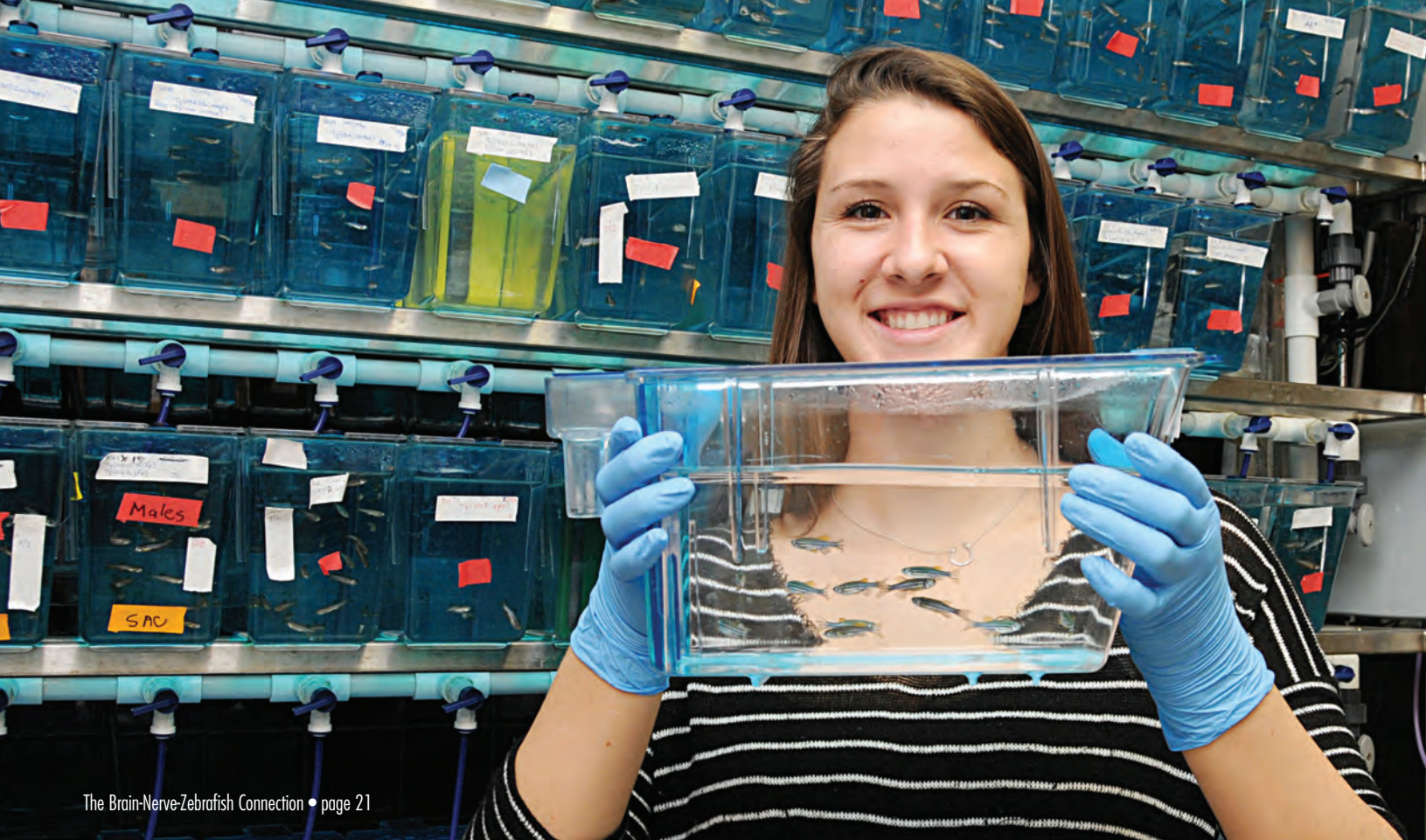


Re:Search

Graduate Studies & Research at Salisbury University
2017 Edition

NAVIGATING
COMMUNITY
CONNECTIONS





The Brain-Nerve-Zebrafish Connection • page 21

Volume 07 • 2017

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Re:Search is published annually for friends of Salisbury University by the Office of Graduate Studies and Research in conjunction with the Office of Publications, with the generous support of Salisbury University.

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On the Cover: This surveyor’s compass, found in SU’s Nabb Research Center, was made by Goldsmith Chandlee, a clock and instrument maker who was born in 1751 in Nottingham, MD. Chandlee moved to Winchester, VA, in 1783 where he built a brass foundry and a shop. Although most Chandlee compasses have the name of the person for which it was made, this compass is only engraved with “G Chandlee Winchester.” The Nabb Center collection includes another Goldsmith Chandlee compass, which is engraved with the name “Darby Ensor,” a deputy surveyor who surveyed lots around the inner harbor of Baltimore City from 1808 to 1823. Read more about SU’s Nabb Center on page 11.

Salisbury University is a proud member of the University System of Maryland.



“... the level of research and scholarly activity taking place here rivals any such activity at more research-focused institutions.”



Welcome to the spring 2017 edition of *Re:Search!* Amazingly, this is our seventh issue of SU’s magazine devoted to the research and scholarly activities of our faculty, staff and students. As I retire from the University, I take pride in this publication and the work that has been highlighted over the last seven years. Salisbury University does not aspire to become a Research I institution, but the level of research and scholarly activity taking place here rivals any such activity at more research-focused institutions. A review of past issues reminded me of our wonderful Fulbright record, of research across all disciplines, much of it funded through external grants, and of faculty-supported student research, funded through agencies such as the EPA and the National Science Foundation. Curriculum at SU supports student engagement and civic responsibility, and research by SU faculty has extended the classroom by focusing on the larger community, as demonstrated in the work related to breast health, to assessment of storm damage from Hurricane Sandy, and to work force development and entrepreneurship. This issue of *Re:Search* continues this legacy by highlighting and providing insight on the magnificent positive impact that research and scholarship are having on our community, local and beyond.

Just as Salisbury University continues to expand, there has been a recent improved presence for the City of Salisbury through the invigorating downtown revitalization efforts. You can read all about the University/city partnership and SU engagement in local economic development efforts lead by one of our faculty members, Bill Burke.

Other faculty of SU also are engaged directly with local business partnerships through grants and support from the State of Maryland. The Maryland Industrial Partnerships (MIPS) program is dedicated to providing resources for the development of new business ideas and products across the state. In this edition of *Re:Search*, you can read about four different partnerships between SU faculty and local businesses.

To celebrate the long-standing dedication that SU has to supporting volunteerism and student engagement “on the front lines,” this issue provides an update to our refreshed AmeriCorps program, which continues to serve area at-risk young people and seniors. Additionally, we are highlighting some of our nursing students along with the tremendous efforts of local physicians and other health care professionals to provide desperately needed healthcare in Central America.

Of course, much of our focus in every issue of *Re:Search* is on the outstanding efforts of faculty as researchers and scholars. This issue is no different! One of SU’s most successful faculty members, Dr. Anjali Pandey, has received another prestigious multi-year grant from the Department of Education. By receiving this award, Dr. Pandey has successfully earned over \$7.5 million in external funding for her efforts. We are proud to showcase details of Dr. Pandey’s successful scholarly activities.

Aside from these stories, there many other examples of our faculty, staff and students continuing to expand the reach of our University. While we continue to be dedicated to our core values and providing the best educational experience for our students, *Re:Search* serves as a reminder that the role of research and scholarly activity is key to student success.

Thank you for your interest in Salisbury University!

Sincerely,

A handwritten signature in black ink that reads "Diane D. Allen". The signature is written in a cursive, flowing style.

Diane D. Allen, Ed.D.

Provost and Senior Vice President for Academic Affairs • Salisbury University



Leveraging Research for Maryland Consumers

For three decades, the Maryland Industrial Partnerships (MIPS) program has connected the academic resources of the state's public universities to the business sector. MIPS provides competitive funding, matched by participating companies, for university-based research projects that may help the firms develop and commercialize new products and processes.

In recent years, Salisbury University faculty have been involved with several of these public-private partnerships, receiving nearly \$1 million for efforts related to the environment and human services.

Monitoring Water

Most recently, Dr. Kathie Wright of SU's Information and Decision Sciences Department, in partnership with Operational Precision Systems in Salisbury, received \$59,470 for the development of WaterOPS, a cloud-based service for more effective water supply sampling and monitoring. The project continues in 2017 with an additional \$72,632.

OPS aims to improve the management of environmental inspections by developing solutions for testing agencies that often don't have resources to properly maintain compliance with mandates and regulations. OPS notes that for the 150,000 drinking water systems in the U.S., nearly 40 percent of reported violations of the Environmental Protection Agency's (EPA) Clean Drinking Water Act were not from contaminants, but rather monitoring and reporting failures.

The firm's automated, user-friendly software application would help. Eventually, it plans to expand such services for air/land quality and waste management.

"The purpose is to improve the testing process so the focus can be on true water quality issues," Wright said.

Last year, she selected four students from SU's Perdue School of Business to codify over 1,400 complex state and EPA regulations, mapping how they weave

together and developing use cases. Now, they are building the "water compliance engine." Expected benefits include better and less costly reporting and more accurate testing, fostering safer drinking water.

OPS is a two-time winner of SU's Ratcliffe Shore Hatchery entrepreneurship competition. Subsequent support from the Small Business Development Center at SU led them to Wright and the students.

"The project has given me invaluable experience," said alumnus Tai Nguyen '16 (B.S. Management/Information Systems). An OPS intern turned employee, he is now an SU M.B.A. graduate assistant leading five undergraduates on the project.

"Working with SU through the MIPS program has been a perfect fit for a young startup like OPS," said Lee Beachamp, co-founder. "It not only gives us opportunities to work with students who think outside the box, it also helps students understand the dynamics of getting a project off the ground in a team environment. The SU students have worked on everything from flow charting the basic concepts of the system to the end-user graphic interface with great success. OPS has been very impressed with the caliber of students at SU."



Predicting Violence

Past SU MIPS recipients include Dr. Marvin Tossey, co-chair of SU's Social Work Department, who received two awards totaling half a million dollars. The first, for \$250,054 in 2013, allowed Tossey to work with Salisbury-based Eastern Shore Psychological Services to test and evaluate the predictive validity of its CARE-2 (Child & Adolescent Risk Evaluation) instrument in accurately identifying youth who are at risk for violent behavior. "We were looking at the confidence in the reliability of a score from it," Tossey said. In 2015, he received an additional \$250,271 to make recommendations on how to improve the tool based on the data collected.

"In recent years you have a lot of examples of extreme violence, so everybody is trying to figure out if a kid they are working with has the potential to do something," Tossey said. The tool, he explained, is not geared toward severe single events like a school shooting, but rather chronic violence and predicting juveniles who may continue that behavior. Practitioners, he said, also can use the tool to determine specific interventions and treatments to reduce or prevent future aggressions.

"What's noteworthy is that, when we got the grant, the MIPS folks had never funded a project that had to do with human subjects," Tossey said. "Proposals always had been about technology, biology, engineering and the like. I was told the MIPS director at the time said, 'Wow, this is really a different kind of proposal; why not?'"

He called five SU graduate students "worker bees" for the effort. As paid summer research assistants, they combed



and analyzed some 800 files from the Department of Juvenile Services. Alumna Kelly McIntyre (B.A. Psychology '12; M.S.W. '16) said: "It really helped put into practice what we learned in our research classes."

For Tossey, the project also fostered inter-campus collaboration: Drs. Victoria Venable, Social Work Department, and Larence Becker, Psychology Department, were partners, providing expertise and data analysis skills. In addition, an ongoing connection with Eastern Shore Psychological Services has led to other research and consulting for Tossey.

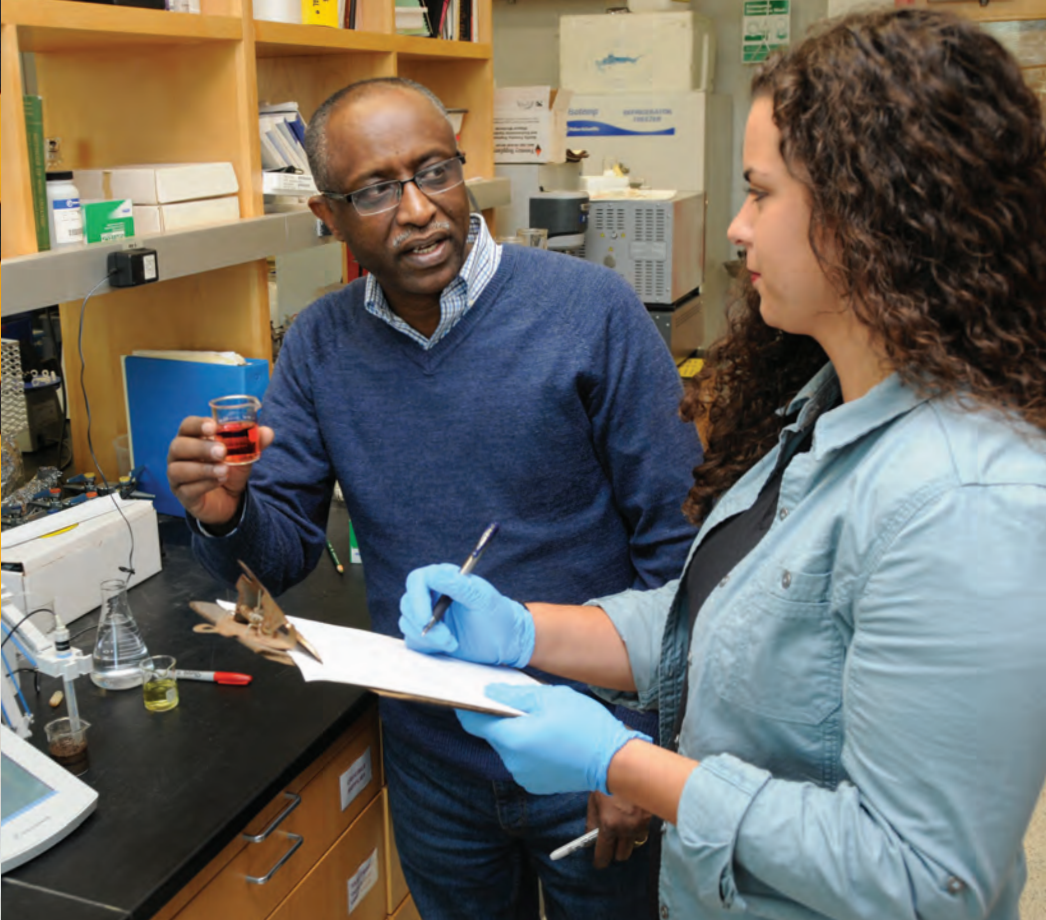
Sharing Results

The MIPS grants also led to professional development opportunities for faculty and students: Tossey's team presented at the 2016 Joint World Conference on Social Work, Education and Social Development in Seoul, Korea, while Geleta's group shared their work at national and international soil science and microbiology conferences in California, Minnesota and Massachusetts.



