faculty and staff of the Department of Health Management & Policy. Dr. Hadii Mamudu broadened my perspective of global health, but also opened my eyes to paradoxical health legislation associated with tobacco. Dr. Amal Khoury taught me to digest and analyze policy, especially the ACA legislation, which I now work with daily. Dr. Colin Chesley emphasized on the importance of organizational culture, and distinguished leadership qualities that I now use daily. And Dr. Randy Wykoff's pure passion for the well-being of community is contagious throughout Lamb Hall. Beyond the walls of the College of Public Health, I was able to join and participate in a wide variety of activities at ETSU that benefited my growth as a student, person, and future professional. I always found faculty and staff extremely engaging, proficient, and transparent—qualities I have quite intentionally embedded into my leadership style.

What advice would you offer current or future graduate students?

In the hospital world, we have a saying: "The discharge process begins the moment the patient is admitted." In other words, as soon as a patient comes through our doors, every action and decision we make is intended to heal the patient as safely, and quickly as possible to the point they can successfully thrive beyond our doors. My advice to future graduate students is to begin preparing for your professional career the moment you begin your graduate career. Do not wait for the last semester to find an internship opportunity—begin searching immediately. Ask your professors for connections within the industry to help find an opportunity. The more experience you have with a professional setting in conjunction with graduate education, the more marketable you become to potential employers. Find your niche, find your passion, and dedicate yourself to become an expert in that domain. And lastly, treat every mistake as a learning moment, not a regret. •

Why did you choose ETSU for your education?

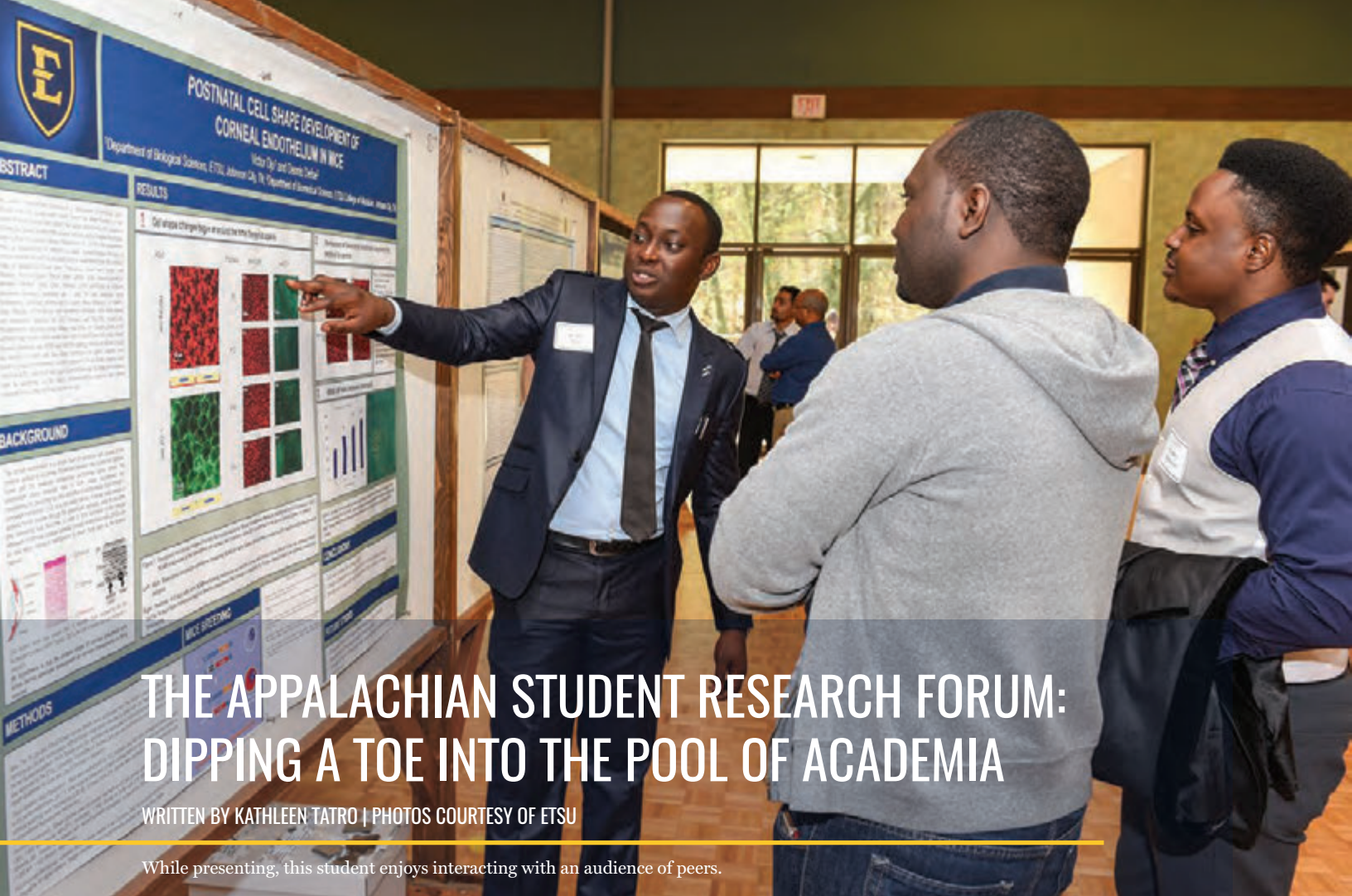
I interviewed at different M.P.H. programs across the United States. I interviewed at large schools, Ivy League schools, private schools, and everything in between. But no program displayed the amount of passion and dedication to student success as much as ETSU. The faculty and staff in the College of Public Health made an unfamiliar place feel like home. Additionally, the ETSU College of Public Health is one of only 60 programs in the United States that has successfully achieved and maintained CEPH accreditation.

