

Re:Search

Graduate Studies & Research at Salisbury University
2021 Edition

Learning, Adapting,
Growing and
Moving Forward

**UNIVERSITY LIFE
DURING THE PANDEMIC**





Many of SU's grant-sponsored programs enhance our surrounding community. • page 16

Volume 11 • 2021

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On the Cover: In our classrooms and beyond, students and their faculty mentors adapted to COVID-19 restrictions to keep research ongoing at SU. • page 4

Please Note: Social distancing and mask wearing are absent in some photos in this issue as they were taken prior to the COVID-19 pandemic.

“We are a community of problem solvers who find creative ways to continue the good work of academic exploration and discovery.”



“Research Goes On!” As the title of the article in this edition of *Re:Search* proclaims, research and creative and community-based scholarship continue to thrive at Salisbury University – even in the face of a global pandemic where social distancing is a must. Salisbury University’s community of problem solvers has found creative ways to continue the good work of academic exploration and discovery.

Central in continuing these endeavors are our dedicated faculty who are committed to research, creative scholarship and their students. They take their roles as mentors very seriously and our students benefit from it, even after they have left SU. These student-mentor relationships push the efforts of research forward and create long-lasting connections, encouraging graduates to see the possibilities available to them in the world beyond SU’s campus. In this issue, you can read about these mentoring relationships from the perspective of both the faculty and students.

We are also delighted that we continue to grow and thrive despite external circumstances, evidenced in the record enrollment we are seeing in our graduate programs. With nearly 1,000 students, SU’s graduate programs span all disciplines, from conflict resolution to athletic training. Long before Zoom became our global meeting room, SU’s graduate programs had entered the virtual world, with many programs being offered partially or fully online. Because of this, we are experts at offering our quality programs digitally in an efficient and effective manner. If you are among those considering new avenues after a year of the unexpected, we encourage you to check out our graduate programs and see if we have a program that is a good fit for your goals: www.salisbury.edu/gradstudies.

Even as the campus celebrates all of SU’s accomplishments in this difficult year, we would be remiss if we didn’t also acknowledge our losses. This past year, we lost members of our campus community, including two cherished faculty mentors: Dr. Mark Holland, Biological Sciences Department, and Dr. Brandy Terrill, Early and Elementary Education Department. Even as we mourn these amazing scholars, we celebrate their endeavors. Dr. Holland’s groundbreaking research on industrial hemp, which we highlighted in our last issue of *Re:Search*, has resulted in faster plant growth with greater yield. And, in this issue, we share the important work that Dr. Terrill accomplished with the Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) to help prepare low-income students for higher education. Their work and lives serve as an inspiration to us all.

We are an interconnected community of scholars – even when those connections are tested by distance. This issue of *Re:Search* further strengthens that connection by sharing with you many of the exciting endeavors of our faculty and students. Please know that this is just the tip of the iceberg. Scholarly activity and research are central to Salisbury University’s mission. We will continue to learn and grow, and we will continue to use this magazine as a vehicle to share our latest discoveries. Please enjoy the journey with us.

Sincerely

A handwritten signature in black ink, appearing to read "Charles A. Wight".

Charles A. Wight
President

A handwritten signature in black ink, appearing to read "Karen Olmstead".

Karen Olmstead
Provost and Senior Vice President of Academic Affairs

RESEARCH GOES ON!

Faculty Rise to Challenge to Keep Projects Running Amid COVID-19

The COVID-19 pandemic sent students home in spring, made faculty move their classrooms to Zoom rooms, and changed the way we live and learn. The classroom wasn't the only thing that changed at Salisbury University amid the pandemic. Most research projects could no longer continue on-site and in-person – but as with all things, research too must go on.



Several SU faculty made quick adjustments to their project models in order to meet the restrictions of the pandemic so their work could continue, no matter what the setting.

La'Tier Evans



Da'Juon Washington



Finding New Pathways

In 2014, Drs. Randall Groth, Secondary and Physical Education Department, and Jennifer Bergner, Mathematics and Computer Science Department, secured a \$260,606 grant from the National Science Foundation (NSF) to fund a research site for undergraduate students to study math education. The project received an additional \$287,871 in 2017.

One of SU's NSF-funded Research Experiences for Undergraduates (REU) sites, the PATHWAYS (Preparing Aspiring Teachers to Hypothesize Ways to Assist Young Students) initiative allows eight undergraduate students to host their own weekly learning sessions over the summer to help elementary and middle school students better understand mathematics skills such as fractions, multiplication, decimals and statistics. The undergraduates work with a faculty member to evaluate how their school-aged students respond to the instruction they design.

After the sudden quarantine, Groth and Bergner decided to run a smaller pilot group with just two undergraduate students, La'Tier Evans and Da'Juon Washington, so they could develop a model that would work on a larger scale in the future. The faculty members mentored the students closely as they all navigated how to conduct lessons remotely.

"Building classroom discourse in this online setting is very much new for most of us, especially working with younger kids," Groth said. "We discovered some tools that made things easier, and there were some teaching practices that were more difficult to develop."

Moving fully online didn't come without its challenges. Some of those obstacles were connectivity issues faculty had anticipated. Others were more unexpected. The undergraduate participants found out how much more difficult it was to get their students to participate in an online

classroom, especially with distractions such as their siblings or family members having conversations with them on the side. It's a very different environment when a teacher can't walk up to a student, lean over their assignment, and help them work through it.

However, the team soon discovered tools and techniques to improve their online instruction. The chat box helped students who typically struggle to speak up in a group setting, and the instructors could use the breakout rooms feature to pull students aside for individual help.

"There were some definite positives that came out of it," Groth said. "There are things the undergraduates learned about online teaching that they will use even after we go back to normal to help more students have a voice in the classroom."

The two student participants are doing teaching internships this spring, and it is likely that significant parts of their internships will be conducted online. As people around the world learn how to adapt to a new working and learning environment, it is becoming more important to know how to use the technology and tools available. Groth said their pilot test this summer has caused them to shift the focus of their research to help answer some of the questions teachers and students are now asking out of necessity.

"While an important part of the research is still supporting mathematical learning, we have shifted more toward questions about how to get students to participate in an online environment," Groth said. "We're just starting to come to some conclusions, but next summer we'll have frameworks to investigate how to translate everything we know about a physical classroom to a Zoom setting."



Gearing Up for a New Semester

Please Note: Soon after the writing of this article, Dr. Brandy Terrill passed away after a battle with cancer. Please read the adjacent tribute to her.

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is an early intervention initiative to prepare low-income high school students for college. Funded by the Maryland Higher Education Commission (MHEC), the program allows SU to partner with area schools to offer academic activities, summer camps and SU student tutors for a cohort of high school students, as well as professional development workshops for area teachers.

SU previously partnered with Somerset County for the program, and the most recent cohort worked with Wicomico County students from James M. Bennett, Parkside and Wicomico high schools. Co-primary investigators Dr. Michael Bardzell, Mathematics and Computer Science Department, and the late Dr. Brandy Terrill, Early and Elementary Education Department, started working with the cohort when they were in middle school. The students graduated high school in 2020 and have recently started college.

Their last year of the program was impacted by the COVID-19 pandemic, and Bardzell and Terrill had to make a quick transition to an online environment to continue offering the same services to the students, their families and teachers.

“Mike and I have worked together long enough now that we quickly regrouped and recognized each other’s strengths,” Terrill said.

Bardzell and Terrill created a Google classroom with 20 different online workshops which covered topics including time management, test anxiety, academic study skills, leadership, diversity and college writing. Because online learning was new to them as well, the duo contracted out to other faculty and offices such as the Center for Student Achievement for help creating the workshops.

“While it seemed like a daunting task at first, we were able to find incredibly talented faculty members who rose to the occasion,” Terrill said. “We worked with them to overcome many challenges to online instruction.”

Despite the sudden changes and initial challenges, the GEAR UP program reported a good turnout. Many of the students in the cohort have gone on to college, some at SU. After reflecting on the process, Bardzell and Terrill realized that the troubleshooting they overcame during the summer would greatly benefit SU faculty as they prepared for the fall semester as well.

“The program really is a true team effort,” Bardzell said. “It brings in all types of people – University faculty, staff and students, and county students, parents, teachers and staff – to work toward this common goal of ensuring students get the academic reinforcement they need to pursue higher education. It’s a great partnership between SU and the public school system.” ❖

Education Faculty Inspired Students with Creativity and Passion for Teaching



Dr. Brandy Terrill – known for her love of education, creativity and compassion for others – passed away January 13, 2021, after fearlessly fighting a battle with cancer.

A teacher and mentor at heart, Terrill first arrived at Salisbury University to pursue her degree in elementary education, graduating in 1994. She continued on to SU’s Master of Education program and graduated in 2000, later earning her doctorate at the University of Delaware. She returned to SU in 2005, later becoming associate professor of the Department of Early and Elementary Education.

Beloved by her students and colleagues, she impacted many lives with her passion. In 2019, she was honored with the SU Alumni Association Faculty Appreciation Award for the long-lasting impression she left on her students. SU alumni recognized her as influential in their success as professionals, remembering her creative teaching style that inspired them as they moved into their own classrooms.

Terrill believed that students learn best through active engagement, and her research interests focused on the areas of literacy, creativity and arts integration. Among her many contributions to the community, she served as director of the Eastern Shore Writing Project and organized a summer camp for young writers. She was also director of the Arts in Motion Academy, providing professional development workshops for educators in arts integration.

A scholarship in Terrill’s name will support education majors in their final internship year, as she loved supervising them in local schools. Contributions may be made to the Dr. Brandy Starkey Terrill Memorial Scholarship through the SU Foundation, Inc. or online at giving.salisbury.edu.



Mentorship Creates Lasting Relationships Between Faculty and Students

Research has long been a pillar of Salisbury University education. When undergraduate students hear the word “research,” they may feel a little intimidated. However, part of a mentor’s job is to help students see the possibilities – not only for research at SU, but for themselves and their future.

College of Health and Human Services

Research, like life, is messy. The results are never certain, and the process may come with many challenges or unforeseen circumstances. For college students, who may not know what path they want their life to take, this time of learning about themselves is critical. Part of a mentor’s job is to push students forward and help them find their way.

“It’s called research because we don’t know exactly what’s going to happen,” said Dr. Diane Davis, chair of the Medical Laboratory Science (MLS) Program. “When those unexpected things happen, it forces a student to learn about the scientific method in a very real way. You get to see them grow in maturity not only as learners but as people.”

When Davis conducts research, she tries to tailor the projects to what will best suit her students’ needs as they learn and grow. She wants to involve them in experiences that will prepare them for the professional world and also have data to present at the end of the process. As messy as that process can be, she says it’s about finding the balance between being a teacher and being a mentor.

“We as mentors try to be there for the unexpected and impart our knowledge onto the students, while at the same time stepping back to let them make decisions themselves,” Davis said. “Encountering the difficulties that arise is a good life lesson to learn.”

Research is a lot different from class labs, where students receive a specific set of instructions to follow and know exactly what is expected of them. The lack of structure in research is very different for students. Instead, they’re the ones who must determine the structure and solve problems they may face in the real world.

Emily Alessandrini, a sophomore in the pre-MLS program, has been working with

Davis on research testing the survivability of clinically significant bacteria on glucose test strips used to assess blood sugar in diabetics. These organisms of concern are present in most hospitals and may be found on stethoscopes, lab coats, hand-held glucometers and anything else that may be used around patients. Their research takes these bacteria and seeds them into glucose test strips to find out how long the organisms may survive. The longer they survive, the more risk that diabetics getting their blood glucoses checked could be infected. Alessandrini finished the study last fall and was accepted for presentation at the 2021 Northeast Regional Honors Council Annual Conference as well as the 2021 National Conference on Undergraduate Research.

“Within the first month of my freshman year, I was extremely worried about what undergraduate path I should take,”

Alessandrini said. “Dr. Davis walked me through all of my options, and I knew I could learn so much from her. When she mentioned research a year later, I jumped at the opportunity.”

Alessandrini said the research became especially important during the COVID-19 pandemic – another unexpected circumstance. As a pre-MLS major, she may someday be one of the people working on the frontlines of health care, doing things like COVID-19 testing and blood transfusion. While there were setbacks due to the restrictions of the pandemic, she said Davis fought for her to be able to continue the research.

“That’s who she is as a mentor and a person,” Alessandrini said. “She truly wants what’s best for her students and is there for every step, even after they become professionals down the road. I have gained so much from having her as my mentor and support system.”

Dr. Diane Davis
Chair
Medical Laboratory
Science Program

“When those unexpected things happen, it forces a student to learn about the scientific method in a very real way. You get to see them grow in maturity not only as learners but as people.”



Clarke Honors College

Lauren Hill said she's not exaggerating when she says she has the best job on campus.

Hill teaches HONR 111, the first-year experience for students of the Clarke Honors College. The goal of the course is to help students understand how to develop research questions and explore the many research opportunities available at SU.

"Research at SU isn't just a possibility but a reality," Hill said. "SU's focus on research empowers students so they're not just coming up with ideas but contributing to the world in a meaningful way to create change."