Drs. Larence Becker, Marvin Tossey and Victoria Venable, with Kelly McIntyre

According to MIPS, the U.S. Small Business Administration recognizes it as a "model program" that contributes significantly to job creation and product development in the state.



Testing Soil

Three faculty from SU's Biological Sciences Department – Drs. Samuel Geleta (agronomy), Elizabeth Emmert (microbiology) and Chris Briand (economic botany) – also received two MIPS grants, totaling over \$300,000. In 2013, a \$149,365 award allowed them to work with GreatGrow Maryland to determine if the soil amendment it was developing could increase crop yields and enhance soil quality (reducing nitrogen, phosphorous and chemical pollution in the Chesapeake Bay watershed). In 2014, testing continued with an additional \$153,575.

"Our job was to evaluate the effectiveness of the proposed soil amendment," said Geleta, project lead. It was thought to improve the water-holding capacity of soil and increase nutrients via microbial activities, eventually reducing fertilizer use.

The team grew field corn for two years under dry land and irrigated conditions, utilizing the Salisbury and Poplar Hill facilities of the University of Maryland College Park's Lower Eastern Shore Research and Education Center (LESREC).

"We took different samples for yield and quality," Geleta said. "We also checked for nitrogen, phosphorous and other elements." In addition, alumna Chelsi Rose '14 (M.S. Applied Biology), then a fully funded graduate student, investigated effects on soil microbial activity.

While their research ultimately showed that the product did not work as intended,



Geleta said the project was a win for Maryland consumers, especially farmers. If they had spent money applying it to thousands of acres, they would not have gotten the economic and environmental benefits they hoped, he said.

"MIPS is really a gatekeeper for the public," he added. "It prevents products and services that are not verified from being on the market."

In addition to connecting entrepreneurs with researchers, Geleta agreed that the grants foster faculty and university collaboration.

"We could not have done this without College Park," he said, noting Dr. Bob Kratochvil and field management expert David Armentrout, as well as LESREC, which provided land and harvesters. Four undergraduates also assisted. Hands-on MIPS research helps students with employment and graduate school, Geleta said. ❖

Professors Aim to 'Energize College Hopefuls'

Two Salisbury University faculty received nearly \$150,000 to help educate local students about attending college.

Dr. Brandy Terrill of SU's Teacher Education Department and Dr. Randall Cone of the Mathematics and Computer Science Department earned the one-year grant from the Maryland Higher Education Commission's (MHEC) College Preparation Intervention Program. Working with Wicomico County, their project is focused on "Energizing New College Hopefuls through the Arts, Numerical Sciences and Technology" (ENCHANT). Dr. Nancy Michelson is the project manager for the program. The MHEC grant supports the Maryland Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) initiative.

As part of the grant, they hosted 30 incoming ninth-graders and 12 middle and high school teachers from area schools for a week-long summer academic experience.

"These are kids who normally would not have college on their horizons," Cone said. "They have the talent and aptitude for success, but they face social, economic or other disadvantages. We want to show them that college can be a very positive and worthwhile experience."

Terrill and Cone also want to help the students do better on standardized testing in high school by showing them how their reading, writing and mathematics skills are connected to the world around them.

The camp, which is led by some 10 SU faculty, included such sessions as art and arithmetic; baseball and math;

poetry; supercomputers; argument, debate and opinion; personal narratives; math and money; and more.

Throughout the academic year, Terrill and Cone also are hosting weekend workshops and activities. In October, about two dozen students and their teachers attended morning workshops and then enjoyed a football game in Sea Gull Stadium. They welcomed 12 students to Learn at SU Day in November, where the participants were paired with SU students who escorted them to college classes taught by University English and math faculty. Beyond the on-campus activities, five SU students tutored GEAR UP students after school at Parkside High School.

Activities continue into the spring with more workshops and a College and Career Night. ❖





Pandey Earns Language Acquisition Grant

Dr. Anjali Pandey, SU professor of applied linguistics and teaching English as a second language (TESOL), is the author of a newly funded \$2.73 million national professional development project sponsored by the U.S. Office of English Language Acquisition (OELA), the federal agency charged with training educators on effective immigrant educational access.

This linguistics training program, Training and Retaining Grades K-12 English Learner Teaching Professionals (TARGET-Phase III), consists of a comprehensive triple cohort-program aimed at educators, administrators and parents. It was the No. 1-rated application out of 337 eligible proposals submitted nationwide for OELA's 2016 grant competition and the only one funded in

Maryland. It is the largest single discretionary funded project awarded to SU to date.

TARGET-Phase III serves 10 independent, high-need school districts spanning 42 percent of Maryland's school districts, including Anne Arundel, Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico and Worcester counties – a total of 251 schools enrolling over 5,000 English learners (ELs). The project aims to recruit both gate keepers and decision makers – key stakeholders in the learning trajectories and parity of educational access of newcomer students.

Structured interview data collected from over 160 teachers in target schools provide evidence for the need for culturally relevant

models of professional development (PD) inclusive of parental input, said Pandey. Initial needs assessment data point to cultural incongruities in the schooling experiences of newcomer ELs particularly. TARGET-Phase III is a PD model dually designed to promote the retention of experienced educators while improving the 21st-century college-readiness of at-risk EL students in rural schools.

Maryland remains a front-runner in demographic trends in schooling toward a minority-majority makeup at 59 percent, Pandey said. In contrast, in some districts, the teacher workforce is 95 percent Caucasian and 81 percent female. TARGET-Phase III will utilize emerging sociolinguistics-based frameworks of enhanced pedagogical efficacy whose outcomes on overall EL student achievement will be assessed via rigorous, evidence-based experimental study.

Grassroots, community-oriented language-retention paradigms in a nation in which approximately 300 languages enter

Prior projects Pandey has authored and directed have totaled over \$7.5 million and have provided linguistic training to hundreds of teachers in Maryland.

IMPACT ON MARYLAND

annually form core design features of the project, Pandey said. Training, both educator- and parent-oriented, is premised on heritage language maintenance. This is in contrast to increasingly defunct models of schooling based on linguistic assimilation and deletion – the subject of Pandey’s most recent book, *Monolingualism and Linguistic Exhibitionism* (see Faculty Books page 28).

Aiming to train 500 participants over the life of the project, models of such linguistic sustainability are particularly timely when a language dies approximately every two weeks, Pandey said. Via innovative, culturally embedded linguistic strategies leveraging the potency of emerging mobile devices designed to instigate long-term meaningful newcomer parental involvement and advocacy, the project provides next-generation educators with replicable strategies for enhanced EL social integration and educational success.

Pandey noted that the TARGET-Phase III proposal was successful as a consequence of

TARGET-Phase III serves:

10 independent, high-need school districts

42 percent of Maryland’s school districts, including the following counties:

- Anne Arundel
- Queen Anne’s
- Caroline
- Somerset
- Cecil
- Talbot
- Dorchester
- Wicomico
- Kent
- Worcester

251 schools

MORE THAN 5,000 English learners (ELs) enrolled

support from countless individuals across the Eastern Shore, including assistance provided by University personnel such as Robert Hoffman, administrative coordinator, and

Beth Walsh, SU grants specialist.

Reviewer comments noted that the project was, “exceptionally well grounded in theory”; “a highly ambitious, yet realistically feasible initiative” and presented a design structure inclusive of “authentic space for oral linguistic cultures.”

Invited to share comments at the 2016 OELA Project Directors Convention in Washington, D.C., in October, Pandey’s closing remarks on shifting paradigms in educator linguistic training and the need for measures of casual efficacy in 21st century PD inclusive of both experimental and qualitative evidence-based outcomes was met with standing ovation.

TARGET-Phase III is the fourth consecutive, successfully funded multi-year project authored by Pandey. Prior projects she has authored and directed have totaled over \$7.5 million and have provided linguistic training to hundreds of teachers in Maryland. ❖



The SU-Downtown Connection

William Burke, SU executive director for economic development, received the 2016 Salisbury Area Chamber of Commerce Entrepreneurial Spirit Award, recognizing his support of entrepreneurship in the Salisbury area. Burke also is the director of the Perdue School's entrepreneurship competitions.



Q: What is the history of SU's engagement in downtown Salisbury?

A: Salisbury University has a long history of engaging with the downtown Salisbury community with many of its members serving on the Salisbury Chamber and the Greater Salisbury Committee. In addition, SU faculty, staff and students are frequent attendees of downtown events such as 3rd Friday and New Year's Eve festivities. Our Business and Entrepreneurship Living and Learning Community (LLC) students have participated in tours of downtown where they have met with local business owners. The SU Art Gallery has been downtown since the 2015 donation of the Gallery Building and Annex to the SU Foundation by Palmer Gillis and Tony Gilkerson. This facility also will be the home of the SU Downtown Entrepreneurship Center. With the expansion of Shore Transit Services to the SU campus, SU students, faculty and staff now have easy access to downtown by showing their Gull Card for a quick trip on the Downtown Trolley.

Q: What resources have been acquired to support the SU engagement with downtown Salisbury?

A: Recently, we applied for and received an U.S. Department of Agriculture grant to support an SU Economic Development Listening Tour. The tour features a stop in downtown Salisbury and surrounding communities and counties to listen to the economic development needs from the voices of the community in order to gather the necessary input for the development of a Salisbury University Economic Development Plan.

Q: Why is it important for SU to be involved in downtown economic development?

A: The most important reason is we are part of the community – not only as a university but also as residents and visitors. The recent Impact Report conducted by BEACON highlights the facts that students spend \$90 million locally and that visitors to campus spend an additional \$4.4 million dollars. Working with the city, county and downtown business community, we can help develop and support a vibrant and exciting downtown experience.

Q: Why is it important to Salisbury, Wicomico County and the surrounding counties for SU to help lead these efforts?

A: Salisbury University is a community of 10,500 students, faculty and staff who contribute \$80 million each year to local, state and federal budgets via taxes paid and \$130 million over the past 10 years to the area economy with increases in the student population, creation of new faculty and staff positions, and significant construction projects. We have a responsibility to step up and partner with the leaders in the community to collaborate and lead efforts for the improved economic vitality of the local community, region and state. Leveraging our resources while combining them with our partners will improve and enhance the economy and all will benefit.





Q: What is your role in these efforts?

A: Since my start in the Perdue School of Business as faculty at SU in 1999, I have been actively engaging with the local business community with projects at Perdue Farms, meeting employers through our ABLE internship program and 15 years of actively working with our entrepreneurship competitions. We have the second longest running business plan competition in academia today with the Bernstein Achievement Award, which started in 1987. With the addition of the expanded student competitions in 2012 and addition of the Ratcliffe Foundation Shore Hatchery in 2013, we have distributed over \$1.1 million to entrepreneurs in the region. Through my roles as director of entrepreneurial activities and director of the Shore Hatchery, we have been able to immerse and engage the community in our competitions with their sponsorships, judging and mentoring support.

Through the creation of my new position as executive director of economic development, the President's Office has elevated the importance and awareness of our responsibility to coordinate and support economic development in the community and the region. With this new role comes the responsibility of building an Innovation, Entrepreneurship and Economic Development Hub on campus in Perdue Hall, the home of the Perdue School of Business, in order to provide visibility and resources to our students campus wide in all disciplines.

As I mentioned previously, the University recently announced the conceptual design and planned opening of a downtown Salisbury regional Center for

Entrepreneurship in the Gallery Building. While supporting the revitalization of the downtown Salisbury economy, the envisioned center will include shared co-working space, small offices and "garages" for startups and winners of the Perdue School Entrepreneurship competitions; a "makerspace" for robotics, small product assembly and technology-enhanced products with 3D prototyping, including a textile workshop for fashion and theatre productions; and a retail "University Spirit" store front for products developed through the center and Salisbury University gear. Open to the community, this facility will bring together the entrepreneurship "ecosystem" – business, city, county, regional and state communities – to launch the entrepreneurs from the center into the local economy.

Q: Where do we go from here?

A: We have been engaging with our University System of Maryland (USM) partners in economic development to share an understanding of the programs and engagements at each USM institution. The SU Economic Development Listening Tour commences this spring by visiting all the local and regional economic development groups and organizations. The on-campus Innovation, Entrepreneurship and Economic Development Hub also opens this spring in Perdue Hall and the University plans to co-host a TEDCO event, "What Is IP." The community can join SU's ongoing commitment to our regional business community, downtown revitalization and entrepreneurship by supporting the campaign to raise funds for the downtown Center of Entrepreneurship. We are excited to actively engage the University's strengths to support the economic, health and social development of the region. ❖

Creating an entrepreneurship "ecosystem"



A Home for Regional Research: Nabb Research Center

By Dr. Creston Long, Nabb Research Center for Delmarva History and Culture Director

The Edward H. Nabb Research Center for Delmarva History and Culture has been devoted to the study of the region since its founding in 1982. In the Nabb Center's new facility in the Patricia R. Guerrieri Academic Commons, students, community researchers and visiting scholars have the opportunity to advance their study of the region for the next generation. The Carey Family Research Room houses the center's general book collection and its microfilm holdings and has seating for 50 researchers. On any given day, someone visiting the Research Room might find students working on class research assignments, scholars searching archival collections for evidence connected to their research pursuits or family researchers from as far away as Oregon making connections in their family histories. At its core, the Nabb Center is a place where people come to study the past.