What is your current position?

Manager of Patient Experience & Department of Patient Centered Services, Virginia Commonwealth University (VCU) Health System.

What does your current position entail?

The VCU Health System is composed of a 900-bed hospital (located in Richmond, VA), the Children's Hospital of Richmond, and 100+ outpatient clinics stretching to Fredericksburg, Williamsburg, and South Hill. In my role, I oversee the patient experience for every location named above. This entails managing the surveying process, data management, and data analysis. Using this information, I design strategies to improve the patient experience and subsequent survey metrics. Stemming from the 2010 Affordable Care Act, these survey metrics directly impact hospital Medicare reimbursement, resulting in hundreds of thousands of dollars lost or rewarded depending on the strength of our patient experience. Within the Department of Patient Centered Services, I oversee VCU Health System Language Services, patient relations, patient and family advisory councils, and the STAR service program.



THE APPALACHIAN STUDENT RESEARCH FORUM: DIPPING A TOE INTO THE POOL OF ACADEMIA

WRITTEN BY KATHLEEN TATRO | PHOTOS COURTESY OF ETSU

While presenting, this student enjoys interacting with an audience of peers.

One of the key tenets of East Tennessee State University is to promote and cultivate scholarly work in all disciplines. In spring of 1985, the College of Medicine at ETSU hosted the first research forum for 19 presenters; this small gathering would become the Appalachian Student Research Forum. In the last 30 years, the Appalachian Student Research Forum has served as a venue for all undergraduate and graduate students to present their research projects. What began with 19 students now boasts over 200 participants, spanning all colleges and programs at the annual meeting. Keynote speakers of great success and influence included: a former Surgeon General, a former astronaut, and leading researchers across all disciplines.

The Appalachian Student Research Forum (ASRF) is hosted each spring by a group of highly dedicated faculty members, the committee which consists of members from

the university research community including Drs. Duncan and Ramsey and Wendy Eckert, whose wish is to see the students of ETSU grow through scholarship. The ASRF is funded through generous donations and departmental funds, and is organized by these dedicated faculty members. Their commitment and enthusiasm has led to a 40 to 50 percent increase in student participation in the last several years alone. The ASRF has much to offer graduate students at ETSU. It offers the opportunity to practice presenting research, compete for divisional awards, and most importantly, foster working relationships between faculty and students. The constructive feedback that a participant can receive by competing and presenting at the ASRF is an invaluable tool for all students seeking to pursue a career not only in academia, but also in the private sector. Being able to convey thoughts and ideas to a diverse, and varied group of people is a skill that all

working professionals need. For those eager to stretch their minds and seek to challenge themselves, the Appalachian Student Research forum will be held during the first week of April 2018. The process by which one applies to present his or her research at the ASRF is also a valuable learning tool for students. It is the same process that all local, state, regional, and national conferences employ, thus allowing students to practice time management and proper protocols for submitting research to all levels. An added bonus for students is that registration for the ASRF is free! The process begins with a Call for Abstracts, the deadline for which will be the 1st of March 2018. Then students will submit a formal application, ensuring IRB review of all submissions. Then the program is prepared. The forum is divided into two days of presentations at the Millennium Centre. The first day is for those students who will give an oral presentation of their research. The

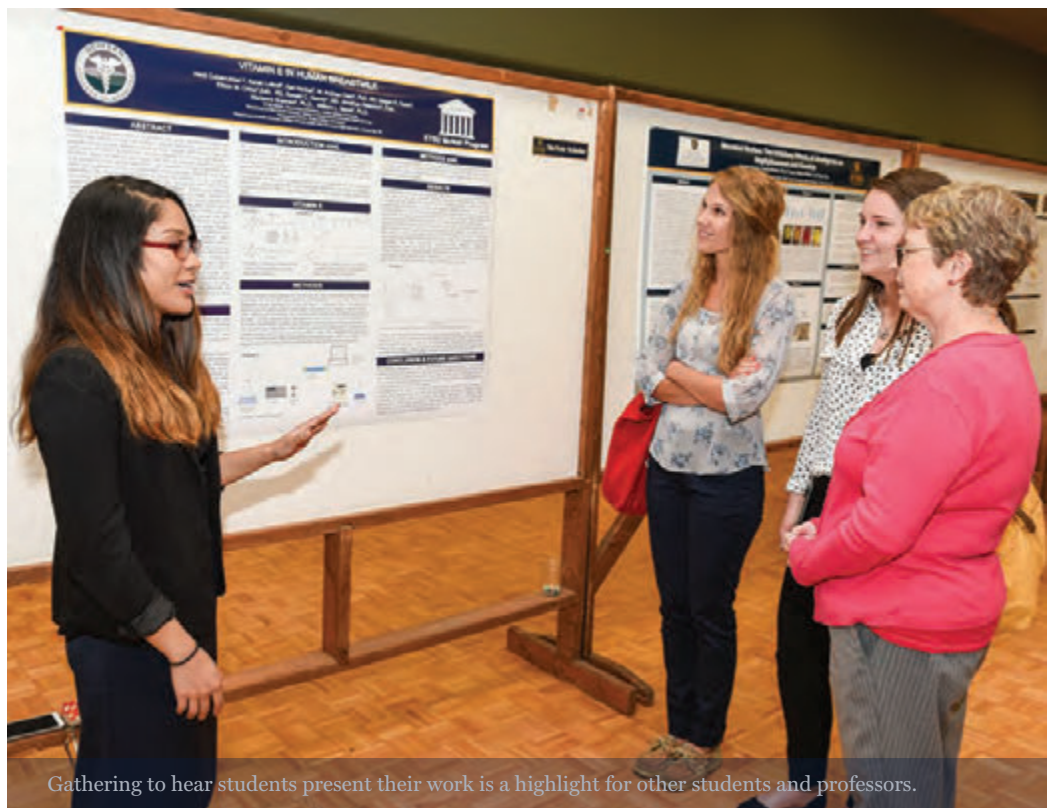
second day is for all students giving poster presentations, the keynote address, and the awards ceremony for outstanding oral and poster presentations within each discipline. Prizes are awarded to first and second place in each division based on the decision of a panel of esteemed faculty judges.