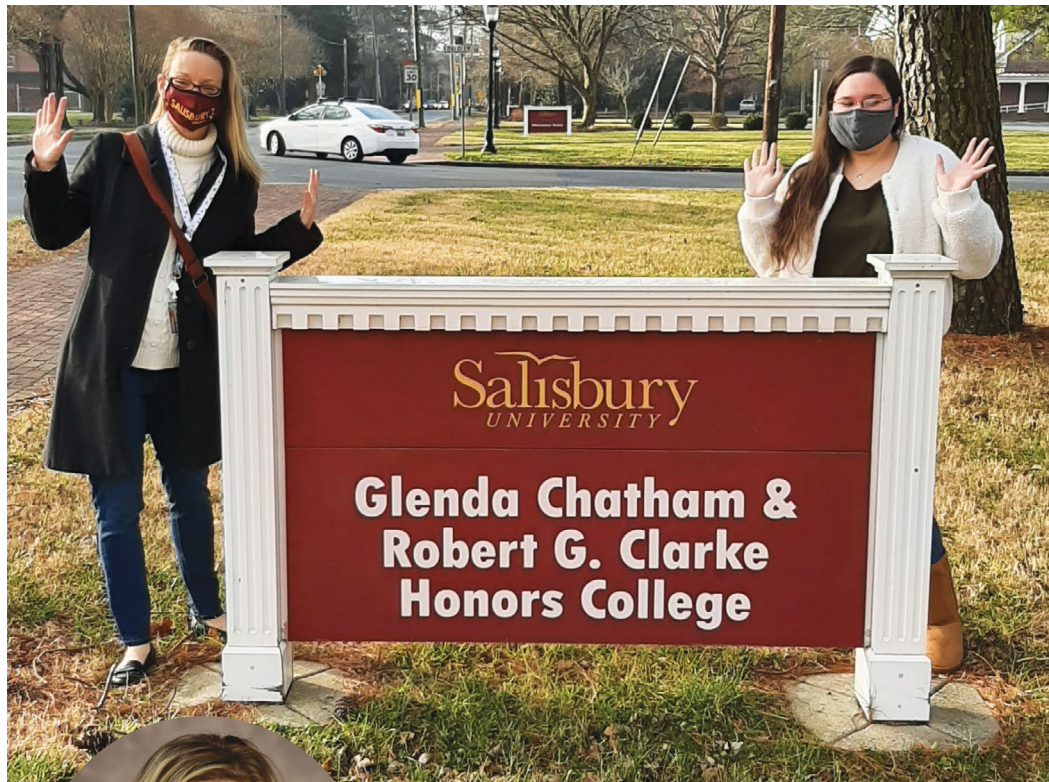
Because students of the course come from all disciplines, the possibilities are endless. Some of the projects Hill has worked with students on include developing video game technology for the hearing impaired, increasing language programs in business schools across the country, and evolving young adult literature to teach LGBTQIA+ awareness and acceptance.

"Some of these freshmen are developing senior-level thesis projects," Hill said. "I'm so lucky because all I do every single day is learn from my students."

Because Hill's background is in composition and rhetoric, she can help students of all backgrounds strengthen their research questions and create convincing arguments for why the work is important. Eli Rush, a junior international studies major in the political economics track, said Hill's guidance in his first semester helped him discover his interest in international business and made him change the course of his studies.

"I can bring Professor Hill anything from my complicated business economics background, other students bring ideas in from chemistry or fine arts, and she's able to take all of it," Rush said. "I can go to her for anything, and no matter how much knowledge she has about the topic, she's an amazing scholar to engage with and pushes me in the right direction."

With Hill's encouragement, Rush applied for the Northeast Regional Honors Council conference and was accepted to present his research proposal on American and Japanese business relations. The overwhelming response he received pushed him to pursue his newfound interests and discover a new career path.



"SU's focus on research empowers students so they're not just coming up with ideas but contributing to the world in a meaningful way to create change."

Lauren Hill • Lecturer • Clarke Honors College

"Having a mentor has helped me expand my horizons, find connections and see where I want to go," Rush said. "Professor Hill helped me build my baseline skills so I can open up new opportunities and accomplish more in the future."

Eliana Larsen, a freshman early childhood and elementary education double major, took Hill's class last fall semester. She said she didn't plan to get involved in research when she applied to SU's Honors College, but Hill's enthusiasm in pushing her toward her goals has made her excited about the impact she can make with research. Her project focuses on the effect of general education integration and individualized education programs on high-functioning autistic students. The topic was already something she was passionate about and didn't realize that research could be an effective way for her to shed light on the

subject and contribute to the scholarly conversation.

"I never would have been able to expand upon my education so much and be so motivated to move my research forward if I didn't have Professor Hill as a mentor," Larsen said.

Hill believes that passion and belief that the work is meaningful is one of the most important parts of conducting research, and her students find her enthusiasm infectious and motivating.

"I love my job so much," Hill said. "Even if I didn't sleep because I had to read a 50-page thesis paper, it matters and it's going to make the world a better place. I'm always humbled by my students' accomplishments and am so thankful to share their work with them."

Fulton School of Liberal Arts

The impact of the relationships fostered at SU can be seen even after a student graduates and goes on to carve their own path.

Dr. Yuki Okubo, assistant professor of psychology and co-director of the Accelerated Mentoring Program, didn't expect mentoring to become part of her research. But as she continued studies on marginalized groups, she found a way to empower her own students in the process.

Dominic Williams, who graduated from the psychology program in 2017, still remembers his first interaction with Okubo as a mentor. After taking her Clinical and Counseling Psychology course, she invited him to join her on a research project on how people talk about racial issues. Although he had never considered research before, he was overwhelmed that someone had recognized his potential.

"It made me feel seen in the program," Williams said. "There are so many possibilities even now that I never imagined for myself, but even back then, she could see that in me. It's an ongoing relationship that continues to grow and offer opportunities."

Dominic has earned his master's in clinical professional counseling from Loyola University and is now a licensed graduate professional counselor. He gives credit to Okubo for helping him cultivate his interests and skills, and always treating him like a colleague rather than just a student. He said he wasn't used to someone being so invested in his development as an individual and now looks forward to when she reaches out to him for more opportunities.

Temika Carroll, who graduated in 2019 with her bachelor's in psychology, agrees that the individual focus she received from Okubo as a research mentor was an important part of her continued success. She said she feels more prepared to pursue graduate studies and was able to get ahead in her career path because of the encouragement of a mentor who understood her.

"She never let us forget that we are people of color and actively engaged us in that conversation," Carroll said. "I'm thankful someone like Dr. Okubo was there to pick us up and help us."

Okubo's current research focuses on exploring how people have conversations about race, race relations, racial identity

and racism. She recalled the influence of her own mentors in her master's and doctoral programs, and shared they were always constructive in building her up as a professional and an individual. Sometimes, they were able to have difficult conversations with her about hardships and discrimination.

"I had the understanding that my mentors expected more from me because they believed in me," Okubo said.

By the end of her program, she gained an understanding of the importance of collaboration and providing meaningful opportunities to others – something she tries to pay forward with her own students.

"She prepared us so that when we do leave SU, we leave with something meaningful," Carroll said. "As a person of color, I sometimes experience impostor syndrome. The fact that she treated me like an equal is what gives me a boost of confidence that I can go on to do greater."

"She emboldened me to feel like I have a voice, and I try to take that confidence into my life now," Williams said. "I tell myself that if I want to do it, I can, because Dr. Okubo believes in me."



"I had the understanding that my mentors expected more from me because they believed in me."

Dr. Yuki Okubo
Assistant Professor
Psychology Department

Henson School of Science and Technology

Dr. Brent Skeeter, associate chair of the Geography and Geosciences Department, said SU offers an undergraduate experience like nowhere else.

He knows, because he was a Salisbury student himself in the 1980s – and some things have not changed.

At the end of their program, geography majors must complete a capstone course, Research and Writing, to develop a research proposal. To carry out the research itself may take a year or more, but much of the groundwork is laid in this course. Many SU students go on to use the proposals they started in their capstone as a thesis topic for their graduate degree.

“They learn the scientific method, but the key thing they really learn is how to become critical thinkers,” Skeeter said. “The most powerful thing that course does is foster a new way of thinking.”

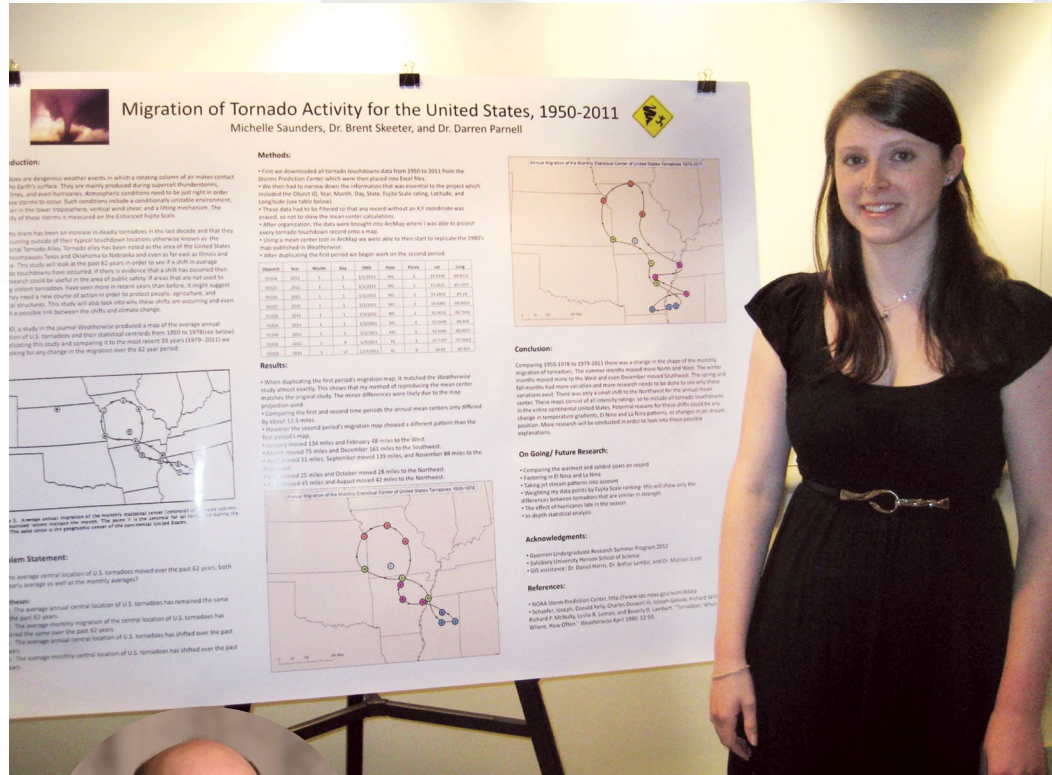
When Skeeter was a student, he remembers taking the same course and how it changed the way he thinks about the world. He felt the course was so important to his education and career path that when he returned to SU to teach, he volunteered to take over the class himself.

“When I took that class as an undergraduate, I felt I got more out of it than any class I’d ever taken,” he said. “I knew how much it meant to me, and I wanted to carry that on.”

Now as a professor, Skeeter has the opportunity to push his own students toward their goals. Michelle Saunders, who graduated from the geography program in 2013, shares the same sentiment as Skeeter.

“SU set me up for success,” Saunders said. “After I graduated, I really felt that I knew what I was doing, and I was more confident having had the experience of getting involved in research as an undergraduate.”

Saunders worked with Skeeter on analyzing the monthly mean migrations of tornadoes over time, replicating a 1980s study to see what had changed over 30 years. While the study itself was fun, she said what was just as important was her professors taking their students to



“They learn the scientific method, but the key thing they really learn is how to become critical thinkers.”

**Dr. Brent Skeeter • Associate Chair
Geography and Geosciences Department**

conferences to present their research. She describes the experience as being nerve-racking but, ultimately, what pushed her forward and set her up for her career.

“It was an experience so far beyond what most undergraduates get to do,” Saunders said. “Had I not had that opportunity, I may not have continued on to achieve everything I have now.”

Saunders earned her master’s degree in geography from the University of Alabama and her Ph.D. from the University of South Florida, and she is now a postdoctoral research fellow at the University of Oklahoma. Her interest in weather has continued, and her current

study focus is how people use tools and resources to make decisions regarding severe weather. She still remains in contact with Skeeter and remembers her time at SU fondly for all the support she received from faculty.

“It’s very satisfying to see them go on and be successful,” Skeeter said. “Teaching can be routine after 33 years, but it never gets boring because I get a different group of students with different ideas each class.”



“Every student starts as a blank slate, but at the end, they are confident about getting a job and succeeding in their career.”

Dr. Amit Poddar

Professor

**Marketing and Management
Department**

MASMI 2019 elevator pitch competition winner Grace Broyhill received a plaque from Perdue Farms CEO Jim Perdue



Perdue School of Business

Getting a job after graduation is often stressful and, particularly in a recession, exceedingly difficult.

Not for students of SU's Mid-Atlantic Sales and Marketing Institute (MASMI). In fact, many of them not only have jobs lined up after graduation, they have their pick of multiple job offers from impressive companies.

“The second I joined MASMI, I knew I was graduating with a job,” said marketing major Grace Broyhill. “There was no way my professors would let me graduate without a job.”

Broyhill has accepted a position as a recruiter for TEKsystems in Tampa, FL. Her teammate, public relations major Lindsey Dinkel, also received multiple job offers through her MASMI connections and was happy to accept a sales position with Aerotek in Columbia, MD.

“I had no problem finding a job,” Broyhill said. “I had so many people calling me knowing I was in MASMI. It's proof that our sales program at SU is becoming known on a national level.”

Both Broyhill and Dinkel agree that the most valuable thing they've gained

from joining MASMI is the connections with people. Their team feels like a found family, and their faculty mentors are tirelessly invested in their success. Faculty teach students everything from how to stand out in job interviews to keeping their motivation up during difficult times. Students feel prepared to become professionals with the coaching and strong encouragement of their mentors.

Dr. Amit Poddar, professor of marketing, founded MASMI to prepare students for leadership and career opportunities in sales and marketing in collaboration with industry partners. The institute regularly hosts signature events and competitions where students may give elevator pitches or roleplay selling products.

“Our goal is to bring students and companies together, and to help all students realize their potential,” Poddar said. “Every student starts as a blank slate, but at the end, they are confident about getting a job and succeeding in their career.”