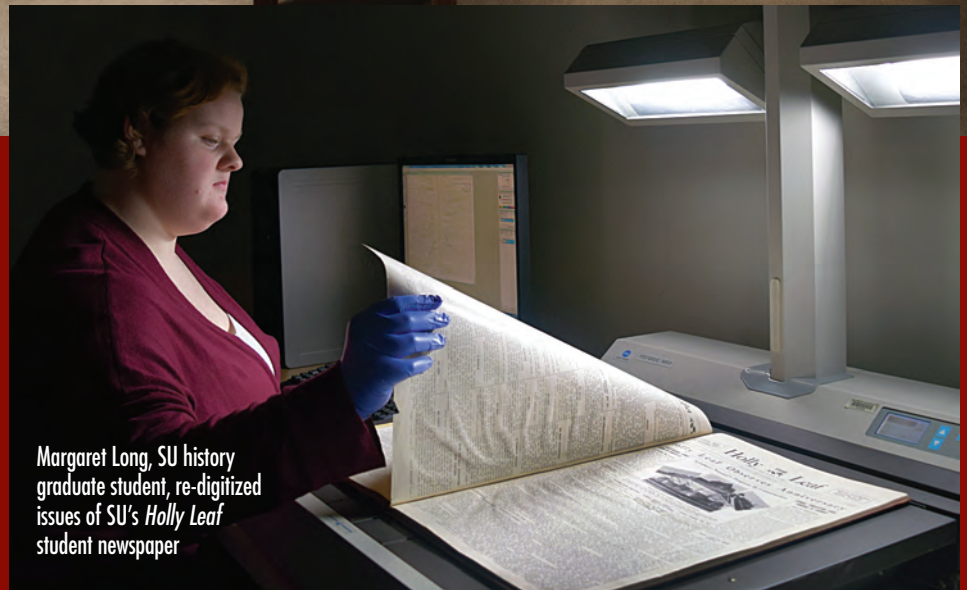
Exhibits

One of the most important roles of the Nabb Center involves interpreting the area's history and culture for the campus and the greater community. The new exhibit space allows the center to carry out this portion of its mission in new and innovative ways. In the entrance to the Nabb Center, the Niemann Gallery houses the permanent Nabb Center exhibit "Delmarva: People, Place and Time." This exhibit gives a brief history of the region, focusing on how Delmarva residents have lived and worked on the land and water from the 17th through the 20th centuries. Telling the story of our region with photographs, documents and artifacts often requires hours of research for each item in the exhibit. Janie Kreines, the Nabb Center's exhibits and artifacts curator, arranges the photographs, artifacts and other materials to create an interesting narrative about the central theme of the exhibit. In addition to the permanent exhibit space, the Nabb Center also creates



and maintains exhibits in the Thompson Gallery on the fourth floor and the space near the first floor east entrance of the Guerrieri Academic Commons. Exhibits in these spaces emphasize specific themes and rotate every semester.

For instance, in spring 2017, an exhibit titled "When Communities Come Together: African American Education on the Eastern Shore" greets visitors as they enter. It tells the story of the growth of educational institutions for African American communities in the late 19th and early 20th centuries. It is based largely on research conducted by Artura Jackson, a December 2016 graduate from the SU history graduate program, and Matthew Lewis, SU Public Humanities Program graduate assistant. Throughout fall 2016, they researched the establishment of several African American educational institutions, including the school that would later become the University of Maryland



Margaret Long, SU history graduate student, re-digitized issues of SU's *Holly Leaf* student newspaper

Eastern Shore and a number of Rosenwald schools on the lower Eastern Shore. These schools were built with support from Julius Rosenwald, a Chicago-based philanthropist who worked with Booker T. Washington to promote educational opportunities for African Americans throughout the South. Jackson's documentary research, along with her efforts to reach out to local residents who have researched area Rosenwald schools, provided the basis for most of this exhibit's narrative content. As the Nabb Center moves forward, the exhibits will be a central feature of our efforts to connect the strength of our research collections with public presentations of our past.

"Processing a collection involves a painstaking sequence of steps to arrange or re-arrange materials to put them in an order that is most consistent with their natural or original creation."



Local History Collections

From the start of the Nabb Center, the local history collections have been at the heart of its mission to promote the study of the region's past. As the center moved into a new space in the 1990s, its collections continued to grow and diversify. In addition to the thousands of microfilmed public records – including land, probate and judicial records that date to the 1600s – the Local History Archives makes the Nabb Center a unique regional history repository. Featuring collections from Delaware, Maryland and Virginia, the Local History Archives stands out as the premier manuscript collection featuring materials from all of Delmarva's constituent states. Leslie Van Veen McRoberts, the local history archivist, maintains the collection and supervises the processing of new collections.

As community members and community organizations donate collections to the center, the archivist begins processing the collection to make it accessible for researchers. Processing a collection involves a painstaking sequence of steps to arrange materials in an order that is most consistent with their natural or original order. The ultimate goal is to enable researchers to get



Graduate student Joel Henry is currently in his last semester of the history graduate program. He has worked extensively on multiple archival process projects. According to Joel: "The Edward H. Nabb Center has been instrumental to honing my abilities as a historian. In a constructive and challenging environment, I have developed skills that have prepared me to enter the workforce. My Nabb Center experience has been rewarding in many ways, but I especially have enjoyed giving back to the Delmarva historical community."

the most out of the collections. Students interested in work in public history find great opportunities to work in the Nabb Center archives through internships and student assistant positions. Jennifer Piegolls, a December 2016 graduate with a double major in history and English, worked in an archival internship in fall 2016. In that experience, she learned and practiced various preservation techniques and studied

the arrangement of metadata (information about each source) and collections descriptions. Interns gain valuable work experience from this training, especially if they decide to pursue careers in archival or other information management work; and they also become better, more mindful researchers.



Janie Kreines, Exhibits and Artifacts Curator

University Archives & Special Collections

For the first time, the Nabb Center is also home to the University Archives and Special Collections. The University Archives includes documents, photographs, films and artifacts connected to Salisbury University's past. With items dating to the founding of the school in the 1920s as Maryland State Normal School, the University Archives is a resource for campus offices, students, alumni groups and the surrounding community. University Archivist and Special Collections Librarian Ian Post supervises this section of the Nabb Center's holdings. He is establishing connections with faculty members to promote student use of the Special Collections.

This past fall, Post supervised the work of Margaret Long, SU history graduate student, as she inventoried, re-housed and assessed the quality of the 649 copies of the *Evergreen* yearbook that are spread throughout the University Archives collections, the Nabb Center stacks and the general library stacks in preparation for their digitization. She also re-digitized several issues of the *Holly Leaf* newspaper and

uploaded all 329 historical editions in files with their associated metadata into SU's institutional repository. These images of SU's first student newspaper richly illuminate student life at the University from its earliest days and reveal the interesting story of changes through 1970. They are now freely available online.

Public Records

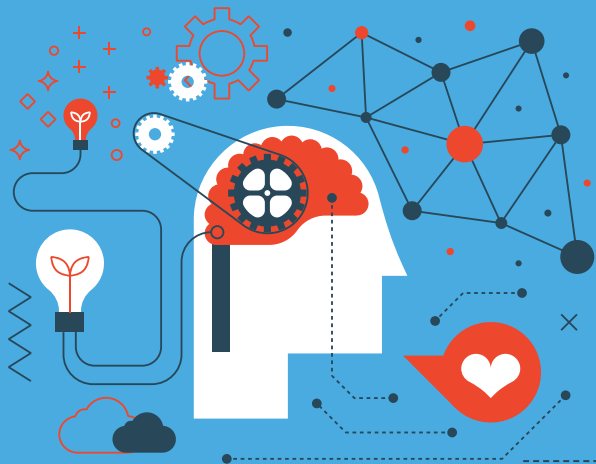
With the unique combination of public records such as land and judicial records and the diverse, and ever growing, manuscripts archives, students, community researchers and visiting scholars can pursue answers to an almost limitless set of questions about the region's history and culture. For instance, the Center has recently been compiling data about the appearance of area Native Americans in the colonial county courts. In the early volumes of the Somerset County court proceedings, it was common for Indians, usually unnamed, to appear in court accused of minor crimes. As the century neared its end, however, Indians more often went to court as plaintiffs asking for relief from white settler encroachment on Indian lands. During this same period, area Indian tribes were being confined more

and more to reservation lands, the closest of which was the Tundotank reservation, a mile south of SU's campus today, on Tony Tank Lake. This information reveals a part of the area's history that is mostly left out of popular memory. Our hope is that this sort of research will in time bring some forgotten events back to life.

In another example of the Center's efforts to promote research on the region, Aaron Horner, the center's full-time research assistant, is supervising an ongoing project aimed at understanding the evolution of Delmarva's transportation network. From the earliest days of colonial settlement, when the Chesapeake Bay and its tributary rivers and creeks served as the main thoroughfares of the area, through the mid-19th-century when efforts to extend railroad lines across the Peninsula came to completion, the story of how people in the region have traveled and transported goods is vital for understanding the area's history.

As the Nabb Center moves forward, it remains steadfast to its mission of promoting the study of Delmarva. ❖

Meeting Critical Needs in Education



With Salisbury University's origins in teacher education, it is no surprise that SU faculty are leading the way in supporting regional and national educational efforts in areas of critical need through two recent grants. Dr. Claudia Burgess, Teacher Education, earned a Maryland Higher Education Commission Improving Teacher Quality (ITQ) grant for \$115,000 to increase academic achievement by improving teacher quality; her project is focusing on mathematics instruction. Drs. Gail Welsh, Physics, and Starlin Weaver, Education Specialties, are co-principal investigators on a Physics Teacher Education Coalition (PhysTEC) Recruiting Grant for \$29,889 for a project running September 2014-August 2017; their project aims to improve and promote the education of physics teachers.

Improving Math Teaching and Learning

By Dr. Claudia Burgess

The Sustained Collaboration to Actuate Learner Excellence (SCALE) grant is providing a collaborative opportunity for Salisbury University faculty Drs. Chin-Hsiu Chen, Randall Groth, Jennifer Bergner, Jathan Austin, Bonnie Ennis and me to partner with two of Maryland's high-need local education agencies in Wicomico and Somerset counties.

ITQ
\$115,000
GRANT

Ten teachers each from Wicomico and Somerset counties have become part of a community of learners dedicated to initiating educational change in order to improve the mathematical teaching and learning process and student achievement. The 20 teachers who are participating in this grant teach kindergarten through fourth grade. Currently, these teachers are in the middle of a 14-month experience designed to foster collaboration among all stakeholders (faculty, teachers, school districts, local school administration, students, etc.). The grant's focus is improving student achievement in the area of mathematics, and all grant goals have been developed in order to achieve this end. School-based collaboration, improving teachers' mathematical content knowledge, aggregating data to inform instruction, initiating collaborative reflective teaching cycles and implementing high-leverage pedagogical practices are the key components that have and continue to ground all grant activities.

With a critical eye toward improving mathematics instruction in local schools, the SCALE grant embeds professional development into authentic settings that include classroom demonstrations, observations and an afterschool math camp designed for local children. By addressing content knowledge, pedagogical knowledge and teacher knowledge in collaborative, authentic, instructional settings, these grant participants are making meaningful, research-grounded, instructional changes designed to foster their students' success. ❖

Recruiting Physics Teachers

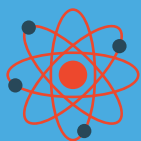
By Dr. Gail Welsh

PhysTEC
\$29,889
GRANT

The goal of the PhysTEC Recruiting Grant is to increase the number of students becoming physics teachers to meet national and local needs for highly qualified physics teachers in the schools. Starlin Weaver and I applied for the PhysTEC Recruiting Grant because we have relatively few students in the Physics Secondary Education Program at Salisbury University. Unlike some of the other universities applying for PhysTEC grants, we already have a strong program in physics secondary education and do not need to develop the curriculum or program of study. Our recruitment plan consists of three inter-linked parts: marketing, a part-time teacher in residence (PT-TIR) and early teaching experiences, such as our Teaching Exploration Program (TEP).

Initially our main efforts were to recruit from within the current physics and undecided majors at SU. For example, we hosted a panel discussion as part of the Physics/Chemistry Seminar Series. The panelists were current teachers, a future teacher and a retired teacher who discussed teaching physics and chemistry as a STEM (science, technology, engineering and math) career. The TEP offers placements in local schools to provide SU students with experiences working with middle/high school students in a physical science or physics classroom. Our PT-TIR, Brenda Cox, a retired physics teacher, meets the TEP participants at the schools and provides them with orientation to the school and teacher. The SU students have the opportunity to discuss teaching with a physics teacher as they evaluate a potential career in teaching physics. Although none of the students who have participated in the TEP thus far have chosen to pursue a physics teaching career, we are raising the awareness of teaching as a career among our physics majors.