The Appalachian Student Research Forum continues to grow yearly, and presenters now travel from nearby institutions to compete and attend the forum. Participants include students from Milligan College, Tusculum College, Emory and Henry College, and the University of Virginia at Wise.

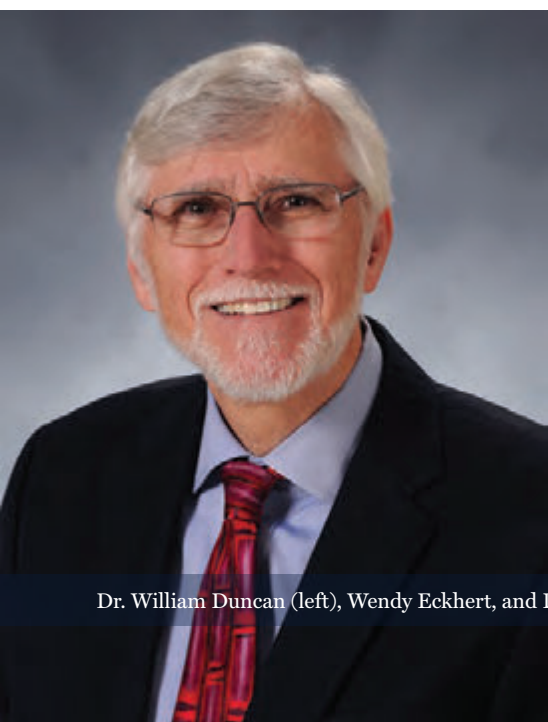
The big picture that the faculty committee of the Appalachian Student Research Forum wants students to see is that this is an amazing opportunity for all students to get experience presenting their research project. While communicating with peers within your discipline is a simple task, being able to communicate your research and findings to the general public is a much more difficult feat. Drs. Duncan and Ramsey and Wendy Eckert would offer this advice to potential presenters: “Make sure to practice your presentation with a large group of people with varying knowledge of your subject, and be open to any and all feedback they have

to offer you.” The Appalachian Student Research Forum offers students the opportunity to practice this skill within the ETSU community where they can receive constructive feedback, foster interdisciplinary interactions, and find a passion for lifelong learning. Those seeking more information on the

ASRF, its deadlines, and opportunities can visit the ASRF homepage at <http://www.etsu.edu/studentresearch/>. At its core the Appalachian Student Research Forum is a celebration of students, and their hard work and dedication to advancing our understanding of the world around us. •



Gathering to hear students present their work is a highlight for other students and professors.



Dr. William Duncan (left), Wendy Eckert, and Dr. Mike Ramsey

Where are they going?

MAIKE KLEIN

COUNSELING, M.A. | SPRING 2017



What degree did you earn at ETSU?

I earned my Master of Arts degree in Counseling—Couples and Family Counseling.

How has your degree earned at ETSU influenced your research and your future work?

Coming to ETSU and earning my master of arts degree in Counseling has been the most enriching and life-giving experience! As part of my master of arts program at ETSU, I got to work as a therapist at a local alcohol and drug treatment facility. I gained insight into the ongoing societal debates within mental health and drug addiction policy, as well as the profession of addiction counseling. I developed a desire to bring awareness and improve relapse-prevention. In addition to gaining practical work as a therapist, I gained valuable experience as a research assistant within the department of Counseling and Human Services at ETSU. It enlightened me about the very power that research holds: the power to give voices to those overlooked.

The advisor-mentee relationship plays a major role in higher education, how did your advisor help you grow and prepare for your continued education or your career?

Both my supervisors played a key role in my pursuit of a Ph.D. program. Dr. Pusateri and Dr. Bernard both let me collaborate on their ongoing research projects and encouraged me to dig a little deeper and to acquire an open-mindedness for research. Dr. Bernard offered me the opportunity to co-author one of her book chapters and write several papers/articles, which were published. Additionally, she gave me the opportunity to go and present our research at the Southern Organization for Human Services conference. Witnessing how these two balanced education and research has helped me see a different side of the great work that research is, and encouraged me to pursue my own project. Furthermore, every time I stepped into their office I was met with kindness and full attention. I am honored to call Dr. Pusateri and Dr. Bernard my mentors and friends, and we continue to stay in touch as I go forward with my future career pursuits.

What doctoral program or position have you accepted?

I will be pursuing my Ph.D. in Social and Policy Sciences at the University of Bath in Bath, England. My research project for my dissertation will be dealing with people in recovery from substance abuse.

If you plan to pursue a doctoral degree, will you be receiving funding and grants?

I am honored to say that I was chosen to receive a full-tuition Ph.D. studentship award through the Economic and Social Research Council (ESRC) in collaboration with the Southwest Doctoral Training Partnership (SWDTP). The ESRC-funded Ph.D. studentship is a 1+3 track, where the first year is a master in research degree leading up to Ph.D. status for additional three years. I was one of two awards for the Social & Policy Sciences program this year. This highly competitive scholarship provides full funding for my tuition expenses and an additional £750 each year for research expenses.

Is there any advice you would give current and future graduate students at ETSU?