Before coming to SU, Poddar had been coaching students for sales competitions

for years – something that gave him great joy when he could watch students graduate and get their ideal job. When he saw how other universities were transformed because of the resources of their sales programs, he saw the value in bringing those opportunities to SU.

The results speak for themselves. MASMI is one of the largest sales programs in the country and is nationally recognized by the University Sales Center Alliance. Even during COVID-19 and a recession, MASMI students are actively being recruited for jobs. MASMI's student sales ambassadors have a 100% job placement rate. This year, the program hosts the National Shore Sales Challenge competition with teams from India, Canada and universities across the country.

“I can't say enough how much I love the sales program here at SU. It's completely changed my life,” Broyhill said. “The faculty dedication to the team and making sure we do well in these competitions is amazing, and I have really high hopes for what SU will do going forward.”

Seidel School of Education

Dr. Diana Wagner's mentoring philosophy is simple: It's about holding the door open and creating opportunities for her students.

"My job is to hold the door open for people," said Wagner, professor in the Education Leadership Department. "They get themselves through it."

Wagner has been with SU since 1999 and now teaches in the Master of Education programs. Soon she will focus more on helping boost the new undergraduate major in outdoor education leadership, and she is also a social justice and Holocaust educator.

Although she has been in higher education for 25 years, she originally had no intention of being an educator herself. As someone who did not picture herself on this journey, she said she knows the road her students are on and the many options for their future careers.

"I really love talking to students and figuring out what they can do," Wagner said. "It's important to get them out of their comfort zone because that's how they do the things they never imagined they'd be able to do."

Malik Howard is a current student of Wagner in the M.Ed. program at SU and will graduate this May. He comes from New Jersey, and especially with COVID-19 impacting most of his time at SU, he never anticipated that he would be able to build lasting relationships.

"I thought I would just come here for two years, get my degree and be out the door," Howard said. "Thanks to Dr. Wagner, I have someone who cares about me and wants to see me further than SU. I feel at home here because someone invested in my future."

Howard said working with Wagner on his legacy project for graduation has been the "battery in his pack." He was able to open himself up to her about wanting to pursue a doctoral degree, and now he's putting in applications with her as a reference. He said that even if he doesn't get accepted right now, her encouragement is what solidified his path toward success.

Dr. Polly Kleissas, a graduate of the M.Ed. Class of 2011, is seeing the results of Wagner's mentorship in her professional career. Wagner was instrumental in creating the connections that led to Kleissas' capstone project. She completed a research study on academic support services in first-



"My job is to hold the door open for people. They get themselves through it."

Dr. Diana Wagner • Professor
Education Leadership Department

generation college students, conducting interviews with students, administrators and other school officials to identify ways to acclimate first-generation students to college life.

Kleissas is now the satellite transfer specialist at SU, helping create connections for students to chart their path to college. Because of her dissertation, she determined that four-year institutions should play a greater role in advising students.

"I'm actually working with the students I studied now," Kleissas said. "It's a very important role for SU to play in welcoming these students. My dissertation is what prepared me to identify that need."

Kleissas kept in touch with Wagner after she graduated. She remembers getting her degree from SU and Wagner being the one to shake her hand as she walked for commencement.

"She said to me, 'Okay, now it's on to the doctorate,'" Kleissas said. "I just thought, 'Really? Let me enjoy my master's first!' But that's the kind of

mentor she is. She's always helping us look toward the next step."

Wagner said that to be a mentor, you have to be willing to hold the door, even if you have to hold it for a long time – and that mentorship doesn't end with someone's commencement.

"When they graduate, it's the beginning of our obligation to them, because now they're colleagues," she said.

Howard elaborated on that sentiment and shared that mentoring isn't just about networking and meeting people but fostering meaningful relationships. He and Wagner were two different people who were able to cross paths at SU and create a relationship that will impact both of them going forward.

"It started with having a conversation," Howard said. "Me being a Black male and her being a White woman from different backgrounds, we still found commonalities. That's why mentorship is so important. You don't look for it. It just happens." ❖

PUSHING THE BOUNDARIES IN EXCELLENCE AND ENGAGEMENT

When it comes to research and scholarly activity, Salisbury University continues to push the boundaries in excellence and engagement. SU's curriculum has long supported civic responsibility, and research by faculty and students has extended beyond the classroom to impact the broader community. This has been demonstrated in the numerous successes of the student body who have excelled in their pursuit of scholarship.

Recently, campus community members have made the University prouder than ever, confronting the year's many challenges to earn numerous honors and prestigious fellowships.

For four consecutive years, *The Chronicle of Higher Education* has spotlighted SU as one of the nation's top producers of Fulbright Students. The campus also has a long history of faculty, administrator and alumni recipients of the Fulbright, America's flagship international exchange program sponsored by the U.S. Department of State's Bureau of Educational and Cultural Affairs.

This year, SU students not only continued the trend but also reached higher than ever before. SU announced 15 semifinalists for prestigious U.S. Fulbright Student awards for the 2021-22 academic year – tied for its largest number to date. Last year, a record six SU students earned Fulbright awards, chosen from 15 semifinalists. Two students were also recognized as alternates, marking the first year SU had eight Fulbright Students recognized at the finalist level.

The application process for the Fulbright is intense, requiring two essays, three letters of recommendation from faculty and a series of interviews. This year, 27 faculty and staff participated in Zoom interviews with 29 student and alumni applicants. Many applicants have close advising relationships with their faculty mentors.

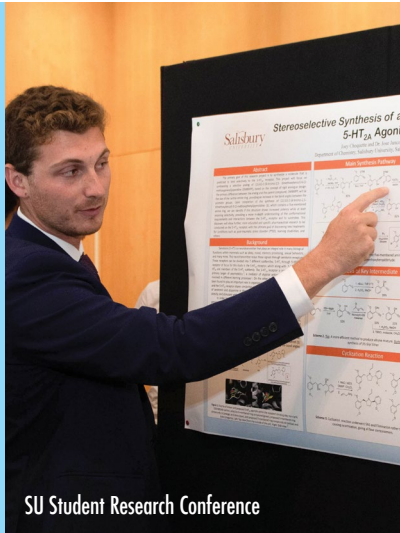
"I am specifically impressed with this year's group of students," said Dr. Kristen Walton, director of the Nationally Competitive Fellowships Office. "This was the most challenging year for the process and also the most competitive in the history of the Fulbright, with applications up 12% from last year. This makes the accomplishment of SU students even more spectacular."

In addition to these Fulbright students, SU already has received great news about other students with nationally competitive awards, including SU's first-ever Marshall finalist, a winner of the PPIA-Junior Summer Institute Scholarship, two semifinalists for the Critical Language Scholarship and the University's first St. Andrews Society Award finalist. In the past year, three SU students also received the Boren





2 student recipients



SU Student Research Conference

Scholarship, and two students were named recipients of the Barry Goldwater Scholarship, the preeminent undergraduate academic award in the fields of natural sciences, engineering and mathematics. Chosen from more than 5,000 applicants, they are the first SU students to earn the honor in its history of more than 30 years.

SU also has earned a new distinction due to the high number of students accepted as UN Millennium Fellows. Students proposed projects aligning with one of the 17 UN Sustainable Development Goals to benefit their communities. More than 15,000 students from nearly 1,500 university and college campuses across 135 nations applied for the fellowships. Just 1,438 were awarded, 13 of them SU students. Because of the honor, SU has been designated a UN Millennium Campus – one of just 80 such institutions worldwide.



St. Andrews Society Award Finalist Jack Lenox



CRITICAL LANGUAGE SCHOLARSHIP

2 semifinalists

The overwhelming success of SU's students shows that the University is not just giving them an education, but the skills and opportunities to achieve all that they imagined for themselves. SU students receive close mentorship from expert faculty, forming close bonds that continue past graduation as students enter postgraduate programs and kick off their careers. Students have many opportunities not only to conduct research but also to present their findings at regional and national conferences, including Posters on the Bay, the Northeast Regional Honors Council and National Conference on Undergraduate Research – even as these events have gone virtual in the past year.

SU also places a focus on research activities in the Honors College, where students are connected with faculty, unique learning experiences and each other. In 2020, the University was proud to announce the naming of the Glenda Chatham and Robert G. Clarke Honors College, in recognition of a \$1.5 million planned endowment from two former SU students who met on campus in 1968.

Over the years, SU has become an institution recognized on the national level – due in a large part to the strength and vigor of the people who make up the campus. This was shown more strongly than ever this year, as campus members confronted the many challenges ahead of them with an attitude of pursuing opportunity and reaching out to others. The past year has proven that no matter where they are or what their circumstances, these connections are what make Salisbury University an exceptional place. ❖

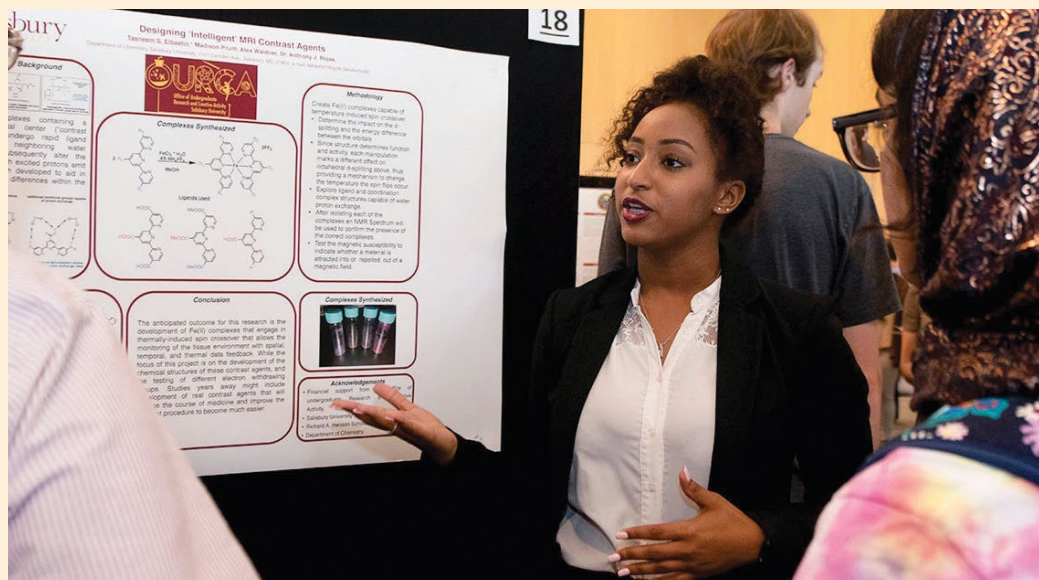


Boren Scholarships Awardees Tehzeeb Hassan, John Bunke and Madie Poteet

Undergraduate Research Alive with Activity as New OURCA Director Steps In



Dr. Rhyannon Bemis, associate professor of psychology, assumed her position as the new director of Salisbury University's Office of Undergraduate Research and Creative Activity (OURCA) last summer, after the campus closed and in-person activities were suspended due to the COVID-19 pandemic. Bemis discusses how SU met the restrictions of the pandemic head-on to ensure research and scholarly activity could continue.



Q: Can you explain what OURCA is?

A: OURCA's mission is to cultivate undergraduate scholarship and faculty-student mentorship. We support students in everything they need to get started with research, conduct research and present research. We do this by connecting students to mentors and sources of funding, as well as sending students to conferences such as the National Conference on Undergraduate Research and Posters on the Bay. In addition to research, we also support the Laridae undergraduate research journal and creative work. No matter what a student's background is, OURCA strives to meet students where they are and get them to where they want to go.

Q: What opportunities does OURCA bring to SU students?

A: The goal of OURCA is to advocate for undergraduate research and connect students to faculty mentors, no matter what their interests are. Through OURCA, students have been introduced to biology labs, photography professors or even the poet laureate. If a student doesn't know what they want to do but knows they are interested in working with kids, for example, they may be connected to multiple faculty members with different areas of focus so they can imagine all the possibilities for their future career. The best part is it can be literally anything. We want to help students see that research can be a significant part of their undergraduate life. Whether or not they go into research after graduation, the skills and experiences they gain are absolutely invaluable.

“No matter what a student's background is, OURCA strives to meet students where they are and get them to where they want to go.”

Students continue sharing their research virtually this year! Posters on the Bay, which showcases their work to Maryland legislators in Annapolis, was virtual in March 2021! For more information, www.salisbury.edu/ourca



(Above and Left) Bemis' psychology students volunteered at the "Spooktacular Halloween for Special Needs Families" event at the Salisbury Zoo prior to the COVID-19 pandemic.

Q: How has the COVID-19 pandemic affected OURCA's activities?

A: We're still doing research, and we're doing it really well. What I've been most impressed with is the incredible productivity and drive of the students during the pandemic. SU students have confronted this situation as an opportunity instead of an obstacle. One student (chemistry major Brandon Tenaglia) is investigating the RNA structure of the novel coronavirus, where he's mapping the sequence to help future research into direct therapies. Other students are working with my colleague Dr. Heidi Fritz to look at the impact of the pandemic on families or educating students with disabilities at home. This year's issue of the *Laridae* undergraduate research journal is a bigger publication than in its inaugural year, with some artwork and photography inspired by the student's experiences with the pandemic (see highlights on page 23). About 25 students presented in this year's Summer Student Research Showcase, and despite everything being online, large numbers of students are still attending information sessions for OURCA to learn how they can get involved, too. Overall, students are using this difficult situation as a catalyst for productivity in a way that is so inspiring to me. We're going to have a rich tapestry of work at the end of this academic year in spite of what we've been through as a community.

Q: What is your background in research?