In the final year of the grant, our focus has shifted toward more external recruitment. Our marketing efforts have included website development, creation of a tri-fold display board for use at University recruiting events and a brochure – "Why Teach Physics?" – highlighting various aspects of teaching physics and the programs at SU. These brochures have been distributed to local schools by Cox. We hope that we will be able to attract students to SU who have an interest in physics and physics teaching. ❖



SCIENCE



TECHNOLOGY



ENGINEERING



MATHEMATICS



STEM

The Evolution of AmeriCorps

By Dr. Alexander Pope, AmeriCorps Project Director and PACE Co-Director

The AmeriCorps program at SU is funded through a competitive grant from the Corporation for National and Community Service. AmeriCorps is designed to leverage the efforts of citizens interested in improving their communities through service. The program at SU, called ShoreCorps/PALS, recruits students and community members to serve at various nonprofits across the Eastern Shore. Members receive a stipend for their service, college credit through two interdisciplinary studies (IDIS) training courses and an education award (scholarship) at the end of their service.

An Exciting New Structure

As the new project director, I am pleased to report on changes to ShoreCorps/PALS. Founded by Dr. George Whitehead in 1994, ShoreCorps/PALS has consistently served as a hub for community outreach and service, recruiting and training AmeriCorps members from the University and city. The 2016-2017 service year has seen the beginnings of substantial revisions in the organization, integration, capacity and evaluation of our program.

Organizationally, we will bring ShoreCorps/PALS under the umbrella of PACE, SU's Institute for Public Affairs and Civic Engagement. AmeriCorps and PACE both focus on community awareness and engagement. The restructuring will allow better information and resource sharing.

The New Nonprofit Leadership Alliance

We will integrate AmeriCorps with the new Nonprofit Leadership Alliance (NLA) program that begins in fall 2017. Students enrolled in the NLA program can use their AmeriCorps service and training course to complete a nonprofit leadership certificate. Students will still be eligible for the education award and other benefits of AmeriCorps service.

As part of the NLA integration, AmeriCorps will see its greatest growth since the program began. We anticipate adding 20 service slots to the current 17. This increase will mean more SU students can experience the benefits of structured community service while developing the habits of engaged democratic citizens.

Introducing Collaborative Process Mapping

Evaluation is shifting as well. AmeriCorps members build capacity through regular volunteer recruitment and management, program development and delivery, and assistance with important tasks such as creating policy and procedure handbooks. In a novel process called Collaborative Process Mapping, the AmeriCorps member(s) and a representative from the nonprofit work together to map the nonprofit's various activities and goals. The map is represented as a web labeled "current activities," "short-term goals" and "long-term goals." The map serves as a strategic tool for evaluating the nonprofit's current activities and needs and the contributions of the AmeriCorps member(s).

I am excited at the potential for these changes to expand our reach across the Eastern Shore while holding to our mission. Our members will continue to serve at-risk youth and senior citizens in public and private non-profit agencies. We will promote lasting change through collaborative work with area partners and the citizens they serve.

For more information, visit www.salisbury.edu/ameri-corps ❖



Member Sandra Handy was honored to meet Rosalyn Carter at a training event



Rebekah Barczak (right) served at an Alzheimer's Association meeting to reach out to caregivers in the community



The first ShoreCorps/PALS event of the year was Stand Down, providing support to over 50 veterans in the area



A 'Mission' of Nursing in Nicaragua



Two Salisbury University nursing students went south in January, joining local surgeons for a La Merced medical mission trip to Nicaragua.

Juniors Alison Farmer and Kristen Murphy spent four days assisting Drs. Vincent Perrotta of Peninsula Plastic Surgery and Florian Huber of Peninsula Orthopaedic Associates, gaining valuable clinical experience as the doctors treated patients with severe health conditions and injuries.

"The students got a front-row seat in the operating room," said Dr. Mary DiBartolo of SU's Nursing Department, who accompanied them. "We were in two public hospitals, where the poorest of the poor are treated, and they were all very appreciative." Their health problems, she explained, are not typically seen in the U.S., such as very advanced breast cancer and untreated fractures, which required extensive procedures.

"Being able to 'scrub in' on the surgeries was amazing," said Farmer, who assisted the plastic surgeon with breast reconstruction and the orthopedic surgeon with repairing malunions of tibia and femur bones. "Not



Alison Farmer, Dr. Mary DiBartolo and Kristen Murphy



many students get these opportunities and it was eye-opening." Murphy assisted with two mastectomies. Both also observed childbirth by Caesarian section.

"I am thankful to work so closely with some amazing doctors," Murphy said. "This was a good way for me to get experience in the operating room while also being able to make a difference in the lives of people in Nicaragua."

The SU contingent also spent time at a church-based medical clinic. The students assisted Salisbury dentist Dr. Kraig Stetzer with procedures, including extractions and fillings, while DiBartolo, with translation help from a Nicaraguan medical student, presented to nursing staff about Alzheimer's disease as part of her Fulton Endowed Professorship in Geriatric Nursing.

The La Merced medical mission was founded 10 years ago by St. Francis de Sales Catholic Church in Salisbury, in conjunction with a sister parish in Nicaragua. Now, it's an independent nonprofit. The travel team usually includes area surgeons and health professionals, interpreters, students and other volunteers; 22 joined this time.

"The presence of students and the opportunity to teach them invigorates the physicians," said Perrotta, board president. He said they "provide critical support," including handling medical supplies and equipment, processing clinic patients and even helping overcome language barriers.

The SU students were exposed to methods of care in "an environment lacking state-of-the-art technology and adequate funding" and saw "first-hand the weaknesses in healthcare in a third-world nation," Perrotta said.

"Salisbury nursing students who attend a La Merced medical mission enjoy opportunities not readily available in other nursing programs," he added. "They learn operating room etiquette and become comfortable functioning in that environment."

Farmer knew she wanted to be a surgical nurse after a major surgery in high school. She said, "I realized the impact that compassionate nurses can have on a patient's surgical experience and, since then, have dreamed of becoming one."

She enjoyed helping the less fortunate, seeing how medicine is viewed in other countries and hearing patients' stories. "This type of trip is all about giving back to others, which is exactly what nursing is to me," she said.

The one-credit independent study wasn't all work, however; the group took a break to go zip-lining and visit the Masaya volcano.

"The mission would be a great opportunity to continue for other students in the future," Murphy said; Perrotta and DiBartolo agree. ❖

SU Student Interns at The Hague



Unsolicited emails are a part of most people's daily lives. Few, however, are as poignant as the one SU student Brittany Foutz received last spring.

Instead of announcing the latest sale at Macy's or an item she may be interested in on Amazon, this email explained that she had been nominated – she's still not sure by whom – for a summer internship at the International Peace and Security Institute (IPSI) at The Hague in the Netherlands.

The second-year graduate student pursuing an M.A. in conflict analysis and dispute resolution responded. Following an interview process, she found an even more intriguing message in her inbox several weeks later.

"I received an email one day asking if I could leave in two weeks for Europe," she said.

She could. The only issue was, she could not afford the airfare. Turning to SU for help, she received grants from the offices of the deans of Graduate Study and Research and the Fulton School of Liberal Arts. A scholarship from IPSI covered the remainder of the cost.

Learning About Diplomacy and Peacemaking

During her month at The Hague, she met other IPSI nominees from around the world – students selected to learn about diplomacy and peacemaking through the program, overseen by the United Nations and its International Institute for Peace.

During the day, they studied together at Clingendael Academy, taking classes in a house once used as a headquarters for Nazi forces during Germany's occupation of the Netherlands. There, they heard from representatives of the United Nations, U.S. State Department and U.S. Foreign Aid, among others.

In the evenings, they sat in on trials at the International Criminal Court, as accused heads of state and military leaders were brought before the court to answer for war crimes.

Listening In On Global Discussions

They also followed legal proceedings at The Hague's Peace Palace. These included a dispute over the ownership of the Spratly Islands. (Malaysia, the Philippines, Taiwan, Vietnam and China all have laid claim to the group of islands in the South China Sea. Foutz heard arguments in China's favor.)

She and others also worked to establish plans for a transitional justice mechanism to redress the human rights issues that led to the Syrian revolution. Toward the end of their session, they were coached by a diplomat from Afghanistan, who critiqued their ideas.

Since returning, Foutz said she has paid more attention to news from Syria because of her involvement. She also has near-daily communication with Syrian students from her cohort, along with many others.

"I have friends from all over the world now."

Of course, there also was time for fun. One evening, all participants were asked to make a dish from their native countries for an international dinner. Foutz contemplated representing the U.S. with cheeseburger sliders, but ultimately opted to join students from Colombia in preparing her favorite dish, chicken and rice. She formed a connection to South America while studying abroad there on a U.S. State Department scholarship through SU's Center for International Education in 2010.

The overall experience helped Foutz realize she was on the right track with her career choice, which is to become a professor of international conflict analysis and dispute resolution. After earning her master's from SU, she plans to pursue her doctorate.

Though the impact of the experience has been immense, the SU graduate student summed it up in five succinct words: "It has changed my life." ❖



Brittany Foutz at European Union Headquarters, Brussels, Belgium

Research Day

Four faculty members showcased their expertise to the campus community during Salisbury University's fourth Research Day and Innovation Showcase, held in the new Patricia R. Guerrieri Academic Commons Assembly Hall. Attendees were applauded by SU Provost Diane Allen for coming to learn what their colleagues and professors across campus are doing. An exciting component of the day was the introduction of a new concept to support faculty in the scholarship of teaching and learning called Faculty Learning Communities.

Dr. Elsie Walker
Department of English

"Soundtracks and Humanity – The Beauty, Violence and Politics of Hearing Films"

Watch online:
www.salisbury.edu/research2016/walker



Dr. Katherine Hinderer
Department of Nursing

"Bridging the Gap: Inter-professional Partnerships to Support Practice-ready Healthcare Graduates"

Watch online:
www.salisbury.edu/research2016/hinderer



Bill Burke
Department of Information and Decisions Sciences

"Innovation, Entrepreneurship and Economic Development"

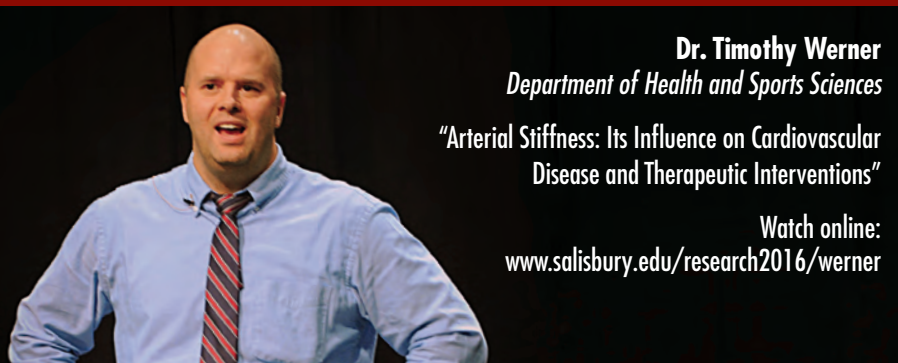
Watch online:
www.salisbury.edu/research2016/burke



Dr. Timothy Werner
Department of Health and Sports Sciences

"Arterial Stiffness: Its Influence on Cardiovascular Disease and Therapeutic Interventions"

Watch online:
www.salisbury.edu/research2016/werner



Faculty Learning Communities

The idea of a Faculty Learning Community (FLC) is to support a group of trans-disciplinary faculty to engage in an active, collaborative, yearlong process that ultimately will increase faculty interest in teaching and learning and provide support for faculty to investigate, attempt, assess and adopt new teaching methods. The literature shows that students who learn in a university supported by FLCs ultimately fare better academically, socially and personality than those who do not.

Faculty were invited to submit FLC proposals last spring and 10 were ultimately accepted. The communities listed here represent faculty from all four of the schools and are wide-ranging in type.



RESEARCH IN FOCUS

- **Cognitive Science:** Promotes courses and programs related to cognitive science across the University with the hope of ultimately creating a Cognitive Science Institute.
- **Sustainability in the Curriculum:** Facilitates curriculum across disciplines to address the complex relationship among environmental, economic and social sustainability.
- **Entrepreneurship:** Teaches the principles of entrepreneurship and innovation in an applied process of learning.
- **Teaching Diversity in the Classroom:** Provides space for faculty to discuss the complex nature of teaching diversity and to design course materials that best help students learn about diversity.
- **Professional Development for Department Chairs:** Develops supportive information for the orientation of incoming department chairs.
- **Benchmarking Digital and Other College-Level Literacies:** Establishes benchmark criteria and assignments that facilitate the development of technological/digital literacy.
- **Developing Student Resilience Inside and Outside of the Classroom:** Develops a handbook of activities that can be used to increase student resilience.
- **Beginning Backward Design Within the Biology Department:** Creates an opportunity for instructors to use 'backward design' to revise curriculum and to address challenges outlined using alignment with Vision and Change as a structural framework.
- **Women's Mentor and Network Circle:** Unites academic women across campus and in the professional community toward

the common goal of enhancing mentoring and networking experiences.

- **Building Interdisciplinary General Education Courses:** Develops exemplary interdisciplinary General Education courses that align with specific learning outcomes for first and second year students.

To learn more about FLCs, contact Dr. Deborah Mathews, director of the SU Office of Innovation in Teaching and Learning, at damathews@salisbury.edu.



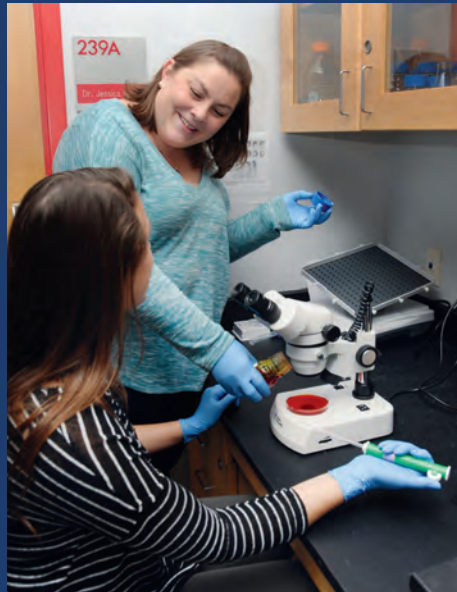
The Brain-Nerve-Zebrafish Connection

By Kayelynn Ayres

Exploring how your brain responds to external stimuli and zebrafish may not seem like a logical pair, but for Dr. Jessica Clark, an assistant professor in SU's Department of Biological Sciences, they are a natural fit. She is currently working with a small group of students using zebrafish to research peripheral nerves, more specifically the development and health of these nerves.