At ETSU's Counseling and Human Services Department, and I am sure in others as well, you get to make it your own! You get out what you put in, and I would encourage future students to take a risk and be brave – ask questions, spend time with classmates and faculty, and ask for advice. Utilize the facilities that ETSU provides and the knowledge that faculty and staff bring to the table. For me, graduation was possible because of faculty and peers. Graduation was special because of faculty and peers and I am most grateful for that! •



Where are they now?

RUSSELL INGRAM

BIOLOGY, M.S. | SPRING 2013

Why did you choose ETSU for your education?

I choose ETSU for many reasons. The first and foremost was the faculty, mainly my advisor Foster Levy. Another draw for me was the opportunity to teach as a graduate student. Many universities relegate student teaching to grading papers. At ETSU, I had the opportunity to make the course I taught my own, which gave me the opportunity to connect with my students and fully enjoy the experience. The last reason was the natural beauty of East Tennessee, which is still one of my favorite places in the country.

What is your current position and research?

Doctoral Candidate in Plant Pathology, Graduate Research Assistant, Extension Specialist Intern, Teacher's Assistant. for a Study Abroad to Costa Rica in 2018, at the University of Georgia.

What does your current research entail?

My current research focuses on describing the disease cycle of an emerging fungal disease of increasing economic importance in blueberries in the Southeast. The information from this study will be important, because it will provide the scientific basis for the development of future disease management practices.

How did your time at ETSU prepare you for your career?

While at ETSU I was given the opportunity to be a part of the university administrative process. I was encouraged and actively participated in decisions regarding course content and laboratory course design. At one point, I was also asked to participate in a panel discussion on encouraging mentorship on campus between students, faculty, and members of the university administration, including but not limited to President Brian Noland and Dean of Graduate Studies Cecilia McIntosh. The experience was both empowering and encouraging. It also further evidenced one of the aspects that I enjoyed most about ETSU, which was the willingness to hear the voice of the students and allow that voice to drive change. The education and experience that I gained at ETSU helped me to understand that with the right partners and education I can affect positive change in the world.

What advice would you offer current or future graduate students?

Take any opportunity that you can to make your voice heard. Do this through student organizations, departmental meetings, and interaction with university administrators. What you have to say matters, and sometimes your opinion is the most relevant one in the room. The single most important piece of advice that I can give to any graduate student is, just because no one has done it before doesn't mean that it can't or shouldn't be done. •



THE BALANCING ACT

WRITTEN BY KATHLEEN TATRO | PHOTOS BY CARLYNN OWEN

Dr. Michelle Lee and Elizabeth Hall

ELIZABETH HALL | CLINICAL NUTRITION, M.S. DR. MICHELLE LEE, FACULTY ADVISOR

Elizabeth Hall received her undergraduate degree from Harding University in Arkansas with a major in dietetics and a minor in psychology. She then went on to Vanderbilt University where she completed the Vanderbilt University Medical Center Dietetic Internship Program, and then sat for her Registered Dietitian (RD) exam. She has spent the last four years working as a Registered Dietitian Nutritionist. First, clinically at the University of Arkansas for Medical Sciences (UAMS) in Little Rock for two

years, where she served as the clinical dietitian and food service manager at the Psychiatric Research Institute. Secondly, for Food City as the Corporate Retail Dietitian in Tennessee and its neighboring states. Elizabeth, during her time in the workforce, was aware of the changing climate of her field. By 2024, all students seeking to sit for the RD exam will have to have their master of science degree. So, she came into contact with Dr. Michelle Lee at ETSU about the M.S. in Clinical Nutrition degree, which featured both on ground

and online courses. Elizabeth decided that ETSU was perfect for her, because it allowed her to travel for her work with Food City; and the professors were incredibly helpful and worked with her to reach her personal and professional goals.

Dr. Lee's approach to mentoring students is about utilizing their specific skills, settings, and interests to generate thesis topics that are relevant to their life and career aspirations. During her time in the clinical realm Elizabeth wondered, were discharged patients actually gaining anything from the education she was tasked to provide them? She questioned, what would be a better environment



for the distribution and retention of health education? Her work as a retail dietitian and guidance provided to her by Dr. Lee led to the conception of her thesis topic: “The Effects of a Supermarket Tour on Improvement of Nutrition Knowledge and Eating Behavior”. She began promoting and providing supermarket tours for community members to educate them about healthier shopping and eating behaviors. She believes that the supermarket, particularly the one a person frequents, would create a more conducive learning environment than a clinical setting. Also, by teaching these community members where they would be making their purchasing decisions, Elizabeth believes that she can better affect change within their eating behaviors.

To determine the effectiveness of supermarket tours on the improvement of nutrition knowledge and eating behaviors, Elizabeth conducted twelve supermarket tours with community groups in various Food City locations around Tennessee and Virginia. The community groups were given a pre-test that established their baseline nutrition knowledge, specifically on the dietary guidelines for Americans, and eating behaviors focusing on the prior month. The tours Elizabeth provided were focused on general food knowledge, versus disease-specific education, and she focused on the “My Plate” infographic that took the place of the traditional food guide pyramid in June of 2011. Elizabeth’s approach to teaching focused on taking the recommendations of “MyPlate”, i.e., the specific quantities of protein, fruits and vegetables, dairy, healthy fats, and carbohydrates, and applying them to the shopping cart. After the pre-test the participants were given educational

materials on “MyPlate”, and then taken to the corresponding sections of the store, following Elizabeth’s outline. At the end of the tour, participants were given post-test evaluations, which was based on participant satisfaction, and then three months later they received a follow up post-test to measure knowledge retention and changes in eating behaviors.