A: Since I came to SU in 2012, I've had the opportunity to work with so many different students as they engage with research. My focus is memory development in young children, and I have tried to involve students in my work as well. SU has a partnership with the Salisbury Zoo and Living Lab Movement, which is something I've always been interested in. Through this project, we've set up a mobile lab at the zoo, where children and families participate in research studies that take about 5-10 minutes. Currently, we're doing an interactive puppet show with surprises to study if unexpected events help children learn better. For example, if we give a child a chartreuse marker to color with, and they open it up and find a crayon inside instead, does that unexpected surprise help them remember the color? Sometimes high school students might come up to us and say, "We're too old to be in your study, but can we ask what you're doing?" So, we get to talk to high school students about the possibilities for research as well. Basically, it's a way to do research and talk about research at the same time. I want my students to see that research is for everyone.

Q: What is your vision for OURCA as its new director?

A: My goal is to continue the great work of the former directors to increase OURCA's presence on campus and train its Undergraduate Research Fellows to become peer mentors. We're interested in building events to highlight research as part of the SU experience and encourage students to take a leap and get involved. Most importantly, I want students to feel like they can come to OURCA at any point – whether it's visiting my office hours, sending us an email or just chatting with a faculty member about their work.

Q: What is your advice for undergraduate students who want to get involved in research?

A: I really encourage students to reach out. Some students may be nervous about research, but what they may not know is that we want to talk to them. We love talking to students and want to help them find the way to their goals. That's one of our favorite parts of the job. ❖

The greater Salisbury and Eastern Shore communities have played critical roles in the history and success of Salisbury University. Now more than ever, SU's commitment to giving back through community engagement is an important mainstay as the world tries to remain connected.

In 2020, SU received several significant grants to help continue partnerships and community outreach efforts, and support the people, businesses, governments and civic organizations of the area. These grants help strengthen the education of area youth, prepare students for success in college, improve community health care, combat the area opioid crisis, and address the importance of ethics training and humanities.



Grants Strengthen SU's Connections to Community

Closing Gaps In Education

For 95 years, SU has had a strong relationship with local Wicomico County students and schools.

That relationship continues to grow with the announcement of a \$487,455 Governor's Emergency Education Relief Fund grant from the Maryland State Department of Education (MSDE) to enhance the educations of hundreds of local middle and high school students over the next two years.

Partnering with Wicomico County Public Schools, the grant funds a two-level virtual college and career readiness boot camp for 100 high school juniors, seniors and recent graduates to address possible learning gaps created by school closures and virtual learning associated with the COVID-19 pandemic. SU faculty and high school teachers from the area are collaborating to develop the program's curriculum.

The grant funds up to 300 students from Horizons Delmarva and other low-income middle and high school students to participate in SU's Summer Enrichment Academies (SEA) through the next two summers. Students who complete the boot camp and SEA earn "microcredentials," or digital badges, to display their



accomplishments.

SU teaching candidates benefit from the grant with the opportunity to co-teach with faculty and local teachers at both SEAs and the boot camp.

"The ultimate goal of any education program is to make a positive impact on the educational system, particularly in their local community," said Dr. Laurie Henry, dean of SU's Samuel W. and Marilyn C. Seidel School of Education and principal investigator for the grant. "With the MSDE grant, we have the ability to not only further the education of SU teaching candidates, but to assist in the educational future of hundreds of local

students by helping to address opportunity gaps that exist."

SU's SEAs offer in-depth educational experiences in a variety of disciplines, including leadership, arts, and science, technology, engineering and mathematics (STEM) studies.

Horizons Delmarva provides low-income, public school students in Wicomico and Worcester counties with an intensive academic Summer Learning Program and year-round support to transform the lives of students caught in the achievement gap.

Providing Family Support for Opioid Crisis

SU received a four-year, \$1.98 million grant from the Health Resources and Services Administration (HRSA) to establish the SU Eastern Shore Opioid-Impacted Family Support Program (OIFSP).

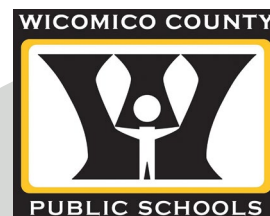
Its goal is to increase the number of Opioid Navigator Community Health Workers who are prepared to work with families who are impacted by opioid use disorders (OUDs) and other substance use disorders (SUDs) in high-need and high-demand areas.

"Our dedication to quality health education is essential to improving the health care in our communities," said Dr. Deneen Long-White, project director, principal investigator and SU assistant professor of community health. "This grant will provide vital resources for the Eastern Shore and expand efforts to combat the growing opioid epidemic."

Over the course of four years, the program is developing educational support and experiential field training opportunities for 78 OIFSP paraprofessional trainees. Their efforts target children, adolescents and transitional age youth whose parents are impacted by OUDs and other SUDs, and their family members who are in guardianship roles.

Key activities include recruiting trainees, providing training with an internship and in-service apprenticeship working on an interdisciplinary team, and sharing incentives for remaining in the program through Level II training.

"It is important to address all aspects of opioid and substance abuse," said Teresa Simmons, co-principal investigator and director of SU's Center for Healthy Communities. "This program allows us to thoroughly prepare health workers for all the challenges families face when dealing with these disorders."



Continued on next page ...

Dr. Michèle Schlehofer



Dr. Timothy Stock



Making Connections to Ethics and Humanities

The need for the undergraduate educational experience to include an ethics component is clear to professionals in health, social work, public administration and many other fields.

Over the past two years, the idea has become a focus for Drs. Timothy Stock, chair of SU's Philosophy Department, and Michèle Schlehofer, past chair of the Psychology Department.

The chairs combined their efforts when the National Endowment for the Humanities (NEH) announced the Humanities Connections program, encouraging partnerships between faculty in the humanities and social or natural sciences.

Now, the NEH is rewarding that partnership, announcing SU among the beneficiaries of \$22.2 million in grants for humanities projects across the U.S. Stock and Schlehofer's project, Re-envisioning Ethics Access and Community Humanities (REACH) Initiative: Integrating Community and Curricular Ethics, received \$34,861,

the largest grant given in Maryland as part of the program.

"Perhaps now more than ever, it is important that we intentionally work to connect ethics training in our various programs with the real-world experiences of community organizations located right here in our area," said Schlehofer. "Such partnerships not only improve student educational experiences, but provide vital connections to local community organizations, deepening the community-university partnership in an intentional way which places our local community at the forefront."

The project focuses on ethics, ethics literacy and ethics agency through new curricular and co-curricular resources, connecting with the community. It was one of only 18 projects awarded by the NEH within the Humanities Connections category.

The grant supports planning to create a community ethics network, a program to support faculty via "ethics across the curriculum" seminars, and planning for the establishment of a public ethics resource center to be an anchoring partner between community-based organizations and SU faculty and students.

"In a world, and in communities, where we often focus on the pragmatic and profitable, ethics provides a framework for evaluating our actions in light of our most fundamental human values, considering the interests and welfare of all members of society," said Dr. Maarten Pereboom, dean of SU's Charles R. and Martha N. Fulton School of Liberal Arts. ❖

Late Biology Professor Planted Seeds of Kindness and Excellence

Many who knew Dr. Mark Holland remember him as the face of biology at Salisbury University.

In his 27 years at SU, Holland made a reputation for himself as the nutty-but-brilliant professor. He had Einstein-like hair and a white mustache. He wore shorts, flip-flops and concert T-shirts. His office was a museum of Elvis Presley memorabilia, complete with an Elvis lamp that always sat by his desk. He was passionate about plant sciences and was conducting research on industrial hemp. On the biology floor of Henson Science Hall, you might hear him saying, "That's why we call it an experiment!"

Most importantly, he was at heart a teacher, mentor and friend to many.

"There was nothing he wanted to do other than enjoy life and be around people," said Dr. Les Erickson, chair of the Biological Sciences Department and longtime friend of Holland. "He never had bad words to say about anyone. He was the spirit and glue of our program."

Holland passed away on October 29, 2020, in Salisbury, where he remained a beloved professor to his SU students until his last days.



NATIONAL
ENDOWMENT
FOR THE
HUMANITIES

Humanities Connections grant program

IN MEMORIAM

While he was a brilliant mind who conducted innovative research at SU, many of his colleagues described him as being humble and more focused on his passions. He liked conducting experiments, inventing things and being around his students – even the ones he would endearingly call “knuckleheads.” It was these wayward students who were usually drawn to him, and he had a knack for turning them around.

“He was always there,” said Peyton Hobson, one of Holland’s former students. “If I needed help with my own experimental designs or even with another class, I could walk down the hall to his office. He always had an answer and he always had time.”

Hobson is now a deputy division director in the Food and Drug Administration’s Center for Biologics Evaluation and Research, and formerly one of Holland’s “knuckleheads.” He remembers his first biology class with Holland, who at the time he thought was “a kind of weird hippie.” As he dove deeper into biology, he started to see Holland as one of the most passionate and attentive instructors he’d ever studied under.

“I was just an average student, but when I asked if I could do research with him, he didn’t hesitate. He just said, ‘Let’s go!’” Hobson said. “That was the seed that set me on the path for my scientific career. He was the person who touched the pebble and caused an avalanche.”

Holland was known for his love of plants and was conducting research with Erickson on cannabis and industrial hemp. He discovered a bacterial strain that grows on hemp plants and found the concentrated cells could act as a powerful

“I know his legacy will endure not only in our program, but in the lives of all those fortunate to have known him.”



Holland works with biology alumna Yadanar Than Naing '20 in the greenhouse

probiotic to help plants grow faster and create greater yields. Erickson spent a lot of time on the road with Holland over the past year, growing their industrial hemp plants and visiting with farmers across Maryland. Holland’s patent has been purchased by New Leaf Technologies, and the first commercial products went out last year for use by farmers. They were able to involve students in this experience as well, and Erickson remembers when he, Holland and their students presented their plants at a research conference.

“The smell attracted everyone,” he laughed.

While he was a bit of a “crazy scientist,” Erickson said the best thing about Holland was the way he invested his time in his students and encouraged them to seek their own passions and potential. Many of his students say he made studying and working in the lab interesting and something they wanted to do.

“I remember so many fun times messing around in the lab with him,” Hobson said. “Everyone would always ask me why I spent so much time on campus. I’d tell them, ‘I’m learning from Dr. Holland. I’m working in his lab.’”

“He always saw and brought out the best in people,” Erickson said. “He often took those wayward students under his wing, some on the verge of failing out, and gave them a different opportunity to succeed. And they often did.”

In his eulogy for Holland, Erickson described him as the heart, soul, spirit and face of the Biological Sciences Department at SU. Holland chaired the department for six years and was instrumental in starting the master’s program in applied biology. In research, he was awarded many grants and patents on discoveries that he made just by chance in his lab. In life, he was someone who, above all else, cared about people.

“He just loved being here, in biology, in Salisbury,” Erickson said. “I know his legacy will endure not only in our program, but in the lives of all those fortunate to have known him.”

“To this day, when I see a yard sale, I stop to see if I can find that same tacky Elvis lamp he always had in his office,” Hobson said. “All I have are positive and grateful memories of him. If I could trace everything in my scientific career back to one person, it’s Dr. Holland.” ❖



Holland with Biological Sciences Department Chair Dr. Les Erickson



Record Graduate Enrollment in 2020: *We Are Here When You Are Ready!*

Spirits are high in the Office of Graduate Studies and Research after a long year. Faculty continued to engage in research and receive notable awards, with no decline from last year in the number of grants submitted. New faculty joined graduate programs, ready to conduct new research studies and community engagement projects. Almost 1,000 students enrolled in graduate programs — by far the largest enrollment to date.

Graduate studies and research activity at SU didn't just survive the pandemic. In fact, they're stronger than ever.

"To see such tremendous growth in the midst of a pandemic is a remarkable thing," said Dr. Clifton Griffin, dean of Graduate Studies and Research. "I believe research and graduate education are going to continue to be an important target for SU going forward."

The School of Social Work saw the most growth, but enrollment numbers also increased for other programs, including English, history, math education and geographic information science (GIS). Other programs maintained a steady population. Griffin attributes this growth in part to the reputation and quality of SU's programs — some that had been offered fully online even before the COVID-19 pandemic — but also the University's commitment to people. This year, SU also began offering its Doctor of Nursing Practice and Master of Science in Nursing as fully online programs, in addition to its already online Master of Business Administration, Master of Social Work and Master of Science in GIS Management.

The campus commitment to continuing community engagement, partnerships and professional development has been key to helping SU thrive. During the pandemic, Graduate Studies and Research Office staff and graduate program directors have remained dedicated to maintaining relationships with faculty to help them transition to a virtual environment. Faculty were able to continue completing research proposals and received many awards and recognition for their work. Graduate students were able to continue their programs with the support of engaged professors.

Of course, critical to maintaining that sense of connectivity as everyone moved online was digital marketing.

"Marketing is a way to connect with potential students who may not know

their path yet," said Graduate Enrollment Management Specialist Elizabeth Geiger.

"Marketing includes the digital aspect, but it's really about communicating with people and marketing ourselves as a community."

In a way, the digital world has made getting information more instant and convenient. Now, potential students may do a counseling session over Zoom or tour campus on the SU website without having to navigate travel. Schools have gone from grad fairs to virtual events, but this has allowed SU's graduate programs to expand their reach to places they wouldn't have been able to connect with before.

Online offerings have seen great engagement. The office hosted a virtual information session for SU's Master of Business Administration Program that had 40 attendees, and they are also working on geomarketing campaigns that have performed well on social media.

"We're breaking down the barriers we used to have so we can reach people where they are," Geiger said. "It's not just about being visible to a potential applicant, but knowing their needs and helping them see SU as the place that will help them reach their goals."