The peripheral nerves inform the brain about the environment and then allow the brain to respond to what is happening. For example, Clark simplified: "When you touch an object with your finger, the endings of the peripheral nerves in your fingertips are activated and an electrical impulse is sent through these peripheral nerves, through the spinal cord and up to the brain. The brain then determines what that object is, if it is dangerous and, if so, sends a message through the motor nerves, causing your finger to move away from that object." According to Clark, researching this topic is important because peripheral nerves "are vital to our everyday functioning; damage to these nerves can be devastating to a person's wellbeing."

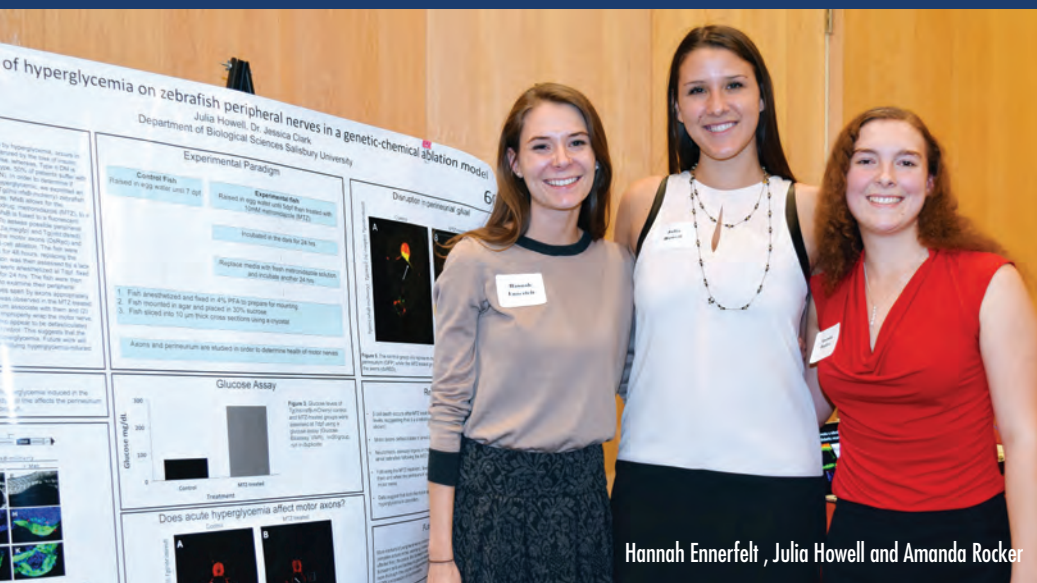
A type of damage that is common to the peripheral nerves is caused by hyperglycemia, commonly known as high blood sugar, which is associated with diabetes. Scientists do not know how this damage occurs, so Clark feels that researching this "is a necessary first step to understanding how to help people who



suffer from it." To seek ways to reverse this damage, Clark and her students induce high blood sugar in zebrafish that have fluorescently labeled peripheral nerves. With their nearly transparent skins, zebrafish are ideal test subjects, as they allow researchers to easily see obvious signs of damage. Once the damage has occurred, the next step is treating the zebrafish with different molecular compounds to see if the damage can be undone. Clark hopes "that this may lead to therapeutic approaches in humans in the future."

Another important part of Clark's research is the involvement of student researchers Amanda Rocker, Hannah Ennerfelt and Julia Howell. For Clark, their involvement is personally important because she herself participated in student research as an undergraduate. Because of this experience, she shared, "it is imperative to me that students in my lab get as many opportunities as possible to run their own experiments from start to finish." She allows the students to breed their own zebrafish, to raise the fish and to experiment until they reach their own conclusions. Clark shared that "having my undergraduates so deeply involved has been equally beneficial to me, as they have thought of interesting hypotheses that I had not yet considered" and that she has "really been impressed with the caliber of our students here and their ability to do good science."

Amanda, a sophomore honors biology major, specifically researches "a potential link between a connexin41.8 mutation and peripheral neuropathy." She explained that "the peripheral nerves ... are made of axons carrying the messages to the brain and back by electrical impulses. Axons are protected by a blood-nerve barrier made up of perineurial cells. This is potentially where connexin41.8 comes in; this gene is involved in forming channels (gap junctions) between cells to send important electrical and molecular signals from cell-to-cell as a sort of communication."



Hannah Ennerfelt, Julia Howell and Amanda Rocker



Her hypothesis is that the zebrafish she is observing have the connexin41.8 mutation. Because of the mutation of the gene "channels are not functioning or properly formed, resulting in a non-functioning blood-nerve barrier. If the axon is not being protected it may be exposed to harm and become damaged, resulting in peripheral neuropathy." If her hypothesis is correct, it could be possible that "the condition by a connexin mutation may relate to humans as well as the zebrafish model."

Hannah is a senior working toward a dual degree in honors psychology and biology. Her project in Clark's lab is "looking at hyperglycemic induction in zebrafish and their sensory nerves in response to this." Her research could help "shed light on the cellular effects characteristic in diabetic peripheral neuropathy, where diabetic patients begin to lose sensation, have tingling and endure pain in their extremities." She believes that her research can have "a real impact therapeutically for patients suffering from diabetic peripheral neuropathy." She revealed "I am a complete 'nerd' as well, so getting to do experiments and visualize the nerves in transgenic zebrafish is enjoyable and interesting to me."

Julia is a senior honors biology major who has minors in chemistry and psychology. She chose to participate in Clark's lab "because of [her] innate curiosity to answer the countless questions left blank in the field of biology." Her research "has been pivotal in my academic experience, exposing me to the reality of life as a research scientist," she reflected. "I had a lot of missteps in the beginning stages, but it was well worth it for the positive data that

eventually followed. I am thankful for the setbacks that I experienced early on because it proved to me that the research setting is where I belong."

Beyond her role as researcher, Julia is also a student leader at the University. Elected president of SU's Student Government Association, Julia saw the skills she gained in the lab translate to her role in campus government and help her juggle her numerous responsibilities: "Research forced me to become more organized and intentional with everything that I do."

And, these students do a lot! Clark shared that research is time-consuming for undergraduate students, but that it is a greatly beneficial experience for them in the end. Through research, students gain "the most realistic glimpse into pursuing research in graduate school." Amanda, Hannah and Julia were not daunted by that glimpse; all three plan to pursue doctoral degrees. ❖

Student Researcher: A Closer Look

By Lauren DeLong

Amanda, Hannah and Julia are students in SU's Honors College, which sponsored their attendance at national conferences to share their research. In the most recent issue of the Honors College magazine, *The Saunterer*, Hannah was featured in a student profile, excerpted here to provide a closer look at just one of these exceptional student researchers.

Hannah Ennerfelt is passionate about her research: to date, she has presented at annual conferences of the Eastern Psychology Association, the Society for Neuroscience and the Northeast Regional Honors Council. In December of her junior year, she submitted her Honors thesis – an extension of work on peripheral neuropathy that she conducted in Dr. Clark's research lab. In recognition for her outstanding work, Ennerfelt received the Roth Thesis Prize from the Honors College. She is the first Honors student to receive the award as a junior.

For those who know her, Hannah's drive to jump-start her education is not surprising. She has long adopted a Benjamin Franklin quote as her life mantra: "Never leave that till tomorrow which you can do today." Although very much accomplished at her age, she wishes she could tell the freshman version of herself, "it's not too early to ask for opportunities, pursue experiences, seek mentorship and apply for internships." Her accomplishments at SU have influenced a whole generation of student researchers in the Honors College. Thanks to Hannah's successes, Dr. Clark's lab has become a gateway for Honors biology majors who want to conduct research as early as their freshman and sophomore years.

Ennerfelt's accolades extend well beyond the SU campus. In March 2016, she was named an Honorable Mention for the prestigious Barry M. Goldwater Scholarship. The scholarship recognizes college students who are engaged in scientific research and demonstrate the potential to become scientists who contribute to their field. Ennerfelt plans to pursue a Ph.D. in neuroscience and eventually return to a university setting to mentor students such as herself.

Kayelynn Ayres is an English major who served as the editorial intern for the Publications Office in fall 2016. Lauren DeLong is an honors biology major with minors in math and chemistry. She does biological research with Dr. Les Erickson.

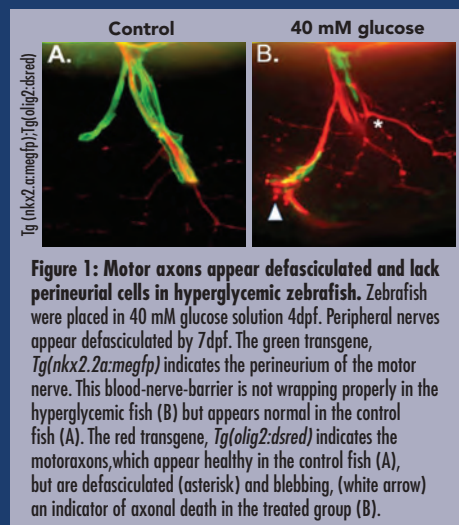


Figure 1: Motor axons appear defasciculated and lack perineurial cells in hyperglycemic zebrafish. Zebrafish were placed in 40 mM glucose solution 4dpf. Peripheral nerves appear defasciculated by 7dpf. The green transgene, *Tg(nkx2.2a:megfp)* indicates the perineurium of the motor nerve. This blood-nerve-barrier is not wrapping properly in the hyperglycemic fish (B) but appears normal in the control fish (A). The red transgene, *Tg(olig2:dsred)* indicates the motor axons, which appear healthy in the control fish (A), but are defasciculated (asterisk) and blebbing, (white arrow) an indicator of axonal death in the treated group (B).

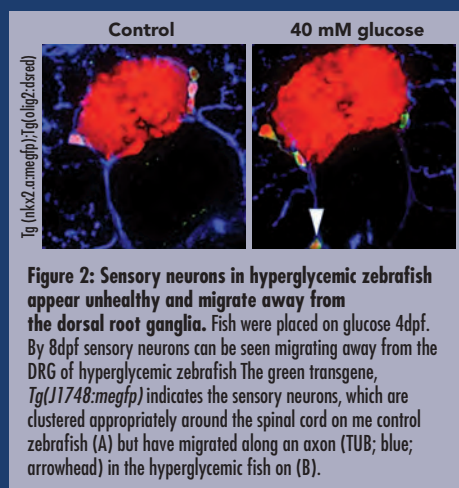


Figure 2: Sensory neurons in hyperglycemic zebrafish appear unhealthy and migrate away from the dorsal root ganglia. Fish were placed on glucose 4dpf. By 8dpf sensory neurons can be seen migrating away from the DRG of hyperglycemic zebrafish. The green transgene, *Tg(J1748:megfp)* indicates the sensory neurons, which are clustered appropriately around the spinal cord on me control zebrafish (A) but have migrated along an axon (TUB; blue; arrowhead) in the hyperglycemic fish on (B).

Faculty Mini-Grant Program

The SU Faculty Mini-Grant Program provides awards up to \$2,500 to encourage faculty to develop research, scholarly or creative programs that provide the potential for sustained professional development and “seed funds” to secure additional extramural support. The following is an overview of this year’s awardees.

Soil Carbon Sequestration in the Salisbury University Arboretum

Chris Briand
Professor, Biology

Increasing CO₂ concentration in the atmosphere is leading to global warming. Along with the ocean, plants and soil serve as major carbon sinks. Urban areas can play a role in reducing atmospheric CO₂ if managed correctly by increasing and maintaining green spaces. The role of the Salisbury University Arboretum in storing carbon in the soil will be determined.

An urban forest has been defined as the “sum of all urban trees, shrubs, lawns, and pervious soils . . .” (Escobedo et al. 2011). Urban forests such as the Salisbury University Arboretum provide ecosystem services such as the provision of aesthetics, shade, wind reduction, reduction of storm water runoff and carbon sequestration. Briand plans to quantify the ecosystem services provided by the soil as it relates to soil carbon storage on the campus of Salisbury University. This is a collaborative project with the Horticulture/ Grounds Department and the Geography and Geosciences Department and is part of a larger study that also will determine the role played by the trees of the campus in carbon storage.

The landscape management of the SU Arboretum and its impact on soil carbon sequestration is unknown. In this study, major campus arboretum and landscape management practices will be identified and soil carbon storage will be determined by analyzing soil physical and chemical properties.

Developing Inclusive, Diverse Leadership: Cross-cultural Studies in America and New Zealand

Chrys Egan
Associate Professor, Communication Arts

Egan continues her research on diversity in leadership by partnering with Massey University in New Zealand and examining mentor circles. Participants in mentor circles have been shown to motivate each other, improve morale, increase output and encourage each other to take greater career responsibilities. Egan and Massey colleague Dr. Marianne Tremaine have been collaborating since 2012 on international leadership work with the International Leadership Association (ILA), the ILA’s Women and Leadership Affinity Group and *Gender in Management: An International Journal*.

The research team recruits male and female professionals who would like to meet a few times per month in small groups to work on advancement, productivity and leadership. In addition, Egan travels to New Zealand to receive expert training from the Massey University vice provost and other faculty on how to host mentor circles, participate in successful circles, meet with members of the national Ministry for Women, speak with representatives in the U.S. Embassy and visit with nine SU education majors who are student teaching in New Zealand.

This project allows for a cross-cultural comparison on leadership diversity by examining the published findings from New Zealand, a nation known for its leadership scholarship, and applying these results to an emerging project in the U.S., where peer mentor circles are gaining momentum.