Of the 103 tour participants, 24 completed both the pre- and post-test surveys, giving a 23 percent return rate on post-test evaluations. In addition, 100 percent of participants said that they learned something new and 90 percent said they would return to participate in another supermarket tour. Elizabeth did not find statistically significant results from her data analysis. She believes the timing of the post-test surveys, which went



out during the summer months, may have limited her data, because people tended to be on vacations during that time and thus are not following their normal eating behaviors. Another limitation was that while Elizabeth tried to adhere to a specific outline, people tend to have questions, and so the tours were never exactly the same. She also believes her small sample size limited the response rate, and believes a larger sample would lead to a greater response rate. Of the demographics taken from the post-test survey, Elizabeth found that the majority of her participants were Caucasian females between 18 to 25 and 45 to 56. Though there were no statistically significant

results found, this research has the potential to be valuable to Food City as a corporation. These tours, which were well received by the community, could be later targeted at specific high-risk groups and influence larger wellness programs that could be implemented in all store areas. Elizabeth hopes to add to the limited body of research on the efficacy of supermarket tours on nutrition.

As Food City’s Corporate Retail Dietitian, Elizabeth travels the nation attending various supermarket conferences where she plans to discuss her research. She also presented her thesis research at the Tri-Cities Academy of Nutrition and Dietetics fall meeting in November, and she was asked to speak at the Tennessee Academy of Nutrition and Dietetics meeting at the beginning of April. She plans to submit her research to present at national conferences as well.

The advisor-mentee relationship is often key to the development and fruition of projects such as Elizabeth’s. Elizabeth would like to thank Dr. Lee for all her help during the thesis process, but specifically for her support both personally and professionally. Dr. Lee defined Elizabeth as dynamic, a rare student with the capability to juggle work while producing quality research.

Elizabeth defended her thesis at the end of October and graduates with her degree in December. Post-graduation, Elizabeth plans to stay on with Food City, but contends she is a lifelong learner who loves education and will possibly pursue a Ph.D. down the road. Elizabeth will continue her work with the local media, which she uses as outlets to spread nutrition education. Elizabeth would also like to thank Food City, its local and regional management, for their unwavering support in her pursuit of her research. •



Where are they going?

VIJAY TIWARI

BIOLOGY, M.S. | FALL 2016



What degree did you earn at ETSU, and how has it prepared you for the future?

A Master of Science in Biology. My M.S. degree helped me to develop as a critical thinker in my research interest. In addition, it has boosted my confidence to teach and undertake a research project in my current Ph.D. program at Louisiana State University.

What professors or advisors were instrumental in helping you?

My M.S. advisor, Dr. Aruna Kilaru, had a great impact on my life. She helped me to address my weaknesses and build on my strengths. This helped me to develop as an individual, both in academia and overall as a social human being. Dr. Kilaru also helped me a great deal to improve my skills in critical thinking, research presentation, scientific writing and organization.

What doctoral program will you be attending?

Since Fall 2016, I have been pursuing a Ph.D. in Biochemistry, in the Department of Biological Sciences at Louisiana State University.

Will you receive funding?

Yes, I am working as a Graduate Assistant at Louisiana State University. The assistantship includes a full tuition scholarship and stipend for serving as a teaching assistant.

Why did you choose to pursue a doctoral degree?

In the future, I am interested in obtaining a faculty position with the opportunity to conduct research in biochemistry. To accomplish my goals, I need to prepare myself with quality training in research and develop the ability to think critically. I expect the doctoral studies will help me evolve as an independent thinker, develop my own research ideas, and set up my own research lab.

Will you pursue on your topic you worked on during your master of science degree?

My particular area of research interest is biochemistry. At ETSU, I was conducting research on a class of lipid molecules that play a significant role in mediating the stress responses in crop plants. Currently, I am working on a special class of membrane transport protein in *Klebsiella pneumoniae* that mediates resistance against colistin antibiotic, which is often the last resort antibiotic against multidrug-resistant bacteria.

What advice would you give to current graduate students who would like to pursue a doctoral degree?

I would encourage current graduate students to decide on their prospective school as early as possible. It is important to have the application deadlines for different schools to initiate applications in a timely manner. While choosing the school for doctoral program, one should not be demoralized if they have a lower GRE score or GPA.

Anything else you would like to share?

The training and expertise gained during my master of science program at ETSU has given me the confidence to initiate my doctoral program with ease. After leaving ETSU and starting at a different university, I have noticed that the education and training I received at ETSU was the most updated and relevant; it prepared me well for the next stage of my career.

Dr. Aruna Kilaru's Comment:

Vijay was an exemplary student and made me tremendously proud with his work ethic and dedication to learning. He received both an ETSU Graduate School Research Grant and a highly competitive Sigma Xi Grant. He also presented his work at five research venues, including international conferences. •



JENI

HUNNICUTT

PROFESSIONAL COMMUNICATION, M.A. | 2013

where are they now?

Why did you choose ETSU for your education?

ETSU offered an academically rigorous communication program and was tucked away in the rolling Appalachian Mountains—offering the best of both worlds! I initially chose ETSU with intentions of earning a master of arts degree and cultivating valuable skills that would prepare me for a business-oriented career in the government sector. Much to my (pleasant) surprise, however, the faculty at ETSU opened my mind to research and teaching in ways that would encompass all of my future career endeavors. ETSU is where I fell in love with academia, fostered a love for knowledge generation and dissemination, and truly began my path toward critical communication scholarship and teaching.

How did your time at ETSU prepare you for your career?

The faculty at ETSU took a vested interest in my success in a way that extends to today. They motivated me to stay in graduate school when I questioned if it was the right decision, they mentored me and provided support through the grueling Ph.D. application process, and they still continue to collaborate with me today on scholarship and presentations. They taught me how to think critically, write effectively, and to engage with my communities in inclusive and reflexive ways.

What is your current position and research?

