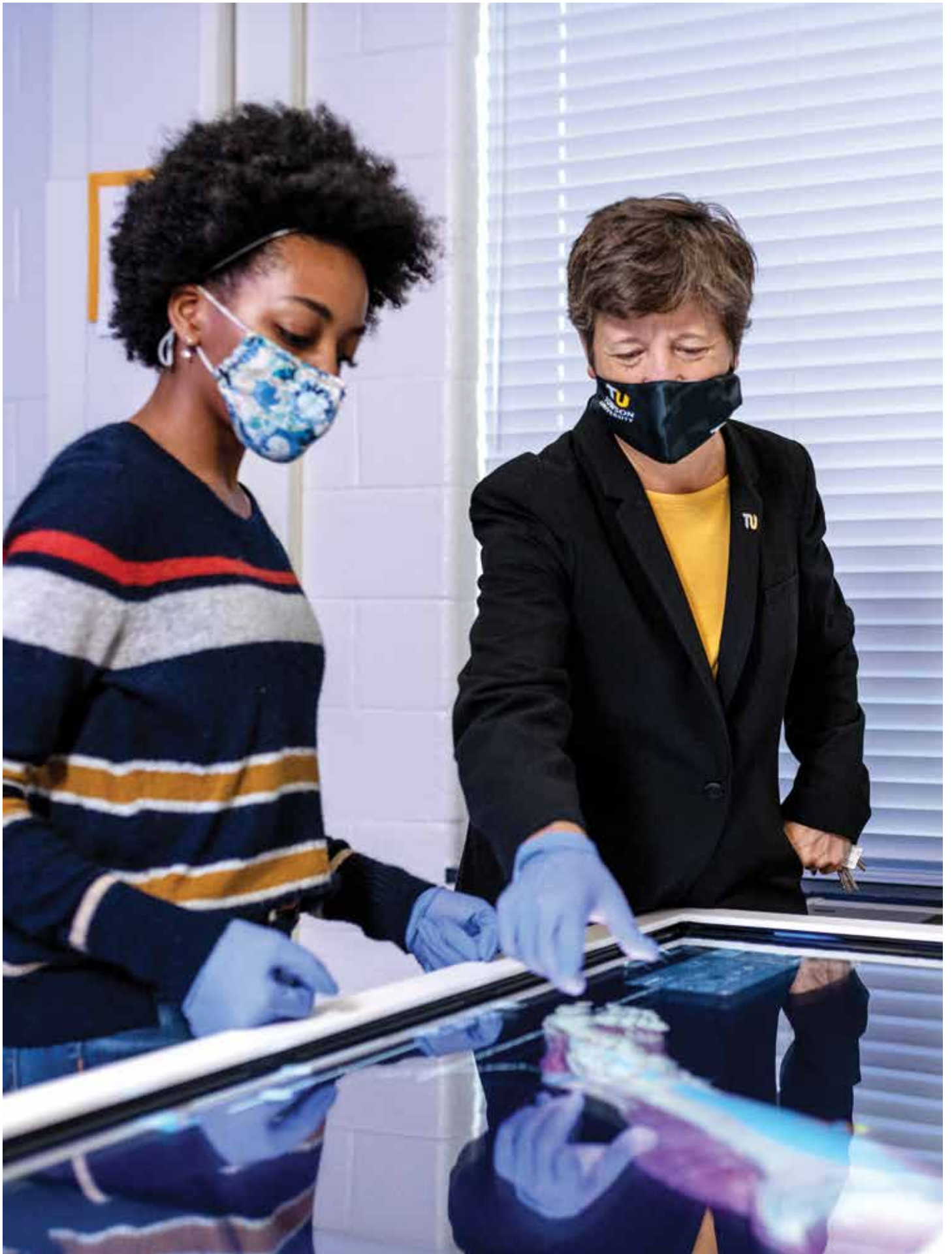




# SPONSORED PROGRAM ACTIVITY

2019 - 2020





Letter from the Provost:

Thank you for exploring the latest issue of Sponsored Programs Activity, 2019-2020. Each year, Towson University faculty pursue and are granted highly competitive federal, state, and private funding as part of their commitment to exceptional scholarship, research, service, and teaching. Despite a global pandemic that caused an abrupt transition to virtual learning and working, this year was no different. Our faculty continued to push the boundaries in all areas of study, expanding their individual scholarship and enhancing their ability to provide TU students with a first-class education.

Applying for and securing external funding represents excellence and dedication. I commend each and every one who has submitted a proposal or received external funds this past year and sincerely hope we continue to grow the university's portfolio in the coming year. Our Office of Sponsored Programs & Research provides support to assist with finding funding sources, developing proposals and budgets, submitting proposals, and managing awards.

As always, congratulations to all who engaged in applying for and securing external funding. I would like to recognize in particular those whose work on existing projects has continued and those who pursued new funding in the midst of the COVID-19 pandemic. Indeed, the entire TU community was met with unprecedented challenges in the last four months covered by this publication, but we have risen to meet them, and Towson University continues to be one of the nation's top public universities. Our commitment to improving the lives of thousands of students through teaching and research is strong. I invite you to explore the inspiring work occurring on (and off) our campus.

Best wishes,

Dr. Melanie Perreault  
Provost & Executive Vice President for Academic and Student Affairs





## **CREATING INNOVATIVE HEALTH INFORMATION TECHNOLOGY FOR A SAFER MARYLAND**

Two members of the Department of Computer & Information Sciences faculty are at the forefront of the Maryland Institute for Emergency Medical Services' (MIEMSS) response to COVID-19. Professor Yeong-Tae Song and Clinical Assistant Professor Jinie Pak were perfectly positioned to begin collaborating with MIEMSS in 2019 when the current Director of Data Management and Towson University (TU) alumnus, William Thompson, D. Sc. '16, approached Song to work with the institute to develop an app for the management of infectious diseases in the State of Maryland. While the inception of this project occurred long before COVID-19 was a threat, the pandemic expedited the process and Song, Pak, and their exceptional team members, TU alumnus Majed Almotairi, D.Sc. '19, and current TU computer science master's student Analilia Fierro, delivered a final product designed to handle the communication and training of paramedics and first responders earlier this year.