Exhibition of “The Tower” and “Lakshmi Planum” at HERE Arts Center in New York City

David Gladden
Assistant Professor, New Media Art

The prestigious HERE Arts Center in New York City is a multi-disciplinary space that specializes in hybrid performance, dance, theatre and multi-media works. HERE Arts Center has a permanent space with two stages for performances and an art gallery for contemporary 2D, 3D and time-based works. Gladden exhibited a multi-media sculpture as well as six large-scale photographs in the art gallery. The multi-media sculpture, called “The Tower,” is a welded steel box with three embedded video screens and a devoted computer. “The Tower” is a rumination on a changing American landscape, going from a horizontal orientation to a vertical one; a landscape of cell towers, windmills, skyscrapers, water towers and surveillance cameras. This new landscape is invisible, composed of powerful winds and waves of electromagnetic radiation, and bits of information flying imperceptibly through the air.

The photographs are part of a series of photographs titled “Lakshmi Planum.” The photographs explore scale by creating miniature worlds that translate as alien landscapes in long shot focus. The Lakshmi Planum of the planet Venus possesses the most spectacular topography on the planet. It is a high plateau that, in configuration, resembles the Plateau of Tibet on Earth.

Exhibiting at the HERE Arts Center will raise Salisbury University’s profile in the art world and could help in attracting students.

Tracing the Activism of Early Black U.S. Artists in London, 1840-1860

Aston Gonzalez
Assistant Professor, History

In 1840, a free black man from Philadelphia named Robert Douglass Jr. left the port of his home city on a ship bound for London. There, he met with and took classes from some of the most distinguished painters at the National Gallery and the British Museum, both in London. It was there that he married his love for artistry with his multiple campaigns to bring equal rights to people of African descent in the U.S. Douglass and other members of his family nurtured networks of pro-black activists in Philadelphia and in London. During his trip to Europe, he met with not only painters, but also activists who instructed him on how to use his artistic skill in service of the abolition of slavery. Both before and after his trip to London, he created images that depicted the horrors of slavery and the moral fortitude of antislavery leaders.

Just a few years after Douglass left, the influx of escaped slaves to London from the U.S., including Maryland’s own Frederick Douglass, hinted at the strong trans-Atlantic links between antislavery advocates. In 1855, the escaped slave Henry Box Brown made the same trip to England to raise money so that he could purchase his wife and children from slavery. He brought with him a moving panorama — a 10-foot tall, 200-foot long canvas painting, rolled on two upright cylinders and backlit by a fire — of his experiences of slavery. He charged sympathetic audiences admission to hear him recount and perform his life as an enslaved man. Two years later, the famous black photographer James Presley Ball from Cincinnati made the same trip to England to promote antislavery activism and solicited

donations there to end slavery in the U.S. He traveled with his wife and son, and he captured a photograph of Queen Victoria between meetings with abolitionists.

Gonzalez's project seeks to discover the extent to which these three black men used their artistry to advance the causes of black rights by appealing to powerful politicians and leaders abroad. Questions to be researched include: What exactly did Douglass, Brown and Ball learn in England? How did their time abroad affect their strategies to end slavery in the U.S. through their artistic production? Scholars are increasingly realizing that the antislavery movement in the U.S. drew myriad lessons from strategies adopted across the Atlantic Ocean. It is only in unearthing and understanding these connections that we can more fully understand the history of the U.S. and how black people were central to the destruction of slavery.

Restoring African American Women's Intellectual History

April Logan

Assistant Professor, English

Logan attended the American Literature Association's (ALA) 26th Annual Conference in San Francisco to present her paper "Anna Julia Cooper, Lynching, and Modern Social Justice" in a roundtable discussion organized by the Anna Julia Cooper Society. Logan also presented a second paper, "Pauline Hopkins's Hagar's Daughter, the Colored American Magazine, and (Re)Public Stages" on the Woman Thinking: Public Intellectualism in U.S. Periodical Culture Panel. The panel and presentation offered wonderful opportunities to advance research on understudied topics related to women writers, in particular, their contributions as public intellectuals through their journalism and editorship, and authors such as Anna Julia Cooper.

By attending the ALA Conference and presenting her papers, Logan avails herself to invaluable advice regarding how to further develop ideas and other avenues of research that may increase understanding of turn-of-the-20th century periodical culture and the legacies of African American women writers' activism and engagement with issues of public concern. The input received also will aid Logan in her design of a graduate-level course on African American women writers.

The Chromanauts - A Solo Exhibition and Collaborative Project by John Mosher

John Mosher

Assistant Professor, Art

The Chromanauts is a solo exhibition that was selected by Street Studio Arts in Elgin, IL, located just outside Chicago. Mosher presented multi-disciplinary works of art in the main gallery, including collages on paper, photography and video works. The theme of the solo exhibition, *The Chromanauts*, is a narrative thread that is found throughout his work. The narrative deals with fictional characters and their travels in various imagined universes.

Mosher was asked to collaborate and create a dance production based on *The Chromanauts* by the associate artistic director of Core Project — a dance-based, interdisciplinary arts company in Chicago. The dance involves four dancers taking on the roles of *The Chromanauts*. Mosher contributed to the writing of the production, costume design, choreography, as well as creating video and sound.

Because *The Chromanauts* is multi-disciplinary, and involves a collaboration with a dance choreographer, it transcends the Art Department and has a wider reach to the disciplines of dance and theatre. Collaboration between different departments and disciplines is a growing trend in academia and in the arts.

Research at the Harvard University Phillips Reading Room, Script Repository, Cambridge, MA

Darrell Newton

Professor, Communication Arts

Newton's interests in media histories and the qualitative effects of certain narratives upon audiences takes him to the Phillips Reading Room and the Script Repository at Harvard University. To follow his book, *Paving the Empire Road: BBC Television and Black Britons*, Newton now proposes a series of essays on an anthology dealing with 1960s television and social issues. The essays, introduction and eight other works will deal with how American programming during this era provided multiple platforms for the critical analyses of social ills (i.e., sexism, racism,

Cold War politics, etc.) and provided fodder for the evolution of televisual narratives.

The Phillips Reading Room at Harvard contains a variety of scripts written by African Americans that address social conditions during the era. Newton examined narratives from the 1960s, 1970s and 1980s that hold storylines in common, particularly racial prejudice and its effects upon the principle characters. The specific questions to answer are: How have television scripts written specifically by or about African Americans during the 1960s, 1970s and 1980s address common themes such as racism and other social ills? When considering notions such as gender and social class, how did these scripts help to identify the formation of contemporary identities? Perhaps more importantly, Newton hoped to analyze linear notes and other related annotations, changes to the original dialogue in the scripts and why.

Charlotte Brontë's Silver-Fork Novellas of the 1830s

Judith Pike

Professor, English

The mature novels that Brontë wrote and that scholarship addresses are from the 1840s to 1850s. Researchers do not address her lesser well-known works from the 1830s. Pike's paper "Charlotte's Novellas of the 1830s" is part of a new book project *Charlotte Brontë's Silver-Fork Novellas of the 1830s*. This project charts new terrain by looking at the influence of silver-fork novelists (1820-1830) on Brontë's early writings from the 1830s. By traveling to the Chawton House Library, Pike gains access to original, though rare, editions of novels and periodicals from this era by such figures as Lady Charlotte Bury and Lady Blessington, and accompanying early 19th-century periodicals archived in its library. This project looks at how Charlotte Brontë's early novellas from the 1830s, such as "The High Life in Verdropolis," fit within the genre of the "silver-fork novel." This project will open up a very new area of scholarship on Charlotte Brontë.

Working with the Dying and Their Families in Long-term Care: A Communication Education Training for Nursing Home Providers

Kimberly van Vulpen

Assistant Professor, Social Work

In 2014, van Vulpen and colleague Katherine Hinderer conducted a study exploring the barriers of providing quality end-of-life (EOL) care in a small nursing home on the Eastern Shore of Maryland. Findings from this exploratory study identified that staff felt unprepared in talking with and supporting the dying residents and their families. Prior research has recognized a gap in EOL care education for nursing home staff, including the need for knowledge and skills development (Hill, Ginsburg, Citko & Cadogan).

The project is to develop an online education training focusing on strategies of communicating with the dying. The training will be offered to the staff at a small, long-term care facility on the Eastern Shore of Maryland. van Vulpen hopes to answer the following questions: Does the online training module improve staff comfort in providing communication to the dying? Does the online training module increase staff ability to provide bereavement support to families of residents who have died? What are the staff perceptions of the impact of the training program on their abilities to interact with the dying patient and their family?

After evaluation of this project, the goal is to make this training available to other nursing homes on the Eastern Shore whose staff may face the same barriers to receiving continuing education trainings.

Eating Attitudes of Middle School Athletes and Non-Athletes

Jessica Walter

Adjunct II Professor, Health and Sport Sciences

Previous research indicates that abnormal eating attitudes and behaviors are common among preadolescents. The purpose of this study is to assess eating attitudes of all middle school students in Somerset, Worcester and Wicomico counties in Maryland utilizing

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*Faculty Mini-Grant Program
Continued ...*

the Children's Eating Attitudes Test (ChEAT). The ChEAT contains 26 items rated on a six-point Likert scale ranging from 1 (always) to 6 (never). The ChEAT measures dieting behaviors, food preoccupation, bulimia and concerns about being overweight. Total ChEAT scores may range from 0 to 78, with a score of 20 or greater considered to be associated with anorexia nervosa. Participant characteristics will also be recorded using a demographic questionnaire. Descriptive and inferential statistics will be utilized to examine the difference between males and females and athletes versus non-athletes. The potential relationship between ChEAT scores and body mass index also will be examined. The study will explore whether any of the demographics are predictors of high ChEAT scores.

Arterial Stiffness and Resistance Training

Tim Werner

Assistant Professor, Health and Sport Sciences

Arterial stiffness has long been regarded as an indicator of disease and is an independent predictor of cardiovascular events. Thus, identification and characterization of behaviors promoting the development of arterial stiffness are necessary. Additionally, there is a void in our knowledge on the impact of exercise, in particular resistance training, on the stiffening process in the major elastic arteries. Several research groups have found positive correlations, while others have reported no correlations. The current controversies are generally based on methodological issues. This study will seek to clarify some of the discrepancies through the investigation of two resistance training models: high-intensity resistance and high-volume resistance. Repeated measures will be used to examine the effects on arterial stiffness.

Graduate Research and Presentation (RAP) Grant Program (Spring 2016 & Fall 2016)

The Office of Graduate Studies and Research provides research grants, up to \$500, to help graduate students develop research and scholarly projects with faculty supervisors and present their projects at various conferences and meetings. The program enables students to receive recognition for their work and provides networking opportunities and professional development in their field of study.

A New Compact: Exploring the Range of Possibilities for Community-Engaged Pedagogy

Geralyn Adams, English

Adams attended the 30th Annual Campus Compact Conference, the premier conference for community-engaged pedagogy, to research current service-learning initiatives and scholarship. Community-engagement pedagogy helps to bridge the university and the community, and meets community need while fostering the growth of students to become active citizens in a democratic society. In composition courses, community-engagement pedagogy often results in more meaningful writing experiences for students: the importance of their curriculum and class requirements transcends requirements and has applicability in the context in which they live and work. Adams is particularly interested in the rhetoric and discourse of writing in the civic sphere, community-engaged writing curriculum for freshman composition courses, and the importance of writing and education programs in correctional facilities.

GIS Modeling with Natural and Human Systems Data to Determine the Suitability of Aquaculture in Lake Victoria and Implications for Wild Fisheries and Fish Commodity Markets

Matthew Caddenhead, Geography Information Systems Management

For millennia, natives of the shores of Lake Victoria have been dependent on the bounty of freshwater fish as both a source for nutrition, as well as for economic sustenance. In recent years, this seemingly inexhaustible fishery has begun to languish. In addition to the deteriorating fishery, the human population surrounding Lake Victoria continues to grow, further straining the ecosystem.

Should the human population continue to grow, and the fishery continue to stagnate, the ecological and socio-economic consequences could be severe. A potential remedy to this immense problem could be the increased adoption of aquaculture-related fish production within Lake Victoria. Out of this complex problem, a multidisciplinary team of scientists aims to answer the following question, as posed in the National Science Foundation parent grant: "What is the potential for aquaculture around Lake Victoria and what are the implications for wild fisheries, global and local supplies of fish, and regional economic development?" To address this question, the determination of the areas of suitability for wild fish habitat and for aquaculture will be determined through a series of GIS suitability analyses. The output of these analyses will later be utilized as inputs into a larger futures prediction model titled Multi-scale Integrated Model of Ecosystem Services (MIMES).

Understanding the Spatial Ecology of the Tungara Frog Using Automated and Manual Radio Telemetry Systems

Andrew Cronin, Applied Biology

Spatial ecology plays a vital component in many facets of an organism's ecology, impacting predation risks, mating opportunities, foraging ecology and even the genetic structure of a population. The tungara frog (*Physalaemus pustulosus*) is a tropical anuran that has been studied extensively with regard to mate choice and multisensory signaling. However, there have been few studies examining this species' spatial ecology. This study will use both an automated and manual tracking system in order to determine male site fidelity, habitat use and diurnal behavior. This study will drastically expand our knowledge of this species' ecology and behavior, as most of our

current knowledge is derived from mating behavior at breeding sites. Cronin also will examine the efficacy of a novel automated system derived from radio frequency phase angle differences in a complex tropical environment. Tropical anurans are currently one of the most threatened vertebrate taxa due to habitat fragmentation, habitat degradation and the fungus *Batrachochytrium dendrobatidis*. A crucial step in designing proper conservation plans and determining the rates at which chytrid spreads is to monitor the movement patterns of these anurans. This system could therefore provide an important first step in the understanding the ecology and conservation of this taxa.