Currently, I am a 4th-year doctoral candidate in the Department of Communication Studies at the University of Denver where my research agenda is centered on examining and analyzing the performativity and embodied experiences of U.S. military identities from a critical, qualitative research paradigm. Additionally, I also currently work full time as Outreach Specialist for the Sturm Specialty in Military Psychology at the University of Denver's Graduate School of Professional Psychology.

What does your current position and research entail?

My current doctoral dissertation examines my own experiences as a U.S. military Veteran to illustrate and analyze how Veteran identity is constructed through the transitional process of reintegration. The goal of this project is to set a foundation for understanding the U.S. military Veteran identity in a way that leads to developing and naming an inclusive Veteran reintegration theoretical framework that transcends academic disciplinary boundaries. In my dissertation, I employ performative methodological tools to examine how my own identity was shaped by military organizational culture, and manifests through interpersonal relational interactions. My hope is for this work to provide insight into the experiences of Veteran identities, and ultimately, to contribute to the reduction of current U.S. military Veteran suicide rates. My position as Outreach Specialist for the Sturm Specialty in military psychology allows me to employ tangible interpersonal and organizational communicative skills to: effectively outreach to community organizations and providers; contribute to program development and sustainability; collaborate on, participate in, and present on Military Psychology research; and develop, implement, and communicate programmatic marketing and advertising strategies.

What advice would you offer current or future graduate students?

I am a first-generation college student. The first time I considered the idea of applying for communication studies doctoral programs, I remember thinking how absurd the idea of me earning a doctorate degree seemed; I would be the first ever in my family (on both sides) to earn a degree of this caliber. I remembered something my faculty told me during my convocation into the Professional Communication M.A. program at ETSU—that all of us new students had earned our positions there—we were on a level playing field and deserved to be there. This insight helped me to realize I was in the same boat applying to Ph.D. programs—I was just as qualified and capable as anyone else who would be applying. This helped alleviate anxiety, and intimidation as I began my new program as a doctoral student at the University of Denver a year later. •



OPENING COMMUNICATION BETWEEN HEALTH CARE PROVIDERS AND PATIENTS

WRITTEN BY KATHLEEN TATRO | PHOTOS BY CARLYNN OWEN

Dr. Robert Pack and Stephanie Mathis

STEPHANIE MATHIS | COMMUNITY HEALTH, DR.P.H. DR. ROBERT PACK, FACULTY ADVISOR

Stephanie Mathis has always excelled in academia, and her time at ETSU has proven no different. Stephanie received her undergraduate degree in psychology and sociology from Lenoir-Rhyne University in North Carolina, followed by her master of Public Health degree with a concentration in health behavior from the University of Alabama at Birmingham. She then decided to pursue her Doctor of Public Health degree with a concentration in community health, in hopes of making the impact on population health that she had always envisioned for herself. Stephanie had her choice of doctoral programs, but decided that ETSU was the right choice for her, in part because the atmosphere in the College of Public Health is student oriented. ETSU also offered her the ability to engage with the community and to work closely with faculty, both of which Stephanie valued as a student and public health scholar. She pursued the alternate format for her dissertation in which she will prepare three manuscripts, providing practice for publications in the future.

Stephanie began working as a graduate assistant for Dr. Robert Pack on a five-year, National Institute on Drug Abuse (NIDA)-funded study titled the “ETSU Diversity-promoting Institutions Drug Abuse Research Program (DIDARP): Inter-professional Communication for Prescription Drug Abuse Prevention in Appalachia.” Under his tutelage, she devised her dissertation in alignment with his study by conducting a thematic analysis focused on provider-patient communication about prescription drug abuse. Stephanie’s dissertation—“Prescription Drug Abuse and Provider-Patient Communication: A Qualitative Analysis of the Perspectives of Prescribers and Patients”—has three overarching aims: 1) to explore patient perceptions of the scale and context of prescription drug abuse in Appalachia; 2) to examine patient perceptions and behaviors concerning prescription drug abuse-related communication with health care providers; and 3) to examine prescriber perceptions and behaviors concerning prescription drug abuse-related communication with

patients. Stephanie wanted to examine the perspectives of both prescribers and patients, because communication surrounding prescription drug abuse prevention, identification, and treatment in the context of health care encounters is an interpersonal process.

For her dissertation, Stephanie used data from semi-structured interviews with prescribers and patients that were conducted by Dr. Pack as part of his study. Purposive sampling was primarily used to recruit prescribers and patients, with the inclusion of some snowball sampling, meaning that participating prescribers and patients recommended other prescribers and patients for the study, respectively. The semi-structured nature of the interviews was guided by research on communication theory and behavioral science theory. Stephanie’s dissertation thus includes two study samples—a prescriber sample and a patient sample. The prescriber sample consisted of 10 participants recruited from multiple health professions and medical specialties. The patient sample consisted of 20 participants recruited from multiple facilities, including primary care clinics, an addiction medicine clinic, and a recovery center. Patients ranged in age from 18 to 65 years and received health

care services from primary care or addiction medicine clinics. Using the interview data, Stephanie conducted a series of thematic analyses. She found that prescribers and patients engage in prescription drug abuse-related communication in unique and varied ways, and that multiple factors influence the quantity and quality of such communication. First, Stephanie identified three patterns of prescriber communication with patients: informative, counteractive, and supportive. The informative pattern refers to prescribers providing prescription drug abuse-related instructions or information to patients. The counteractive pattern refers to prescribers addressing prescription drug abuse-related problems with patients. The supportive pattern refers to prescribers supplying social support to patients. Second, Stephanie identified different levels of patient engagement in prescription drug abuse-related communication with health care providers. She found that some patients described a more active role, whereas others described a more passive role. At the same time, though, she found many patients described little and even no prescription drug abuse-related communication with health care providers. Lastly, Stephanie identified factors perceived by prescribers and patients to influence the dynamics of prescription drug abuse-related communication. For example, prescribers and patients similarly noted the influence of the provider-patient relationship, while prescribers specifically noted the influence of their education, and patients specifically noted the influence of stigma and outcomes expected to result from such communication. Some of the identified factors are potentially amendable and, in turn, could inform the design of interventions to improve provider-patient communication about prescription drug abuse—a main goal of Dr. Pack’s study. Stephanie hopes her dissertation will add to the scholarly work on provider-patient communication about prescription drug abuse by using a qualitative approach to examine the perspectives of both prescribers and patients.