Griffin and Geiger agree the growth and steadiness of enrollment and research activity are all about people and a sense of commitment. They see connections and new avenues such as digital marketing as way forward to create initiatives that will allow SU's graduate programs to continue to grow. Some disciplines are already looking to build their reputation and add more master's or doctoral programs down the line.

"Our strength is in our people here at SU and the strong commitment to maintain sense of connectivity, and you can see the results," Griffin said. "More and more we're solidifying SU as a regional comprehensive campus known for quality and student centeredness."

Do you see yourself at SU? If there was ever a time to start your postgraduate education, now is it. SU can help you advance your career. Choose from one of our two doctoral programs or 15 master's degrees, including five fully online options. You can learn more about SU's nationally recognized and accredited graduate programs at www.salisbury.edu/gradstudies. SU will be waiting for you! ❖

Salisbury University is pursuing a \$75 million fundraising campaign – We Are SU: The Campaign for Salisbury University. An important focus of these efforts is raising funds to enhance graduate studies and research at the University.

Salisbury University's graduate programs help students with professional advancement and personal enrichment. Students can attain greater mastery of their fields of specialization, improve skills through independent study, and increase knowledge and skills in their areas of interest. In addition to coursework, there are opportunities for assistantships and research. SU offers 15 master's programs, two doctoral degrees and other certificates. We strive to develop support for these high-quality, student-centered, advanced-degree programs.

Undergraduate research has long been a pillar of an SU education, as students are able to work closely with dedicated faculty mentors across all disciplines. SU is home to a Research Day, this *Re:Search* magazine and the Office of Undergraduate Research and Creative Activity (OURCA). We have outstanding advocates for research on campus. We seek to expand resources to recognize, reward and support engaged students and faculty across all fields of study.

Campaign Priorities & Initiatives

Through the Campaign for Salisbury University, the Office of Graduate Studies and Research seeks to:

- Build comprehensive support for graduate students and research activities, while also supporting individual schools, colleges and programs.
- Invest in superior faculty through the Building Research Excellence Program, Summer Faculty Mentoring Fellows and Faculty Mini-Grants.
- Invest in superior graduate students through the Graduate Fellowship Program, Research and Presentation Grants, Summer Student Research Scholars Program and a possible future School of Graduate Studies.
- Invest in superior undergraduates through the efforts of OURCA, as well as Undergraduate Research Fellows and Summer Student Research Scholars.
- Showcase student excellence through enhanced opportunities for travel to the National Conference on Undergraduate Research, as well as Undergraduate Student Academic Research Awards and the new SU student research journal *Laridae*. ❖

Please contact us to discuss how you can support graduate studies and research at Salisbury University:

Amy Luppens • asluppens@salisbury.edu • Office: 410-677-0084 • Cell: 410-829-6495

Supporting Graduate Studies and Research

WE ARE SU

THE CAMPAIGN FOR SALISBURY UNIVERSITY

Learn more about We Are SU:
The Campaign for Salisbury University:
campaign.salisbury.edu

Salisbury
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A copy of the current financial statement of the Salisbury University Foundation, Inc. is available by writing 1308 Camden Avenue, Salisbury MD 21801 or on its website, www.salisbury.edu/foundation. Documents and information submitted under the Maryland Charitable Solicitations Act are available for the cost of postage and copies from the Maryland Secretary of State, State House, Annapolis MD 21401, 410-974-5534.



NASA Partners with SU to Enhance Forecasts

Recognizing the need to improve forecasts for the Delmarva Peninsula, NASA's Wallops Flight Facility on the Eastern Shore of Virginia has embarked on an effort to improve gathering weather data, which is vital to enhancing forecasts.

On the Delmarva Peninsula, located between the Chesapeake Bay and the Atlantic Ocean, the weather is sensitive to not only the large bodies of water that form its borders but also the Appalachian Mountains to the west and the many wetlands throughout the region.

This sensitivity makes it difficult for local meteorologists to create highly accurate forecasts. Additional weather stations would provide data to enhance forecast model accuracy.

"Having accurate forecasts and nowcasts are vital in rocket and aircraft operations at Wallops," said Ahmed Fadl, Wallops' deputy chief for flight safety. "We saw a need to increase data across the region by connecting local weather stations on the Eastern Shore of Maryland and Virginia to a nationwide network. Salisbury University will operate and maintain the first of these new stations."

Called the Delmarva Meteorological Mesoscale Network, or Delmarva Mesonet, the instrumentation in Maryland and Virginia will be integrated with the existing Delaware Environmental Observation System or DEOS to fill gaps and provide essential data that has been missing.

"Much of the effort to bring the Delmarva Mesonet to fruition was accomplished by two university student interns this past summer and fall," Fadl said. "Samantha Koehler, a senior at Salisbury University, and Eric Allen, a graduate student at the University of Delaware, brought to the project their knowledge of the region, weather instrumentation and forecasting, and the existing networks to develop the Delmarva Mesonet stations and establish support by federal and state agencies and universities."

There are too few stations located in the targeted region of Maryland and Virginia. An increase in the measurements will help improve real-time monitoring and forecasting and provide valuable data for earth science research.

"The Mesonet has applications beyond just weather forecasting," Koehler said. "The Delmarva Mesonet will benefit NASA and provide an invaluable asset to federal, state and local entities, as well as the community at large."

"Twenty-eight states are part of the National Mesonet Program with more than 1,750 stations. The Delaware Environmental Observation System embodies the "nationwide network of networks" approach because they own and operate a growing 57 meteorological station network, said Allen." The DEOS, the densest network in the country per square mile, is part of a broader 80-plus station environmental monitoring network that is operated and maintained by the Center for Environmental Monitoring and Analysis at the University of Delaware. "The Delmarva stations will build upon the

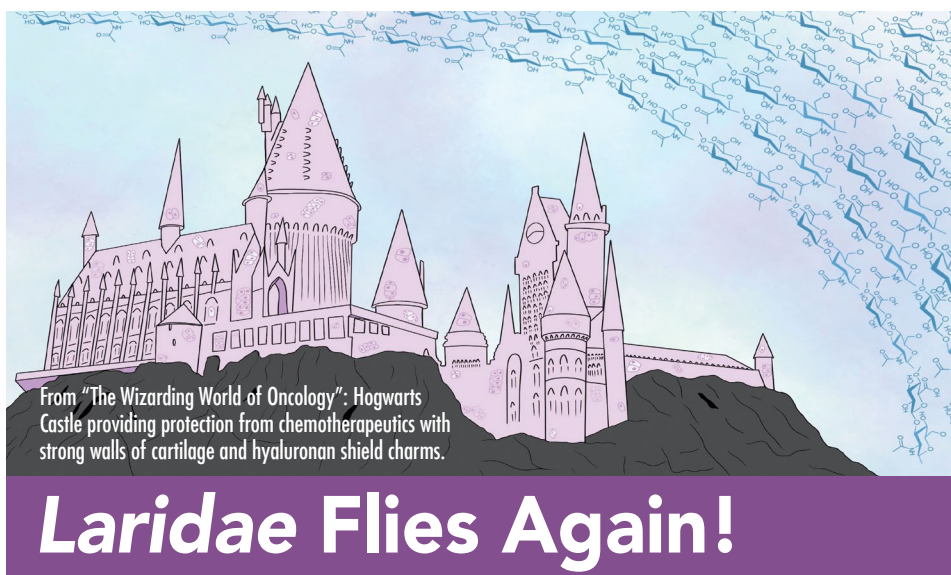


existing Delaware Mesonet expanding the coverage of the Mid-Atlantic region." The Delmarva Mesonet stations will measure air temperature; humidity; wind speed, direction and gusts; precipitation; soil temperature and moisture; atmospheric pressure; and solar radiation.

Koehler said, "As the project developed, we saw the value in placing the stations at educational facilities. This was one of the reasons Salisbury University was selected for hosting the first station in the Delmarva network."

"Having the station at Salisbury will have many applications for students in our meteorology, physics and other science programs," said Dr. Alex McCombs, SU assistant professor of geography. "Students will be able to use the data in their studies and also will be able to get hands-on experience in working with the instruments."

"The Mesonet station has arrived at Salisbury University and, with the support of the University Delaware, we are in the process of testing and calibrating the instruments. The station is expected to be installed in early 2021 and the data will be available in the Delaware Environmental Observing System shortly after that," McCombs said. ❖



Salisbury University's journal *Laridae* (the Latin name for the family of birds that includes seagulls) published its second issue featuring the research and creative works of our amazing undergraduates. Listed here are the contents of this most recent issue, giving you an idea of the breadth of exploration undergraduates are undertaking. In addition, enjoy a couple abstracts to give you an idea of the interesting ideas featured.

The Wizarding World of Oncology: Harry Potter, Cancer Initiating Stem Cells, and the Tumor Microenvironment

Madison MacDougall

Illustrated by Marrison Izykowitz

Cancer is an aggressive, debilitating disease that affects millions worldwide. Cancer-initiating stem cells (CICs), a subtype of cancer cell with exponential self-renewal, lead to all the differentiated cells that make up malignant tumors. Understanding how these cells resist chemotherapeutics and contribute to metastasis is of critical importance to scientists and oncologists, as these cells possess a resilience with the same intensity as a patient's will to survive. This paper seeks to explain the impact CICs have on the immune system and their ability to hijack normal cellular functions to fit their own needs, altering the tumor microenvironment and increasing therapeutic resistance. Structural components of CIC microenvironment are also explored and related to drug resistance and metastasis. Told through analogies from Harry Potter, this outlook on cancer survival aims to engage not only scientific readers, but the general public as well. The goal is to intrigue even the most unlikely of audiences to see the magic of the human body and understand the central theme of survival, whether from the perspective of the patient or the cancer itself.



The Lowell Textile Mills: The Economic Independence of the Lowell Mill Girls

Samantha Steltzer

This paper explores the connection between the women working in the Lowell Textile Mills of Lowell, Massachusetts, from the early to mid-1800s, and the impact of their wages on their economic independence. The creation of the Lowell Textile Mills provided women new avenues for work and economic status. Recent historiography has focused on the economic history of the women; whereas past scholars centered research on the political movements formed by the women. The research discussed in this paper is important to the fields of women's social, economic, and gender history. This paper examines how the women spent their wages based on their lives before, during, and after working at the Lowell Textile Mills. While women experienced various forms of economic independence, their independence was limited by a patriarchal society. ❖

ARTICLES

- The Wizarding World of Oncology: Harry Potter, Cancer Initiating Stem Cells, and the Tumor Microenvironment - Madison MacDougall; Illustrated by Marrison Izykowitz
- Putting a Check in All the Boxes: The Case for the National Voter Registration App - Brittany Grubb
- The Definition of Grammar in the Writing Center: A Research Study - Allison Guy
- The History, Lifecycle, and Importance of the Hawaiian Language: An Overview - Madison Baloy
- Western Views and How They Harm Conservation Efforts - Cailyn Joseph
- The Lowell Textile Mills: The Economic Independence of the Lowell Mill Girls - Samantha Steltzer
- Affordable Housing First: A Transition from Emergency Care to Prevention of Chronic Homelessness - Haley Taylor
- Women's Education and Careers: Understanding the Gender Gap in STEM and Engineering - Brianna Domenick
- Deforestation Policies in Oregon and the European Union - Matthew Bernor
- The Effects of Music and Movies on Dental Anxiety - Ines Nana Tchienga, Tehzeeb Hassan, Kaitlyn Nibblet, Francis Morgan, Emma Schmitt, Shannon Chambers, Echo Leaver
- Germ-Free Environment Associated Immune Dysregulation - Anna Brennan
- Quantification of Mg²⁺ Ion Uptake and Release with *Escherichia coli* Cells - Amber Ngo
- Investigating Regulation of 3-Hydroxypropionate Assimilation in *Rhodobacter sphaeroides* - Madison Jermain, Steven Carlson, Birgit E Alber, Michael Carter
- Implementation of Improved Parallel Stable Matching Algorithms - Michael Mandulak, Enyue Lu

POETRY

- Yearning for Change - Jirah Ross
- Time - Jaden Long

ART

- Enough Is Enough - Eric Johnson Jr.
- Ahomé - Gloria Atameklo
- Воскресенье - Volha Panco
- Detonate - D'Shon Jae McCarthy
- Defying Gravity - Volha Panco

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Faculty Mini-Grant Program

The SU Faculty Mini-Grant Program provides awards up to \$3,000 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.

Experimenting the Human: Experimental Music and Technological Posthumanism

Dr. G. Douglas Barrett, Communication

Experimenting the Human is a research project that explores intersections between audio technology, digital media and theories of posthumanism; it will result in a book publication that is under contract with the University of Chicago Press.

The book asks how experimental music can address cultural and technological shifts since the second world war that have led to a decentering of the human and, ultimately, to the emergence of the “posthuman.” Consider, for instance, Alvin Lucier’s composition in which a performer’s brain waves are used to resonate a battery of percussion instruments. Picture performer Pamela Z sculpting the sound of her voice using electronic sensors attached to her body. Imagine sending one’s voice to outer space with radio signals in Pauline Oliveros’s *Echoes from the Moon*. Or consider Nam June Paik’s walking, talking musical sculpture, *Robot K-456*. What these artworks have in common is an implication that the privileged position once occupied by the human has found itself increasingly challenged through cultural, artistic and technological means — a tendency that has given rise to the figure of the posthuman.

To date, there has been no dedicated studies of experimental music and posthumanism, despite the relevance these two fields hold for one another. This project, therefore, represents a novel link between these areas of study, suggesting a context for music through a discourse that, while exceedingly relevant to its objects of study, has received scant attention in related scholarship. Conversely, posthumanism becomes enriched through experimental music. Posthumanists like N. Katherine Hayles, Cary Wolfe, Neil Badmington and Donna Haraway have relied on an interplay between the cultural and technological. But aside from isolated studies, music remains a neglected area of this research. Through a book publication output with a leading university press, this project adds sound to a field dominated by literature and visual culture, while it uses experimental music both to challenge and expand studies of posthumanism.