Interview Investors in Washington, D.C. - Quona Capital, Accion VentureLab, IFC Fintech Team, Omidyar Network

Adebola Daramola, Business Administration

Inclusive financial technology startups are leveraging emerging technologies — smartphones and cloud computing, mobile money and branchless banking, social media and machine learning — to deliver financial services to the poor and underserved markets cheaply and easily. They are rapidly disrupting and finding new ways to partner with conventional financial services ecosystem. Conventional financial services providers (such as banks and insurance) have not found serving the underserved market attractive to yield a high rate of return by economic measures. The financially underserved market remains neglected and left to the mercies of informal players. In America for instance, it is common with unbanked populations to patronize check-cashing centers: A recent CFSI report (2015) reveals that these unbanked consumers spend \$138 billion in fees and interest revenue in 2014, and generated a volume of \$1.6 trillion in financial activity.

The Influence of Self-Assessment on the Completion and Accuracy of Differentiated Homework with Eighth Graders

Melissa Dennis, Education (Ed.D.)

The purpose of this study is to discover if self-assessment of middle schoolers after learning new concepts will increase their capability to choose appropriate leveled homework. The research will help to show any correlation between student self-assessment and either the completion of the differentiated homework assignments, the accuracy of those completed assignments or a combination of both. Students also will be interviewed about specific questions on the self-assessment method and the differentiated homework options, as well as why or why not they were able to complete each assignment. The research will include 22 eighth grade students, depending on parental approval. The class chosen is made up of 13 students with an Individualized Education Program (IEP) and nine general-education students, who all have different math needs. This class was chosen as it already requires differentiated instruction so differentiated homework assignments are a compatible and normal next step to assist these students with success.

Internship with United Nations at the Hague Symposium

Brittany Foutz, Conflict Analysis and Dispute Resolution

Funding allowed travel to the International Peace and Security Institute to serve in an internship to during their 2016 symposium on Post-Conflict Transitions and International Justice at the Hague Palace. This internship partnered with The Netherland Institute of International Relations to work with the field's top experts in academia to focus on experimental learning and learn from representatives from the first world, developing world, and conflict and post-conflict countries. The academics at the internship focused on restorative and retributive justice, post-conflict security, reconciliation and reparations, peace vs. justice tensions, international vs. national mechanisms, truth seeking and investigations, transitional governance, economic development in transitions, localized stabilization, and the media and transitions.

Through formal lectures, studying with international tribunals and courts, and interactive simulations and workshops, this internship was beneficial in gaining the skills necessary to provide for security, justice and development and break cycles of violence — skills that are necessary in ensuring long-term stability worldwide.

Changes in Gene Expression in Response to Rapid Temperature Change in the Atlantic Killifish, *Fundulus heteroclitus*

William Gough, Applied Biology

Atlantic Killifish, *Fundulus heteroclitus*, are distributed along the Atlantic coast of North America from Canada to Florida, one of the largest thermal gradients in the world. Killifish respond to long-term temperature change by undergoing well-documented changes in physiology. Unknown is the temporal sequence of these changes. The hypothesis is that different mechanisms of thermal acclimation occur at different rates. By studying these differences, it might be possible to identify mechanisms that represent “emergency” responses versus more long-term mechanisms. The researchers propose to monitor the changes that occur in the expression of key metabolic genes during and after killifish are exposed to rapid (nine hours) changes in temperature. The results of this work will provide insights into predicting which species may be more or less sensitive to climate change.

From High School to College: Supporting Students' Self-Advocacy of Literacy Skills

Courtney Harned, Education (Ed.D.)

Heather Porter, Education (Ed.D.)

The transition from secondary to postsecondary reading expectations is challenging for many college students, requiring students to adapt and develop strategic reading comprehension skills. Secondary teachers face enormous expectations in preparing students for college readiness. What does college readiness really look like? Research shows that 85 percent of college learning comes from reading and studying, yet only 20-30 percent of college students complete the assigned reading before class. Students often struggle with the demands of college reading in multiple ways

as they negotiate volume, density and a general absence of guidance. What do high school and college educators know about their respective educational contexts that can help mitigate these struggles? How can shared knowledge be leveraged to provide students with strategic reading comprehension skills and self-regulatory habits for a seamless transition to college literacy expectations? This panel invited audience members to explore with the presenters how advocacy turns to action in supporting students' transition from high school to college.

Constructing Literacy Capital in Rural Contexts

Courtney Harned, Education (Ed.D.)

Heather Porter, Education (Ed.D.)

Christine Taylor, Education (Ed.D.)

The purpose of this study was to deepen the understanding of the discursive practices in rural literacies. Using critical discourse analysis and Gee's (2011) concept of figured worlds, the research team examined eight rural teachers' notions of what is natural in their teaching contexts. Three themes emerged from the findings: the reification of interpersonal relationships, an eclipse of rural literacy capital, and an adherence to national and state curricular norms. The findings led to an understanding that rural teachers viewed themselves as fulfilling community expectations and maintaining their end of a valuable relationship through their conformity to hegemonic educational practices. Implications include the need for teacher education programs to develop candidates' capacities for responsively and respectfully partnering with community literacy resources-starting with building teacher awareness to inspire place-consciousness in their pedagogy.

Multiple Way to Advocate Holistic and Authentic Literacy Practices

Nicole Justice, Education (Ed.D.)

Susan Olsen, Education (Ed.D.)

This project examined and explored socio-culturally relevant authentic literacy education. Miscue research has significantly informed us that reading is a dynamic and multi-directional process. Numerous studies have documented the impact of miscue analysis and EMMA on how readers read. The research team shared

multiple ways to work with diverse children and their families, focusing on what makes sense to children and their families. By sharing and discussing their stories as holistic literacy educators and advocates, they could reflect on a theory of reading that explained the many cues and experiences that readers use to construct meaning. Specifically, including how we miscue analysis, Eye Movement and Miscue Analysis (EMMA), and authentic and socio-culturally relevant children's literature are used. Presenters shared various vignettes and invited participants to explore their assumptions about readers, teaching and learning. They shared how using miscue analysis, eye movement data, and culturally relevant and authentic teaching can provide a venue for preservice and in-service teachers, opportunities to explore how readers make meaning when transacting with various texts and develop literacy strategies that helped support the needs of various readers. Following the presentations of various holistic teaching and learning vignettes, the session encouraged reflection on the participants' observations to suggest implications for their teaching practices.

Population Size, Habitat Preferences and Genetic Diversity of the Spotted Turtle (*Clemmys guttata*) on the Delmarva Peninsula

Stephanie Lamb, Applied Biology

Habitat loss, habitat fragmentation and the pet trade have led to the decline of many reptilian populations, including spotted turtles (*Clemmys guttata*). *Clemmys guttata* is listed as an S2 species (on the verge of becoming threatened or extinct) in Maryland. However, little is known about the populations' genetic structure of *C. guttata* on the Delmarva Peninsula (Maryland and Delaware). Lamb plans to study the genetic structure and genetic connectivity of four populations of *C. guttata* on the Delmarva Peninsula. If the populations are small, lack of genetic diversity can negatively affect population size. Inbreeding and genetic drift are prevalent causes of greater population declines in small populations. Therefore, it is of vital importance to determine if genetic signatures of a low

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genetic diversity, such as a paucity of alleles or low heterozygosity are present in these *C. guttata* populations, as well as whether gene flow is occurring between populations, which can rescue genetic diversity. This study will determine the effect of population declines on genetic diversity of this species and determine the necessity of conservation action for spotted turtles in this area.

The Metamodern Paradigm and Misinterpreted Representation: The Marxian Symptom of Contemporary Revolutionary Desire

Joshua Losoya, English

The rise and demise of postmodernism are well documented within academic discourses. Consensus regarding what has inherited the sovereignty formerly held by postmodernism seems less concrete. However, Vermeulen and van den Akker’s theorization of the contemporary epoch as that of the “metamodern” seems to be the best hypothesis available regarding today’s popular counterculture. This “metamodernism” is one of postmodern irony that reengages with the sincerity and enthusiasm of more characteristically modernist methodologies. This attitude within artistic practice appears across places of countercultural influence from Portland, OR, and the aesthetic nature of Urban Outfitters’ products, to contemporary art galleries. This is the milieu that envelopes movements such as Occupy Wall Street and #BlackLivesMatter — movements where something traditionally considered immature and naive, such as social media, was used to organize significant political action. However, the researcher uses strands of contemporary Marxist thought from Slavoj Zizek, Guy Debord, Theodore Adorno, Jacques Lacan and others to exemplify how this newly dominating aesthetic, while representing itself as revolutionary and morally/politically progressive, is, in fact, the commodification of popular, revolutionary/anti-capitalist desires. His work outlines how the true irony of “metamodernism” is in its unconscious existence as an epoch of “conservative progress,” desiring revolutionary restructurings without the necessary systematic change.

Leaf Litter Ant Biodiversity and Richness on the Eastern Shore

Hunter Mann, Applied Biology

Ants (*Hymenoptera: Formicidae*) are a critically important indicator taxon inhabiting a vast variety of ecosystems and climates. Their ecological importance as scavengers and predators, ability to aerate the soil, and role in seed dispersal, all combined with their incredible biomass, suggest that they are too important to be overlooked. However, in many cases, data pertaining to their biodiversity is lacking and the records of what species inhabit which areas are incomplete. This research aims to determine the richness and diversity of leaf litter ants in E.A. Vaughn Wildlife Management Area (Worcester County, MD). Collections of leaf litter occurred during May, July and September 2015, and ants were sorted through Berlese funnels before curation and identification. Preliminary results suggest that the leaf litter is dominated by a handful of species, with *Nylanderia faisonensis* (Forel, 1922) making up 57 percent of the total individuals collected. Leaf litter samples from May and July captured 18 species (3,157 individuals). Richness estimates suggest there are maybe as high as 24 species present in E.A. Vaughn WMA. Further data will provide more accurate estimates of ant species richness and biodiversity.

Your Lips Move (But I Can't Hear What You're Saying): Cognitive Load Impacts Multimodal Mate Choice

Matthew Murphy, Applied Biology

Multimodality — the transmission of a signal through multiple sensory channels — is common in the animal kingdom. One hypothesized origin of multimodality is an adaptation to noisy environments. Many species appear to use visual cues to improve acoustic discrimination in noisy environments, allowing them to focus on an individual signaler. Acoustic communication has been extensively studied in green treefrogs (*Hyla cinerea*). Male acoustic signals are physiologically coupled to the inflation of the frogs’ vocal sac, and females prefer male acoustic signals that are accompanied by the visual cue of an inflating vocal sac (robofrog).

Murphy hypothesized that multimodal signal evaluation enhances females’ ability to detect an attractive mate under acoustically complex conditions. He exposed female green treefrogs (GTFs) to a combination of three unattractive signals: an attractive signal, and either a robofrog, band-filtered noise, or both the robofrog and the noise. He found that female GTFs were able to detect the attractive speaker in the presence of either masking noise or the robofrog. However, when both the robofrog and the background masking noise were present, females chose the correct speaker no more often than would occur by random chance. The results suggest multimodal cues may increase cognitive loading and reduce discrimination in noisy environments.

Investigating Reading Capital in Rural Literacy Learning Contexts: Students Speak Up

Hannah Poist, Education (Ed.D.)

The purpose of this study was to investigate students’ language-in-use as it relates to their literacy practices both in and out of school in rural contexts. This study is the second phase of an ongoing critical discourse research endeavor; the first phase of which featured interviews with English Language Arts (ELA) teachers in rural schools to uncover teachers’ beliefs regarding their students’ literacy capital. Eight students from a rural school were interviewed three times each. Every interview was followed by an ELA classroom observation. The results show that students’ figured world of literacy practices are strongly influenced by school sponsorship and personal relationships. Students’ language-in-use also revealed many instances of voluntary sponsorship of their own literacy practices and a transcendence of literacy spaces and practices across digital, social, community and academic contexts. Students’ language-in-use presents an interconnected figured world of a rural context which cannot be confined to a romanticized, nor deficit-based, perspective. Research points to the pivotal role teachers may play in the classroom by using their influential position to discover and value the students’ voluntary and transcendent practices in the figured world of their rural context and beyond.

Denitrification Rates, Potential and Limitations in a Newly Created Wetland

Jordan J. Roose, Applied Biology

Increases in agricultural and urban development have elevated the amount of nutrients entering aquatic ecosystems, diminishing habitat, biodiversity and water quality. Therefore, it is important to understand the consequences of nutrient loading and to mitigate any negative effects through restoration efforts. This study focuses on the St. Martin River in eastern Maryland that has experienced eutrophication, contributing to poor water quality locally and the coastal bays downstream. To counter the effects of nutrient loading in this system, the Bishopville Dam was modified and Lizard Hill wetland was created at an abandoned sand mine site upstream. The researchers propose to study the ecosystem function of nitrogen removal within these wetland habitats by measuring denitrification rates and potential. The abundance of denitrifying genes will be quantified by QPCR. In addition to nitrate, insufficient labile carbon also may limit denitrification. Labile carbon will be measured by analyzing the carbon and nitrogen isotopic ratios. The benthic algae community also plays a role in the nutrient dynamics; therefore, chlorophyll a will be measured through fluorometric analysis. Restoring the balance of nutrients entering an aquatic ecosystem is important for water quality and biodiversity, especially in the St. Martin River.

FACULTY BOOKS

Extra-ordinary Rock Stars

By Dr. Mara Chen

Professor, Geography and Geosciences

In this beautiful, full-color book of photo stories, the author's imagination will fly to meet yours and walk you through some seemingly ordinary, but actually extra-ordinary and majestic spots and moments. You will be able to feel the awe of the rock stars and the theatrical power of nature across space and time.