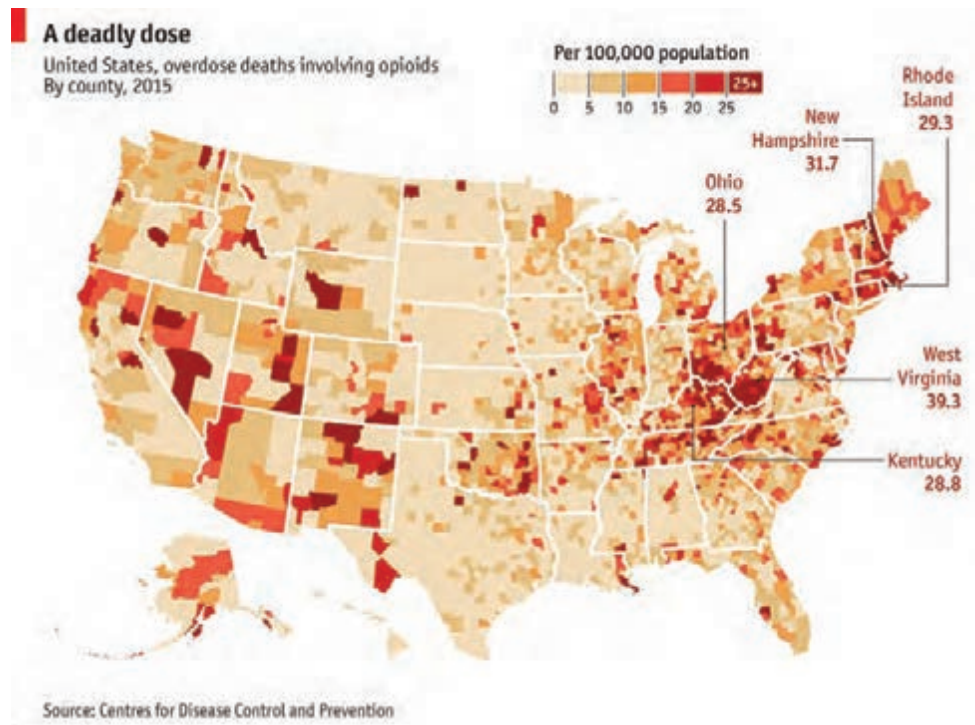
“SEIZE EVERY MOMENT, ACTIVELY IDENTIFY FACULTY WITH WHOM YOU WOULD LIKE TO WORK AND DO NOT LOOK AT YOUR COLLEGE AS A BOUNDARY—EXPLORE ALL AVENUES ETSU HAS TO OFFER.”

Stephanie has presented on various research topics at local, state, and national meetings, conferences, and other events. Among these are the annual meeting of the American Public Health Association, the annual conference of the National Rural Health Association, and the National Health Outreach Conference. At the annual meeting of the American Public Health Association, for example, Stephanie presented a poster on the nonmedical use of prescription drugs in the workplace, on which she is preparing a manuscript.

During her time at ETSU, Stephanie developed a strong working relationship with her faculty advisor,

Dr. Pack. This relationship was one of the keys to her success within the Dr.P.H. program. Dr. Pack allowed her to take on an active role from the beginning, providing valuable opportunities for academic and professional growth. He challenged and encouraged her to push beyond her perceived limits, something she recognizes and appreciates. Dr. Pack even contends Stephanie was instrumental in the acquisition of several grants for her work with the Center for Prescription Drug Abuse Prevention and Treatment and Carter County Drug Prevention, an anti-drug coalition. If Dr. Pack could have his way, Stephanie would stay on at ETSU and continue her work and research on the prescription drug abuse crisis affecting Appalachia.

Stephanie defended her dissertation in October 2017 and plans to graduate in December. She aims to pursue a career within the realm of substance abuse prevention that allows her to combine her passions for research and public health practice. At the end of her graduate school career, Stephanie has this advice to offer her fellow graduate students: “Seize every moment, actively identify faculty with whom you would like to work and do not look at your college as a boundary—explore all avenues ETSU has to offer.”





INSIDE THE MINDS OF SPIDERS

WRITTEN BY KATHLEEN TATRO | PHOTOS BY CARLYNN OWEN

Playing with spiders is not for everyone, but Rebecca seems to prefer it, showing off a large garden spider weaving on her hand.