Dr. G. Douglas Barrett,
Communication



Steven Durow Solo Exhibition

Dr. Steven Durow, Art

Durow will stage a solo exhibition at an internationally recognized fine-art gallery in Denver, CO, using glass to make work that is meant to be viewed in the context of contemporary art. The exhibition for this work is planned for summer 2021. The exhibition will be accompanied by public lectures, artists talks with students from Colorado College and members of the Denver Museum of Art.

As the only glass program in the State of Maryland, this exhibition is an opportunity for SU and the Art Department to highlight SU’s unique program beyond the region. Glass has so much more to offer in the creation of serious artwork than decorative vessels. Durow’s vision is one where glass is used as a material for fine art in keeping with contemporary art practices by internationally renowned artists like Roni Horn, Ai Weiwei, Jeff Koons, Anish Kapoor and Kiki Smith who create works in glass that range from the delicate to the monumental in scale and scope.

Following the exhibition in Colorado, Durow will exhibit his work in Salisbury University’s Downtown Galleries where it can be viewed by students and the larger community.

Common Ground Solo Exhibition

Dr. Jinchul Kim, Art

The Kenneth Paul Lesko Gallery in Cleveland, OH, will host a solo exhibition of Kim’s work. The Lesko Gallery has been representing Kim’s work since 2015.

Kim investigates the landscape of formal transformation from many visual methods that have been observed from the history of painting. He is particularly interested in analyzing significant yet subtle variations between representational and abstract elements in the visual field. He often juxtaposes them together as inventive ways to harmonize them in the work. Another exploration of Kim’s work is consuming the cinematographic composition. In this instance, he uses the notion of watching foreign films or experiencing uncomfortable and unconventional paint applications that result in a complex sense of spatial illusion. He invites the dialogue of the idea of unknown diversity so that the viewers’ participation is indispensable to understand the work.

The Effects of Age-related Sarcopenia on Muscular Morphology, Body Composition and Neuromuscular Adaptations

Dr. Masoud Moghaddam, Applied Health Physiology

Skeletal muscle mass and function typically begin to gradually decline after the third decade of life due to a phenomenon known as age-related sarcopenia. Physical inactivity is known to accelerate this process — even in younger individuals — contributing to the loss of 3-5% muscle mass per decade. The COVID-19 pandemic and the extensive social distancing policies are anticipated to exacerbate and expedite age-related sarcopenia in society due to forcing people to stay at home and restricting their daily activities. Recent studies show that physical activity has declined by 32.3% among individuals who used to be active pre-pandemic. The lack of physical activity can lead to early sarcopenia, denervation and eventually loss of muscle fibers. The symptoms of sarcopenia include weakness and loss of stamina.

Exercise is an effective intervention for improving strength, muscle mass and muscle quality, and for delaying the onset of age-related sarcopenia. This project will aim at bridging the current knowledge gap associated with the impact of exercise, specifically body-weight training, on muscular morphology, body composition and neuromuscular adaptations. The project will analyze the differences between age and gender groups related to the impacts of sarcopenia.

Institutionalization of Counterprotest in 2020 Congressional Election in South Korea

Dr. Taehyun Nam, Political Science

Protesters are often confronted not only by the authorities, but also by counterprotesters. Research has, for the most part, focused on the interaction between protesters and authorities such as the police. This might be due to the seemingly small size and insignificance of counterprotesters, who are by nature reactive as they counter the rival’s initiative. As demonstrated by the populist counterprotests that took place during the impeachment process of former South Korean president Park Geun-hye, which began in October 2016 and critically threatened Park’s authority, counterprotests can gain significant influence and grow to be a major political force. As anti-government protests attracted more and more participants according to Korean Protest Event Data — more than two million people gathered at one rally in Seoul, the capital city — her supporters began to mobilize and formed what became known as the Taegukgi movement.

As anti-government protests attracted more and more participants, Park’s supporters began to mobilize. The impeachment and subsequent arrest did not discourage them, but rather pushed them to political preponderance. Now they’ve



formed political parties and run election campaign for the National Assembly election in April 2020. For this project, Dr. Nam will travel to South Korea to interview participants and review other various sources to help understand the process of institutionalization of the protest movement. This investigation will help identify the factors determining whether or not the protest movement will grow strong enough to be institutionalized.

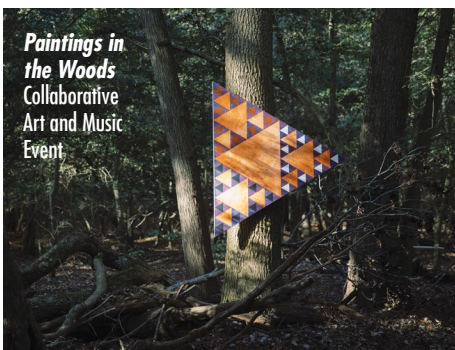
Paintings in the Woods Collaborative Art and Music Event

W. Brooke Rogers, Art

In 2019, Rogers served as the inaugural Fellow for Contemporary Art and Community Engagement at the Art League of Ocean City, MD. In this volunteer position, Rogers helped organize exhibitions, a museum bus trip, offered four free public lectures on Modern and contemporary art, and organized the Art & Song pop-up show. The event was attended by approximately 150 people and was very favorable received. This was the introduction of some of Salisbury University's best cultural offerings to the enthusiastic art scene in Ocean City.

This project is a collaborative exhibit/performance by faculty members from both the art and music programs at SU. The event will be in an outdoor setting that allows COVID-19-required social distancing by viewers. On a Saturday afternoon, the public is invited to walk a specially created trail through the woods. Rogers' large abstract paintings will be hanging on trees along the trail. Drs. John Wright (voice) and Danielle Cumming (guitar) from the Music Program perform on a small stage on the site. A pop-up exhibition (meaning a show that is only up for a short time and in a space not normally thought of for art shows) is a popular alternative to traditional gallery shows.

This effort represents an open-ended interdisciplinary creative work that raises the profile of the university and builds on the significant professional, creative accomplishment of faculty members from two Fulton School of Liberal Arts programs.



Paintings in the Woods Collaborative Art and Music Event



A Cross-Institutional Study of Writing Center Support for First-generation College Students

Dr. Beth Towle, English

First-generation college students face unique challenges that set them apart from their continuing-generation peers. They often lack the cultural capital that would allow them to easily adapt to the expectations of higher education, making it difficult for them to find faculty mentors or graduate on time. First-generation students are often also doubly disadvantaged in higher education spaces because they typically come from already-marginalized populations: poor, non-white, multilingual. To improve these students' success, writing centers sometimes develop specific programming or tutoring techniques to support first-generation students. However, outside of accounts of individual centers, there has been no cross-institutional study examining the various models for how writing centers support first-generation students, particularly through relationships and collaborations with institutional programs and initiatives for first-generation students (such as TRIO, special orientation programs or workshop series).

This project fills that gap in the knowledge about the various ways in which writing centers build intentional support for first-generation students by examining the following questions: 1) How do writing centers support first-generation students; and 2) How do writing centers build relationships or develop collaborations with programs and initiatives for first-generation students? Using a grounded theory qualitative study that incorporates, first, a broadly distributed survey of writing center administrators from across the United States and, second, a set of interviews with 10 participants. This study sheds light on the support for first-generation students that exists in writing centers. Additionally, the study critically examines the institutional factors that ease or burden this type of relationship-building and support. While the findings benefit writing center studies as a whole, they are particularly beneficial to the Writing Center at Salisbury University, where successful interventions revealed by the results can be applied to how we support our large first-generation population and how we educate tutors to work with these students.

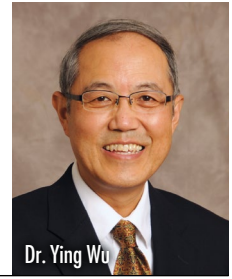
Gait Disturbance Measurement for Preventing Older Adult Falls

Dr. Shuangquan Wang, Mathematics & Computer Science

Falls are the leading cause of injuries for older adults. According to the statistics of the CDC, "one out of four older adults will fall each year in the United States"; and falls cause "over 3 million emergency department visits, 962,000 hospitalizations, and approximately 30,000 deaths in 2016." Gait disturbance during



Dr. Shuangquan Wang



Dr. Ying Wu

walking caused by muscle weakness, gait deficit and balance deficit has been identified as the leading factor in the probability of falling.

Accurate gait disturbance measurement is essential to predict falls and provide real-time alerts. However, the existing methods mainly rely on wearable motion sensors deployed on shoes/ankles/legs. The measurement is easily impacted by material and type of shoes, individual differences in gait patterns, and pavement texture and flatness.

This proposal proposes to fuse motion sensors and EMG (electromyographic) to accurately measure the gait disturbance. Gait motions are generated by contraction of the leg muscles. The gait disturbance can be measured not only by wearable motion sensors but also by the EMGs attached on the surface of the leg. These two heterogeneous sensors complement each other. Through fusing these sensors, it is highly possible to construct robust measurement models and improve the accuracy.

Quantitative Easing Versus Laissez Faire in a Liquidity-Trap Economy – A Corporate Investment Perspective

Dr. Ying Wu, Economics & Finance

With quantitative easing (QE), the Federal Reserve Bank (Fed) employed massive purchases of long-term financial assets to provide liquidity to the financial system in order to lower real, long-term borrowing rate. Nevertheless, despite three distinctive phases of QE through which the Fed balance sheet expanded by more than 400% within 10 years since 2007, QE does not effectively translate into proportionate credit easing; and corporate capital investment activity remains weak even if the recent years (pre-COVID 19 pandemic) have witnessed a buoyant stock market and record low unemployment.

Wu's research challenges the orthodox theory of unconventional monetary policy. Does a lower real interest rate necessarily increase corporate capital investment? To what extent would the relative importance of QE versus *laissez faire* be sensitive to changes in corporate capital investment return? In a sharp contrast with the existing literature, Wu finds that the effectiveness of QE depends on the interest-rate sensitivity of firms' net investment return relative to its "certainty equivalent." That is, the lower real interest rate doesn't necessarily lead to higher investment.

While QE can translate lower real interest rates into greater investment when the expected investment return is less than its rate-sensitive boundary value, QE could also backfire and trigger a deflationary spiral under the opposite condition. When the expected investment return is sufficiently large relative to the prevailing real interest rate, it is *laissez faire* rather than QE that turns disinflationary force into investment demand and therefore breaks the deflationary spiral. ❖

Graduate Research and Presentation (RAP) Grant Program (Spring and Fall 2020)

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.

The Use of Samplers in Girls' Education and Moral Development in Late-18th Century Baltimore

Marianna Agazio, M.A. History

Samplers are works of embroidery that, in an educational setting, taught female students the proper stitching skill sets necessary to completing her domestic duties as a future wife, mother and caretaker. Samplers often including various religious motifs and natural scenes that showcased the embroiderer's intricate stitching skills and reflected the popular educational trends for girls during the period. In addition to artistic and religious expression, samplers also included various literary elements such as alphabets and Bible verses. By examining samplers produced by girls and young women from late-18th century Baltimore and other surrounding areas, Agazio's project, titled "What's In a Stitch?: The Use of Samplers in Girls' Education and Moral Development of Late-18th Century Baltimore," highlights the popular standards in girls' education, thus, generating an idea of the social, moral and religious expectations of adolescent girls in central Maryland. Through understanding girls' religious and intellectual education, one can understand society's expected abilities of educated girls and therefore gauge the common ideas of womanhood in late-eighteenth century Maryland.

"In Your Own Words": Patchwriting, Paraphrase and Academic Discourse

Katelin Anderson, M.A. English

The Council of Writing Program Administrators (Outcomes 2014) classifies patchwriting as a misuse of sources, helping instructors better respond to paraphrasing difficulties. However, students still struggle to rephrase unfamiliar academic language. Anderson's paper offers instructors an approach to handling patchwriting by teaching paraphrase as the movement of translating ideas. First, students write in a comfortable register as they paraphrase. Second, students translate their words into academic language. This allows students to negotiate the two steps of the problem separately. They can articulate their understanding in less alienating language, reducing cognitive demands. By framing academic discourse as a resource, students build confidence with academic language and their own scholarly voice. Anderson developed this pedagogical intervention through the case study of a first year composition student who negotiated academic language and paraphrase without the touchstone of a conversant register. This approach to integrating paraphrase as part of appropriating academic discourse combines Rebecca Moore Howard's description of patchwriting as an active attempt to navigate new discourse constructs ("A Plagiarism Pentimento") and David Bartholomae's emphasis on "assembling" academic language ("Inventing the University"). As students strengthen their scholarly voice, they are able to move more freely through stylistic choices and away from the narrow confines of patchwriting.

White Women in Colonial Chesapeake: Breaking the Mold

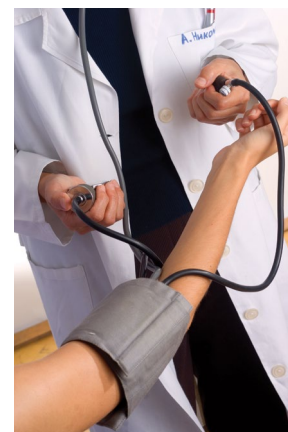
Kacie Cassar, M.A. History

During the early, colonial Chesapeake era, males and females had different societal expectations. The men were to oversee their livelihood, whether that be running a business or plantation, or simply working as a laborer. Women, on the other hand, were to tend to the homestead and their children. These were the gender roles assigned since birth; it was expected to follow suit if one was to have a happy, bountiful life. Although, throughout the Chesapeake, there have been rare cases where women during the 1600s to 1700s have taken lead of their own lives, being land and business owners, heads of their households, and not having a male counterpart such as a husband or father in the picture. By using the primary resources at the Salisbury University Nabb Research Center, Cassar was able to find cases of such women, for example Ann Toft and Mary Hampton, who did not have a consistent male presence throughout their lives, thus having to make a living from themselves and their families on their own. As well, the governing norms and laws during the time had created disadvantages for women from the beginning. This research looks at gender differences and how some women overcame the challenges of having a set role placed upon them by society. These women are understudied and deserve to have their voices and stories heard.