CreateSpace Independent Publishing Platform, 2016

Laboratory Safety: A Self-Assessment Workbook

By Dr. Diane Davis • Professor, Health Sciences

Davis, an educator and hands-on practitioner with decades of experience, knows what you need to know when you're ready to institute new safety protocols or a new safety training program — or just need a comprehensive reference resource. Get insight and advice on everything from the most routine safety procedures to handling biohazards and radioactive materials. *Laboratory Safety* makes it easy to choose the areas in which you want to ramp up your knowledge. It takes the user, step by step, through critical principles and practical tips, with a uniquely informed perspective on what practicing laboratory technologists need to know to be proficient and compliant in today's laboratory environment. Organized by topic and comprehensive in scope, *Laboratory Safety* provides engaging and informative

overviews of fire and chemical safety, biological hazards, compressed gases, radioactive materials, waste and waste management, identifying hazards, safety equipment and safe work practices, locating safety equipment and documents, accidents and accident prevention, and accident situations. Individual users benefit from the self-study exercises in *Laboratory Safety* by using pre- and post-tests to assess their knowledge. An abundance of charts, diagrams and photographs enhance the information. The Appendix offers a wealth of resources and opportunities to learn more.

American Society of Clinical Pathologists Press, 2016

Monolingualism and Linguistic Exhibitionism in Fiction

by Dr. Anjali Pandey • Professor, English

How are linguistic wars for global prominence literarily and linguistically inscribed in literature? This book focuses on the increasing presence of cosmetic multilingualism in prize-winning fiction, making a case for an emerging transparent-turn in which momentary multilingualism works in the service of long-term monolingualism.

Palgrave Macmillan, 2016

Freedom in the Anthropocene: Twentieth-Century Helplessness in the Face of Climate Change

Co-authored by Dr. Alexander Stoner

Assistant Professor, Sociology

Freedom in the Anthropocene illuminates the Anthropocene from the perspective of critical theory. The authors contextualize our current ecological predicament by focusing on the issues of history and freedom and how they relate to our present inability to render environmental threats and degradation recognizable and surmountable.

Palgrave Macmillan, 2015

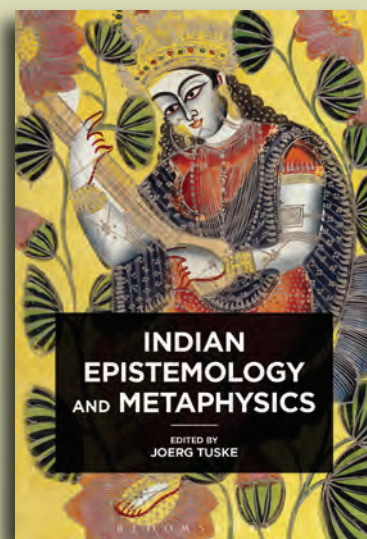
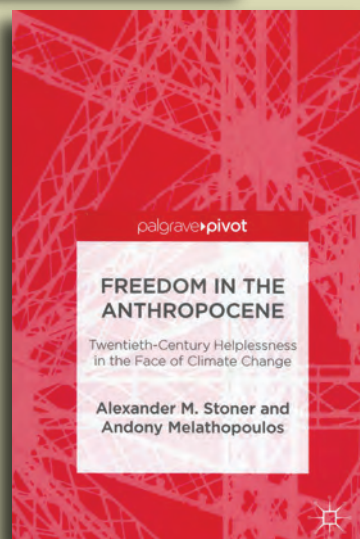
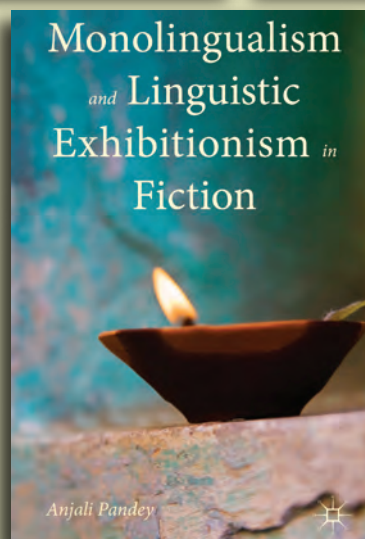
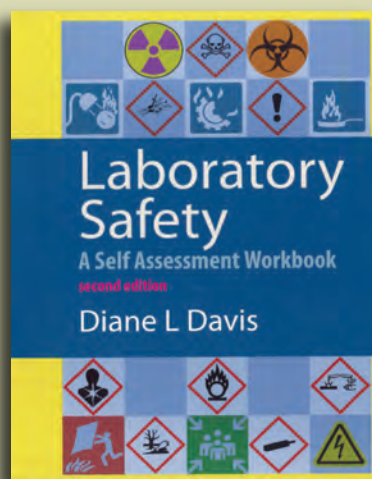
The Bloomsbury Research Handbook on Indian Epistemology and Metaphysics

Edited by Dr. Joerg Tuske

Associate Professor, Philosophy

Concentrating on topics such as perception, inference, skepticism, consciousness, self, mind and universals, some of the most notable scholars working in classical Indian philosophy today examine core epistemological and metaphysical issues. Philosophical theories and arguments from a comprehensive range of Indian philosophical traditions (including the Nyaya, Saiva, Jain, Buddhist, materialist and skeptical traditions, as well as some 20th century thought) are covered. The contributors to this volume approach the topics from both a philosophical and a historical perspective. They demonstrate the importance of the subject matter for an understanding of Indian thought in general and they highlight its wider philosophical significance. By developing an appreciation of classical Indian philosophy in its own terms, set against the background of its unique assumptions and historical and cultural development, *The Bloomsbury Research Handbook of Indian Epistemology and Metaphysics* is an invaluable guide to the current state of scholarship on Indian philosophy. It is a timely and much-needed reference resource, the first of its kind.

Bloomsbury Publishing, 2016



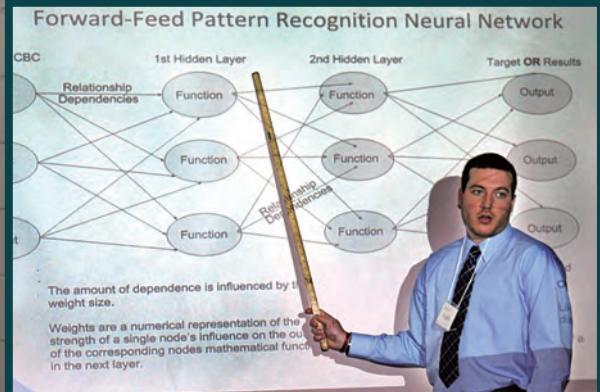
Be A Part Of Something ... BIGGER

16 S Salisbury	92 U University
38 Sr Student Research	6 C Conference

Salisbury University Student Research Conference • 2016

Salisbury University students presented their research on topics ranging from the liberal arts and sciences to business and education during the 15th SU Student Research Conference. In all, some 170 students shared their scholarship.

Highlights included the presentation of this year's Faculty Mentor Award to Dr. Scott Mazzetti of the Health and Sports Sciences Department. In addition to teaching classes, Mazzetti guides students as director of SU's Laboratory for Human Performance (LHP), which he founded in 2007. The primary mission of the LHP follows the "learning by conducting research" concept, which was derived from the Association of American Colleges & Universities Project Kaleidoscope. Other principles of the LHP include living life with a constant research mentality and taking leadership of lab activities. Students have the opportunity to lead various components of the research process, teaching them independence and problem-solving skills.



Genetic diversity of the endangered Tiger Salamander (*Ambystoma tigrinum*) in Maryland

Maximilian Jayner, Jessica Tagan, Eric B. Leitigold
Salisbury University Dept. of Biological Sciences

Methods:

- Using microsatellite markers, Tiger Salamanders were collected and genetic control samples were taken from each individual.
- Genetic control samples were analyzed and located to their source. DNA that can be amplified by microsatellite markers.
- 12 microsatellite DNA loci were tested for heterozygosity and polymorphism.
- The polymorphic loci were used for identifying heterozygosity, determining of parents, and for identification of DNA.

Introduction:

The Eastern Tiger Salamander is the largest amphibian species in North America. They are not only an iconic species in their range, Tiger Salamanders are also an important part of the ecosystem. This project will provide important genetic data to assist in the conservation of this species and to identify any genetic diversity between populations.

Conclusions: We hypothesized that genetic diversity in populations will be higher in populations that are larger and effective populations are higher. We expected to find genetic diversity of individuals from the same population to be higher than individuals from different populations.

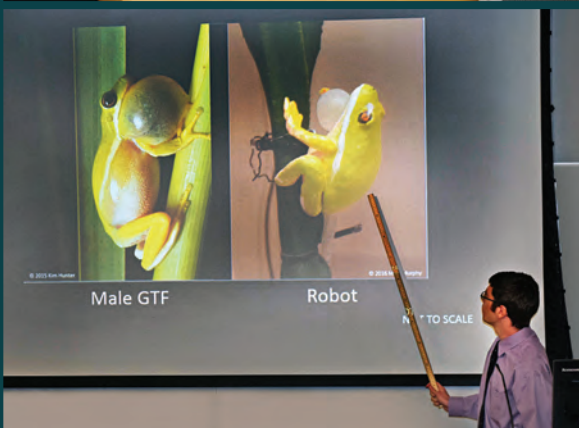
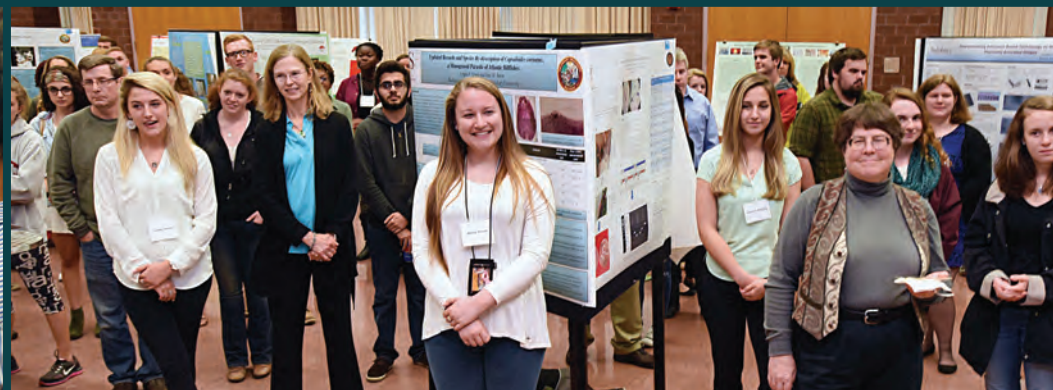
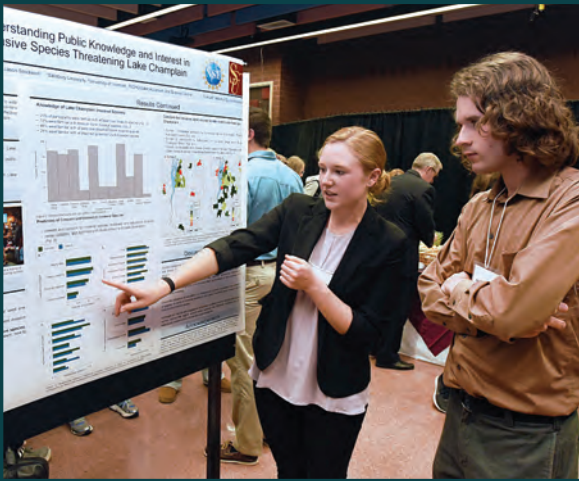
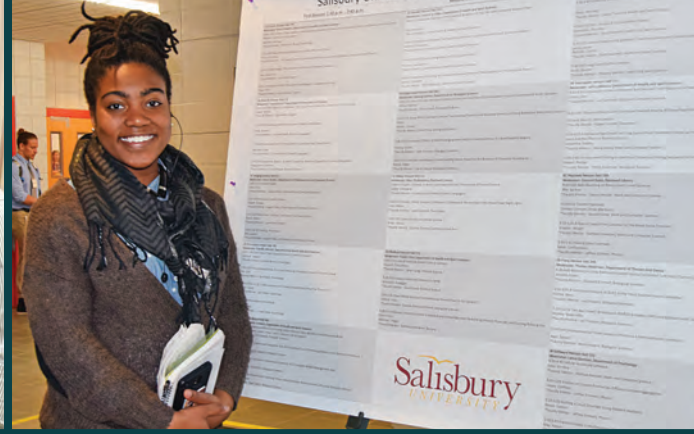
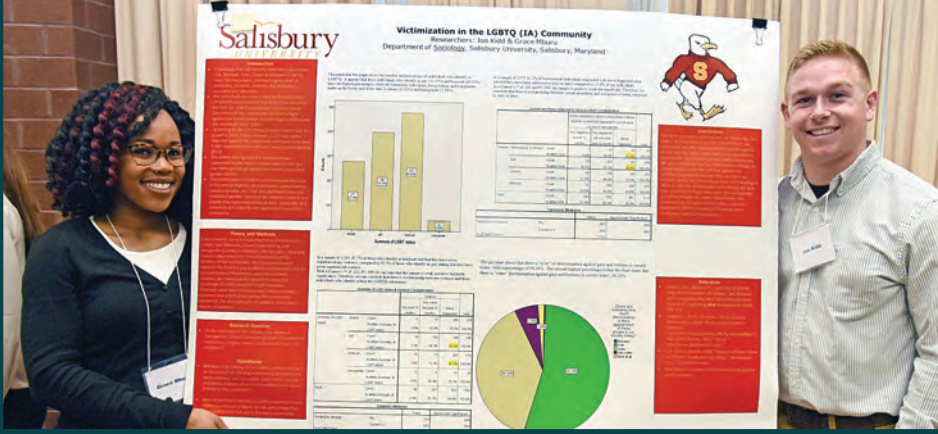
Results So Far:

- Some of the loci amplified were heterozygous which often were found heterozygous in our population.

Conclusion and Continuing Work:

- We are still working individuals that do not amplify the first time.





SAVE THE DATE!
SU Student Research Conference
Friday, April 28, 2017



Graduate Studies at Salisbury University



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