REBECCA WILSON | BIOLOGICAL SCIENCES, PH.D. DR. THOMAS C. JONES, FACULTY ADVISOR

Rebecca Wilson began her academic career at the University of Cincinnati where she earned both a Bachelor of Arts in Biology, and a Bachelor of Science in Chemistry. During her tenure at the University of Cincinnati, she volunteered at the Cincinnati Zoo working with a reproductive physiologist, was the president of the university's biology club, and created a biology seminar series. Through this biology seminar series, Rebecca met her undergraduate mentor Dr. George Uetz. Rebecca spent the next two and a half years working with Dr. Uetz on his research with arthropods, specifically spiders. At the end of her time at the University of Cincinnati, Rebecca had decided that she wanted to pursue a graduate degree. She wanted to make sure that she found a program that fulfilled her desire to continue her research, but also resulted in a marketable degree in industry, should she choose to work

in the private sector. In 2012, she attended the American Arachnological Society convention in Green Bay, Wisconsin. There she attended a presentation by Dr. Jennifer Price (an ETSU graduate student, now a faculty member at ETSU) on biogenic amines and spider behavior and sociality. After the presentation, Rebecca and Dr. Price discussed a degree in biomedical sciences and pharmacology, which struck a chord with Rebecca. She was then introduced to Dr. Thomas Jones, who would become her faculty advisor and mentor at ETSU. After applying, and being accepted to several graduate programs across the U.S. and abroad, Rebecca decided to attend ETSU to work toward her Ph.D. while researching circadian rhythms and oscillations of behaviors in orb weaver spiders.

When Rebecca arrived in Johnson City, she began working with Dr. Jones on his NFS grant-funded project on

the circadian rhythms of spiders, to which her contribution would be to determine the potential fluctuation of gene expression versus sensitivity when looking at the huddle response, a protective behavior expressed in many species of spiders, as exhibited throughout the day. Rebecca sought to understand how the huddle response is controlled within the neural system, and its fluctuation considering the circadian rhythms of spiders. She will be specifically looking for changes in the spiders' aggression as measured by the huddle response, because a more aggressive spider is more likely to break a huddle sooner than a less aggressive spider.

Rebecca first used high performance liquid chromatography to determine which neurochemicals were responsible for the variations in the expression of the huddle response. She found that hormones (specifically serotonin and octopamine) and their ratios were key to how long a spider would remain huddled. The second step in her methodology was to create gene expression profiles for the various species of orb weaver spiders she was

studying, which has never been done before. Spiders are unique, because you cannot compare their gene sequences to the science favorite, the genus of flies known as *Drosophila*, because the degradation patterns exhibited in spider neurobiology is much more similar to a vertebrate model than the patterns exhibited in *Drosophila*. Rebecca also found that these spiders share other similarities with vertebrates, including the oscillation of gene expression and that spiders also have monoamine oxidases (MAOs). One example of the similarity is the fluctuation of norepinephrine. It is incredibly similar in spiders and humans. Rebecca found that octopamine was not the only factor that affected the huddle response. She also found that catecholamines, neurotransmitters that control a variety of functions including muscle tone and heart rate, play a role in the huddle response. These similarities between the biochemistry of spiders and humans has led Rebecca to investigate the potential effects of MAO inhibitors on spider neurobiology and behaviors. Since spiders' neurobiology is similar to humans in the way it expresses hormones and behaviors, MAO inhibitors could possibly be used to modify the huddle response. So, the next step in her research will

be to treat the orb weaver spiders with MAO inhibitors, both subtypes A and B, to determine if those inhibitors would cause changes in the spiders' aggression, and if their brain chemistry differentiates the subtypes the way a human's brain does.

“ TAKE CLASSES OUTSIDE YOUR PROGRAM & DEVELOP AN INTERDISCIPLINARY APPROACH TO YOUR RESEARCH & CAREER. ”

The big picture, or what Rebecca hopes to achieve, is to complete an integrative assessment of the circadian rhythms and oscillations in behavior patterns from individual genes to spiders' habitats, i.e., from the effects of neurobiology to the ecology of spiders' aggression - an achievement that would make her a major player in the world of arthropod neurobiology.

Research is not the only thing Rebecca has done since arriving at ETSU. She has served as the president of the Graduate and Professional Students Association, and represented ETSU at the Day on the Hill during Graduate Education Week, which

showcases the work of university students from across the state to politicians. She received two research grants from the School of Graduate Studies to support her thesis and dissertation work.

As Rebecca's journey at ETSU comes to an end, she finds herself at a fork in the road. Will she continue into a post-doctoral program or will she pursue work in pharmaceuticals? Rebecca impressed one professor so much that he offered her a position as a post-doctoral student to continue her research on spider neurobiology. She has also been offered a full-time position with a pharmaceutical company whom she has worked with during summer breaks. As for the answer, even Rebecca is still unsure, but she plans to explore positions in both sectors. Her ultimate goal would be to work in pharmaceuticals and as an adjunct professor so that she could continue her research on arachnid neurobiology. At the (possible) end of her graduate career, Rebecca has this advice to offer current and future ETSU graduate students: “. . . use all the available resources ETSU has to offer, use it to develop your ideas, take classes outside of your program, and develop an interdisciplinary approach to your research and career.” •



Dr. Thomas C. Jones and Rebecca Wilson

Where are they now?

RICKEY BUMP

FINE ARTS, M.F.A. | 2016



Why did you choose ETSU for your education?

I chose ETSU because of the Art and Design Department's faculty. I also really loved the region and location.

What is your current position?

I am an art teacher at the World Foreign Language School in Shanghai, China.

What does your current position and research entail?

I'm an art teacher at a Primary Years Program at an International Baccalaureate-accredited institution. I teach 1st through 5th grades. Besides being an educator, I am also actively making and exhibiting art here in Shanghai. My current research is a continuation of my thesis work from ETSU.

How did your time at ETSU prepare you for your career?

Studying at ETSU provided me with the opportunity to better develop the professional skills required in my field of work. Not only was I afforded the time to develop my artwork and practice, but I also gained valuable insight of other industry dynamics pertaining to the art market and self-marketing. Another critical factor that helped me prepare for my career was having the opportunity to teach a course for two years at ETSU. That work experience was the main component of my qualifications for the position I hold in China.

What advice would you offer current or future graduate students?

Work hard and really take advantage of your time at ETSU and the rich resources it provides. •



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