The Effects of Functional Body-Weight Training on Resting Blood Pressure Measures

Mason Cervantes, M.S. Applied Health Physiology

As COVID-19 forces many people around the world to make various lifestyle changes, a sedentary lifestyle should not be one of them. Physical activity has been reduced by 32.3% among previously active participants due to the pandemic. Exercise improves function of the heart to pump more efficiently, which results in decreasing the pressure on the artery walls. In addition, exercise helps to maintain a healthy body mass, which is another way to control blood pressure. The purpose of this study is to investigate the effects of functional training program, delivered via Zoom, on blood pressure measures of brachial artery. Thirty recreationally active participants are assigned to either exercise or control group. The four-week exercise protocol is performed three days per week. Resting blood pressure of brachial artery is recorded before and after the four-week intervention in a fasted state and is self-monitored by participants twice a day for four weeks to evaluate mean arterial, systolic, diastolic and pulse pressure readings. Two-way mixed factorial ANOVAs with factors of group (i.e., exercise, control) and time (i.e., pre-post) are used to analyze pre- and post-testing measures. Regression analyses are performed to assess daily self-monitored blood pressure readings.



Virtual Reality on the Merge: The Ability to Hold 3D Objects in Your Hands

Kristen Jackson, M.Ed.
Curriculum & Instruction

Augmented reality (AR) is transforming the way students are learning by bringing objects to life. It allows students to interact with digital 3D images that can move, speak and react. AR has the potential of promoting engagement and curiosity in learning, in which the students are participating in experiences that redefine what classroom learning looks like. Although interactive media has been used in education for some time, little is known about the effectiveness of utilizing augmented reality to promote students' learning abilities. The purpose of this project is to investigate the value of teachers utilizing Merge Cubes for instruction in a middle school health class. The students participated in a series of lessons that used the Merge Cube's augmented reality to reinforce the concepts of disease prevention and control, mental and emotional health, and body systems. Augmented reality can promote higher-order thinking in students, which is especially important when teaching them about health. Students' reactions and perceptions are shared that show high levels of critical thinking, analysis and reflection based upon their interactions with augmented reality.

Ants of Assateague Island: Ant Biodiversity in Coastal Dune and Forest Habitats

Denise Manole, M.S. Applied Biology

Ants play an important role in the environments they inhabit, yet very little is known about these insects in temperate regions. Assateague Island is a 37-mile barrier island off the coasts of Maryland and Virginia, and it supports a variety of unique ecosystems and wildlife. Manole investigated the ant biodiversity in forest and dune habitats of Assateague Island. She used paired transects of 100 m. with pitfall traps set every 10 m. in the forest and dunes habitats. During a three-month period, she collected 25 species of ants, eight of which were not previously recorded. The research provides valuable baseline biodiversity data for this Coastal Plain habitat.

Regulation of Acetyl-CoA and CO₂ Assimilation via a *prkB* Mutation in *Rhodobacter sphaeroides* 2.4.1

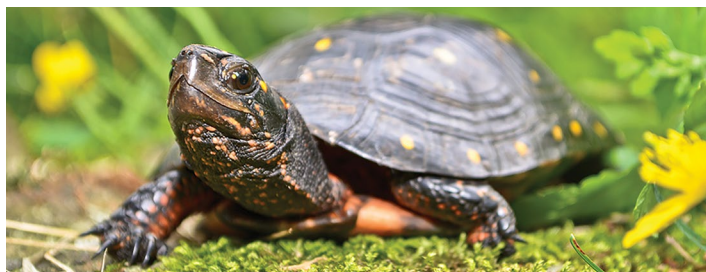
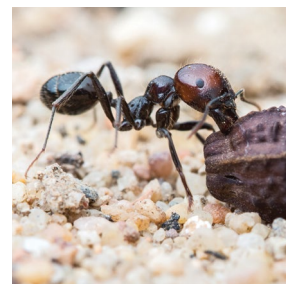
Stephanie Miller, M.S. Applied Biology

The ethylmalonyl-CoA pathway is utilized by cells to assimilate multiple acetyl-CoA and CO₂ molecules concurrently into biomass and is active during growth with 3-hydroxypropionate. *Rhodobacter sphaeroides* can metabolize 3-hydroxypropionate via either a reductive pathway or an oxidative pathway. The reductive pathway is dependent on the enzyme *AcuI*; the oxidative pathway generates multiple acetyl-CoA molecules that enter the ethylmalonyl-CoA pathway, which is dependent on the enzyme *Ccr*. Deletion of genes for enzymes downstream of *Ccr* in the ethylmalonyl-CoA pathway impairs growth with 3-hydroxypropionate. Growth can be restored via a spontaneous mutation in *prkB*, which encodes an enzyme in the CBB cycle. Miller hypothesizes that this mutation allows CO₂ assimilation via the CBB cycle so cells can continue to build biomass. However, it is unknown if this mutation affects the regulation of other genes such as *acuI* and *ccr*. This proposal investigates regulation of transcripts for the enzymes *Ccr*, *AcuI*, *PrkA*, and *PrkB* using qRT-PCR in the wildtype and *prkB* mutant strains during growth with 3-hydroxypropionate. By observing the transcript levels in a wildtype and mutated cell, Miller is offered insight on how the ethylmalonyl-CoA pathway, the reductive pathway and the oxidative pathway are being regulated.

Empowering and Engaging the Community Through History Telling

Melissa Reid, Ed.D. Contemporary Curriculum Theory and Instruction

The goal of this descriptive qualitative research is to explore African American's perception of local historical storytelling in the small rural town of Bell. Through a series of focus group conversations and individual interviews, members of the African American community were asked to share their own stories and histories. They also were asked to share their thoughts on how and where African American history is told and archived in Bell.



Investigating Size Class Changes and Predation of the Endangered Spotted Turtle (*Clemmys guttata*) in their Northeastern Range

Amanda Rocker, M.S. Applied Biology

Reptiles are experiencing declines in terms of the numbers of populations and in population size. Yet, there remains deficient data to understand population trends in many reptile species, let alone understanding the specific causes of declines. One declining species that has not been comprehensively assessed is the spotted turtle (*Clemmys guttata*), a freshwater species found in wetlands in Eastern North America. The spotted turtle is classified as endangered under the IUCN Red List and is currently under review for federal listing in the Endangered Species Act. Populations have continued to decline with potential threats including predation, collection for the pet trade and habitat loss. One of the primary aims for this research is to understand the level of potential predation for spotted turtles in Maryland and Delaware. This includes analyzing the predator-caused injuries seen on captured turtles along with the abundance of predators in their habitat. This will give Rocker an idea of what preys upon spotted turtles in their northeast region and the degree of predation. Her findings could indicate a need for protection from over-predation to allow the population a chance to recover.

Personal Reading Habits and Identities of In-Service English Teachers and How These Habits Influence Teaching Practices

Matthew Sroka, Ed.D. Contemporary Curriculum Theory and Instruction

The purpose of this study is to investigate the personal reading habits and identities of in-service English teachers and how these habits and identities influence their teaching practices. Other studies have established the significant role teachers play in shaping their students as readers in English classrooms (Ivey & Broaddus, 2001; Hall, 2012). However, few studies have investigated how English teachers' past and current reading experiences shape and influence the reading beliefs they bring with them into the classroom. Sroka's research utilizes a qualitative, participatory action research design in order to address this gap by exploring the following questions: 1. How do secondary in-service English teachers take up the question of their reading histories and reading identities in a collaborative learning network?; and 2. How does awareness of these reading histories and identities influence their teaching practices? The study consists of six in-service English teachers, including Sroka. Data collected include meeting notes and transcripts from six collaborative meetings (Cochran-Smith and Lytle, 1999), 10 semi-structured interviews (Brinkman & Kvale, 2015), discussion boards (Ajayi, 2010) and a variety of teaching artifacts (Farrell & Marsh, 2016). This study will provide better understanding of English teachers as readers and how their reading lives shape what occurs in their classrooms.



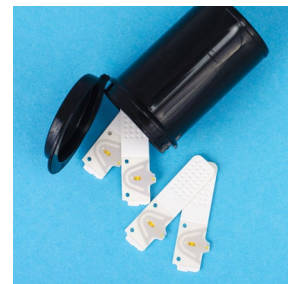
University Student Academic Research Award

University Student Academic Research Awards (USARA) are research grants, up to \$400, that are available to help support undergraduate research projects and creative endeavors related to developing and conducting projects, with a faculty supervisor, and the presentation of research/scholarly pursuits at national or regional meetings.

Fall 2020 USARA winners include:

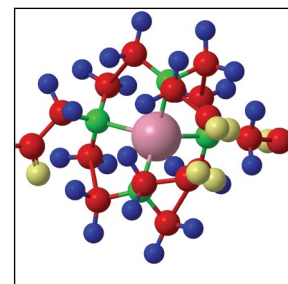
Survivability of Clinically Significant Bacteria on Blood Glucose Test Strips

Emily Alessandrini, Medical Laboratory Science
Faculty Mentor: Dr. Diane Davis



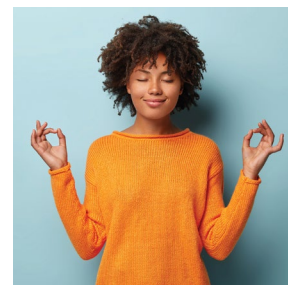
Investigating the Incorporation of MRI Contrast Agents in Peptide Binders

Lindsay Lane, Biology
Faculty Mentor: Dr. Anthony Rojas



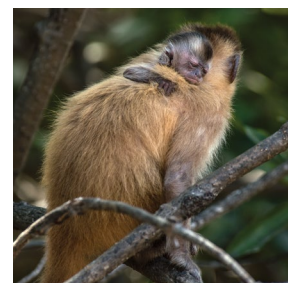
Behavioral and Cognitive Changes Associated with Mantra and Mindful Meditation

Apeksha Ghumatkar, Psychology
Faculty Mentor: Dr. Echo Leaver



Structural and Functional Ramifications of Induced Mutations in XPD Gene on XPD Helicase

Mackenzie Gladhill, Chemistry
Faculty Mentor: Dr. Joshua Sokoloski



Human-Capuchin Coexistence in Touristic Sites in Maranhao State, Brazil

Christian Ciattei, Geography
Faculty Mentor: Dr. Andrea Presotto

Subject Matters: Can Student Writing Make a Difference? What Is the Purpose of Writing About Writing? (Project 1)

Kathryn Trice & Brittany Wellman, M.A. English

Trice and Wellman have been developing a Writing-About-Writing curriculum for first year composition classes at Salisbury University. As English literature graduate students and instructors of ENGL 103, they have come to understand and implement composition and rhetoric theories into their classrooms. The theme for their ENGL 103 classes is literacy — more specifically, what it is, how it is impacted by those around us, and the power in it. They were inspired by scholars and writers such as Frederick Douglass, Langston Hughes, Dana Driscoll, Deborah Brandt, Elizabeth Wardles and Doug Downs. These writers further inspired them to privilege personal experience, which they have paired with undergraduate research to push their students to inquire about literacy in their own lives and the community around them. Trice and Wellman are traveling to Hilton Head, SC, for the College English Association's annual conference to present their curriculum and lead a roundtable presentation on FYC classrooms. They are hoping to share their findings with other instructors, get feedback on their curriculum, and attend presentations on film, literature and composition studies.

Subject Matters: Can Student Writing Make a Difference? What Is the Purpose of Writing About Writing? (Project 2)

Logan Wilson, M.A. English

Wilson developed a curriculum for First Year Composition (FYC) courses at Salisbury University that focuses on digital literacy and multimodality as a conduit for the transferable skills that are at the core of the classroom outcomes. As an English Literature graduate student and an instructor of ENGL 103 at Salisbury University, Wilson has gained a fundamental understanding of the unique composition theories that are crucial to FYC courses. Wilson's observations of her students and their reliance on digital technology for understanding class materials has also led to this curriculum development. Indeed, the necessity for classes to adopt a digital literacy perspective is of the utmost importance, especially as our culture moves further and further to a reliance on these technologies in our personal endeavors. Wilson, along with other Salisbury University instructors, are traveling to Hilton Head, SC, for the College English Association's annual conference to present findings as well as participate in a roundtable discussion about FYC classrooms. While they are hoping to receive feedback from others in the same academic fields, they also are hoping to attend other presentations in order to grow and develop into more fully fledged instructors as well. ❖

RECENT FACULTY BOOKS

Medical Humanism, Chronic Illness, and the Body in Pain: An Ecology of Wholeness

By Vinita Agarwal, *Communication*

Even as life expectancies increase, growing numbers of people are living with chronic illness and pain than ever before. Long-term self-management of chronic conditions involves negotiating the intersections of personal life choices, community and workplace structures, and family roles. This book proposes an ecological model of wholeness, which envisions wholeness in the dialogic engagement of the philosophical orientations of the biomedical and traditional medical systems.

Rowman & Littlefield, 2020

On the Shoulders of Giants: Celebrating African American Authors of Young Adult Literature

Co-edited by Dr. Shanetia Clark, *Early and Elementary Education*

This first book in a three-volume series celebrates and examines the work of four African American authors of young adult literature: Virginia Hamilton, Julius Lester, Walter Dean Myers and Mildred D. Taylor. They serve as the foundation of young adult literature and provide robust stories that center and illuminate African American youth.

Rowman & Littlefield, 2019

Feature Writing and Reporting: Journalism in the Digital Age

By Dr. Jennifer Cox, *Communication*

This book offers a fresh look at feature writing and reporting in the 21st century. The award-winning author illustrates the fundamentals of feature writing and reporting while emphasizing the skills and tools needed to be successful in the digital era. Special attention on new multimedia and online reporting prepares readers for success in a rapidly changing media landscape.

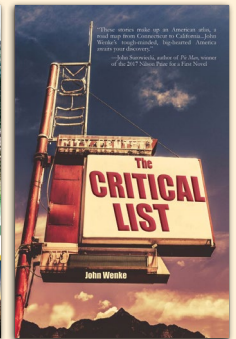
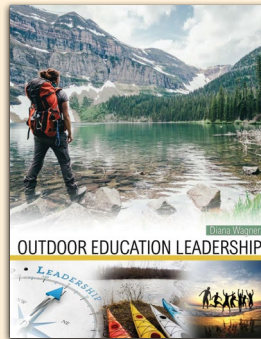
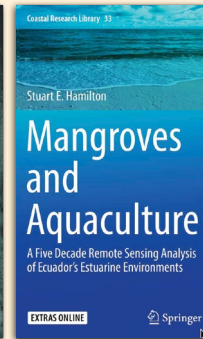
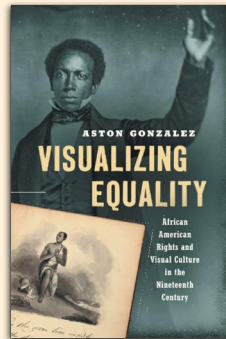
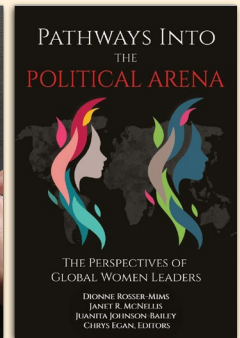
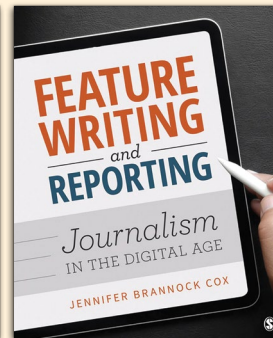
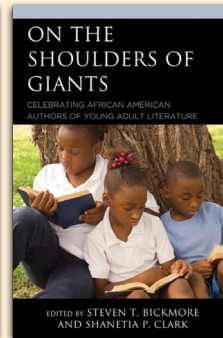
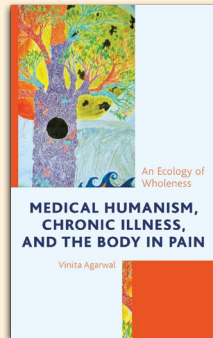
Sage Publishing, 2020

Pathways into the Political Arena: The Perspectives of Global Women Leaders

Co-Edited by Dr. Chrys Egan, *Communication*

As epitomized in the 2016 U.S. presidential election, women in politics may hit a "glass ceiling," or in the case of former U.K. Prime Minister Theresa May in 2019, go over a "glass cliff." Even though women are starting to experience more success gaining offices at state and local levels, women's participation in the political arena is still disproportionately low. This book delivers provocative thinking that enhances leadership knowledge and improves leadership development of women around the world.

Information Age Publishing, 2020



Visualizing Equality: African American Rights and Visual Culture in the Nineteenth Century

By Dr. Aston Gonzalez, *History*

The fight for racial equality in the 19th century played out not only in marches and political conventions but also in the print and visual culture created and disseminated throughout the United States by African Americans. African American activists seized these opportunities and produced images that advanced campaigns for black rights. Reviewers call the book "trailblazing," "inspirational" and "masterful."

University of North Carolina Press, 2020

Mangroves and Aquaculture: A Five Decade Remote Sensing Analysis of Ecuador's Estuarine Environments

By Dr. Stuart E. Hamilton, *Geography and Geosciences*

This book uses five decades of map data, air photos and medium to high-resolution satellite imagery to track the expansions of aquaculture and the loss of both estuarine and mangrove land covers in Ecuador. The results are staggering. In some regions, Ecuador has lost almost 50% of its estuarine space and approximately 80% of its mangrove forest.

Springer International Publishing, 2020

Outdoor Education Leadership

By Dr. Diana Wagner, *Education Leadership*

This foundational text introduces students to contemporary ideas of leadership, instruction, leadership communication, group dynamics, ethical leadership, inclusion and equity issues, and risk management.

Kendall Hunt Publishing Company, 2020

The Critical List

By Dr. John Wenke, *History*

In this collection of 12 short stories, people teeter on the edge — a former jailbird under house arrest; a would-be teenage parricide; a former philosophy professor, now homeless, mind blown, living in the subway underground. Wenke's collection dramatizes what it means to push up against the boundaries of desire, even when one is often turned away, and it reminds us that somewhere in the murk of humanity the balm of comedy occasionally delivers relief.

Regal House Publishing, 2020



Summer Student Research Sees Stellar Results

Salisbury University students get some of their most immersive experiences during the summer months between semesters as they take part in research projects. While the campus was closed last summer, undergraduate and graduate students at SU remained committed to their research and found ways to continue their projects remotely. Summer research was still as strong as ever, and many students worked hard on unique and fascinating projects, such as tracking elephants in Zimbabwe, studying brown dwarf stars and even investigating the RNA of the novel coronavirus. Others examined everything from social identities on TikTok and modeling the S&P 500, to student political engagement and elementary reading programs. Some 25 students presented their results at a virtual Summer Student Research Showcase last semester.

The project presentations may be viewed online under the "Research" playlist on SU's YouTube channel: www.youtube.com/user/salisburyuniversity



Analyzing Novel Coronavirus RNA Structure

A breakthrough on COVID-19 will not come overnight. Many different intricate projects will combine to determine the best path forward. SU chemistry major Brandon Tenaglia, with mentor Dr. Joshua Sokolowski, is doing his part, investigating the RNA structure of the novel coronavirus as part of his sponsored research project, mapping the sequence to help future research into direct therapies.



Research Aims to Protect Threatened Pollinators

SU biology major Courtney Rogall's project aims to protect Maryland's rare, threatened pollinator species including butterflies. Working with the Maryland Department of Natural Resources and Salisbury Zoological Park, Rogall and her mentor Dr. Dana Price are creating a website dedicated to informing Maryland residents about rare pollinators and promoting the planting of pollinator gardens.



Student Research Project Takes TikTok Beyond Mashups

TikTok can be more than just fun. One SU student uses the social media app for her research project on language and identity. The study by SU English graduate student Lilia Dobos with her mentor, Dr. Farzak Karimzad Shariffi, looks at how various groups and stereotypes are represented on TikTok and how the culture of the online space changes as the world changes.



In Measuring Student Success, Grit Weighs More

Important factors in student success are passion and perseverance, or "grit." Inspired by an original study by psychologist Angela Duckworth, SU student Marrisona Izykiwicz and mentor Dr. Anthony Rojas looked at grit as a predictor of student success in introductory chemistry courses at SU. Their findings could help address issues of diversity and inclusion in STEM fields.



Students' Stories Bring Mayan and Mesoamerican History to Life

Two SU students revive their native cultures by creating children's stories based on Mayan and Aztec mythology and lore. Kimberly Arriaga-Gonzalez and Esteban Garcia-Ailon, both of Mesoamerican descent, have combined their skills in creative writing and education for a research project with their mentor, Dr. Cristina Cammarano, that they hope will allow Latinx children to hear their own stories.



Research Examines College Students' Political Engagement

By analyzing survey data collected by SU's Institute for Public Affairs and Civic Engagement (PACE) since 2007, graduate student Kacie Cassar and her mentor Dr. Alexander "Sandy" Pope are evaluating ways to inform SU students about political issues and voter registration.



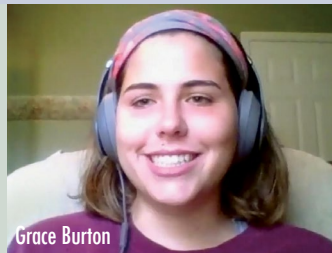
Jay Meashey



Dr. Andrea Presotto

Providing a Roadmap for Quality of Life in Maryland

Urban and regional planning major Jay Meashey's summer research project looks into the components that make up quality of life in our communities. Meashey and his mentor Dr. Andrea Presotto used geography and GIS technology to investigate health, housing, education, income, parks and recreation, and other aspects of well-being in Maryland counties to figure out what contributes to overall happiness.



Grace Burton



Dr. Joseph Anderson

'Who Am I?' This Student Research Project May Have an Answer

Grace Burton and her research mentor Dr. Joseph Anderson are working on a research project to transform data from surveys into circle graphs that will help illustrate individuals' social identities. The research project will have a great impact on the future of social science and identity mapping.



Nathaniel Sansom



Dr. Brittany Foutz

Study Could Help the United Nations

As a United Nations Association chapter campus and UN Regional Centre For Expertise (one of only eight in the country), SU's Bosserman Center for Conflict Resolution is part of a global network. University student Nathaniel Sansom, under the guidance of his research mentor Dr. Brittany Foutz, is collecting information from other UNA chapters in this network as part of his sponsored research project.



Adam Leister



Dr. Nicholas Troup

A Search Across Our Galaxy for Rare Stellar Companion

Adam Leister, with his research mentor Dr. Nicholas Troup, began his project as a search through our galaxy for rare brown dwarf companions to stars. However, their findings took his research study in a different direction when some of the stars they were investigating were found to be emitting high-energy radiation indicative of the presence of black holes possibly lurking in orbit of these stars.



Christopher Aguilar



Dr. Lori Carmack

Student Research Sees Future of Stock Market in the Forecast

The stock market is often volatile — but one faculty-student duo at SU believes it can still be predicted. SU mathematics major Christopher Aguilar and his mentor, Dr. Lori Carmack, conducted research to develop a mathematical model that would forecast the price movement of the S&P 500 Index at least 20 days into the future.

Even More Summer Research!

In addition to the research highlighted by video profiles, these projects also were underway last summer:

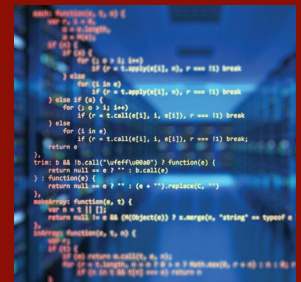
Elephants in Zimbabwe

Last summer, Dr. Andrea Presotto led research studying the habitual routes of elephants in Zimbabwe using GPS tracking information. The project continued this summer, with SU student Elizabeth Marsh joining Presotto to investigate the elephants' "landscape of fear." The project went in a different direction when Zimbabwe closed down due to COVID-19. Recent numbers show that elephant mortality increased since the beginning of the pandemic.



Machine Learning Tools

Jack Stoetzel has been working with Dr. Joe Anderson to develop software that uses modern AI processes to analyze and categorize existing medical research. The project aims to perform a more accurate analysis of a body of knowledge and help researchers identify current research trends. This software could be useful in classifying current COVID-19 research topics such as vaccines, spreading, masks and ethics to determine which areas still need a greater focus.



Network Security Anomalies

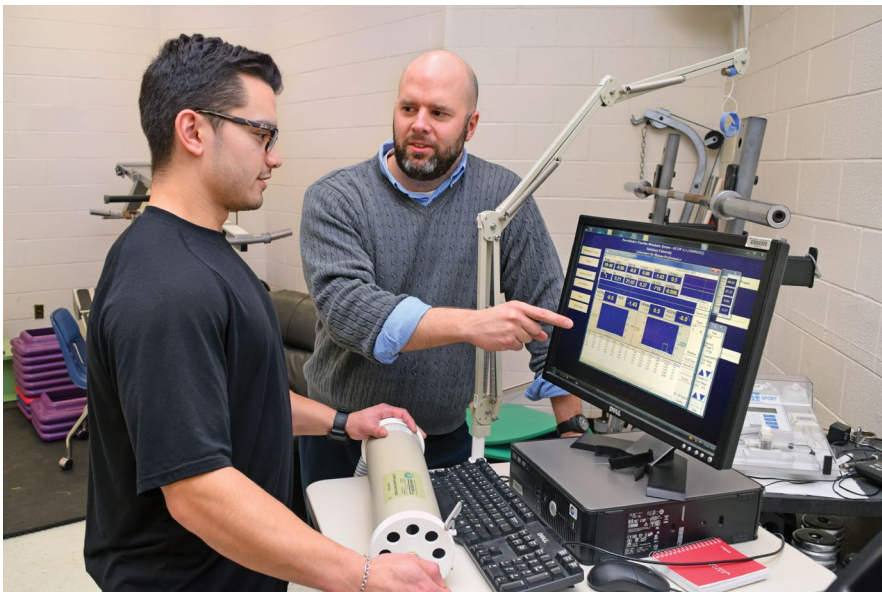
As the amount of research data collected increases rapidly due to technological advances, it becomes more difficult to notice anomalies and abnormalities in the data. Ian Thomas and his mentor Dr. Annie Lu are working on building software that can more accurately and efficiently detect these anomalies. Thomas has been involved in the project for the past two summers, and his code will be able to be used by future students as they continue to develop the project.



Gale and Shapley Graphing

Under the guidance of Dr. Annie Lu, Michael Mandulak is seeking to apply his own unique ideas to a long-standing computer science question: the stable marriage problem. As part of his research, Mandulak is working in a high-performance computing lab to develop an algorithm to improve upon the efficiency of the Gale and Shapley algorithms of graphing. The stable marriage problem has numerous applications, including matching students to universities that would best fit them. ❖

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