Beginning with background research in 2019, the team created an app that will push important notifications to emergency medical services (EMS) clinicians and allow them to access real time information about infectious diseases, emergency treatment protocols, clinical information, and other resources for the management of patients with infectious diseases in emergency situations. According to Pak, first responders will now have all the information they need to care for a patient at their fingertips. MIEMSS stressed that a key element of the

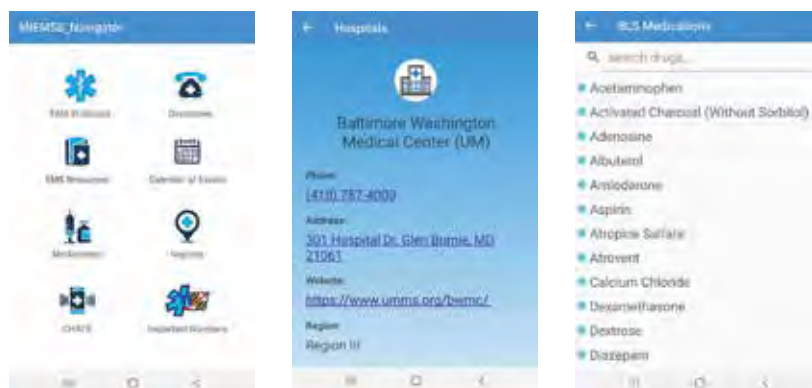




project would be a cloud-based notification system capable of sending targeted notices with or without internet access. The system is therefore based on a regional approach, notifying areas of information that is directly relevant to them. The intent is to ensure that each of Maryland’s five EMS regions view the information as critical and take action quickly.

Song described the project as “an orchestration of the latest technology in computer science” and saw it as a great opportunity to explore and implement such new technology. Not only does it feature a cloud-based notification system, it is also a cross-platform application, so it can support any operating system (OS). Pak explained that the cross-platform element was one of the biggest obstacles they faced, and that they conducted extensive research in order to identify a suitable tool that would allow all the features MIEMSS wanted to work together.

Once MIEMSS staff complete pilot testing of the app, it will be in use by EMS and eventually will be available for the public to download in the Apple and Google Play Stores. Song and Pak hope the project will raise awareness and increase interest in health information technology and the topic of electronic health records.



The product of their hard work and dedication will help MIEMSS uphold its mission to maintain a statewide EMS system that functions optimally and to provide effective care to patients, thereby making Maryland a more secure place to live.



## SELF-EMPOWERMENT THROUGH DANCE: CELEBRATING 15 YEARS OF AILEY AT TU

Professor of Dance Linda-Denise Fisher-Harrell is the driving force behind TU's longstanding partnership with the world-renowned Alvin Ailey American Dance Theatre (AAADT). A former dancer with the company, she was inspired by its vision of community outreach. She has marshalled that passion into her vision, which sees dance as a vehicle for change, for individuals and for communities.

Enthusiasm, creativity, and energy built the university's 15-year partnership with AAADT. Beginning with a 2006 grant that supported TU students to perform excerpts of Alvin Ailey's work, the relationship has become embedded into the fabric of TU's dance program, through Ailey II, a weeklong residency program. Since 2011, AAADT's junior company has visited TU and hosted master classes, workshops, and mini-performances that are open to the public. Comprised of college students and recent college graduates, Ailey II offers TU students an opportunity to see their peers, some of whom are TU alumni, flourish as part of a professional dance company.

However, it is through AileyCamp wherein Fisher-Harrell's vision of dance as a change-agent becomes most apparent. Founded by AAADT to use the power of dance to enrich and positively impact the lives of children through programs offered in cities across the United States, AileyCamp Baltimore first came to TU in 2014 and it has been an annual offering ever since. The program has flourished, and in 2019, a partnership with Baltimore City Public Schools (BCPSS) solidified AileyCamp Baltimore's commitment to bringing dance to young people who otherwise might not have access to such an experience.



According to Fisher-Harrell, the six-week program is, at its core, a personal development camp. She describes it as "a vehicle for kids, ages 11-14, to find self-empowerment and self-expression through the discipline of dance." AileyCamp seeks to provide them with an opportunity to find their voices and imbue them with the knowledge that they are important.



The program is rigorous and requires commitment and courage to participate. Kids with varying levels of skill and dance experience learn different types of dance technique including, ballet, modern, jazz, and West African as they prepare a final performance for community leaders, partners, and parents. Campers also participate in art classes, develop their writing skills through regular journaling, and are encouraged to engage in guided discussion of topics geared toward fostering personal development such as, nutrition,

social media use, drug and alcohol abuse, peer pressure, bullying, and positive communication. Hosting camp in the TU Center for the Arts also exposes participants, especially those from Baltimore City, to a campus potentially viewed as distant and inaccessible. Tours of the university and the opportunity to engage with the TU students working with the camp transforms college from an abstract concept to a realistic option for the future.





While Fisher-Harrell’s passion centers on artistic expression as a vehicle for transformation, she has had to master the ability to procure the resources necessary to implement that vision. Ailey programs require external support, and she has worked tirelessly to secure grants and donations

that make these programs possible. She approaches the task with enthusiasm, and she is effusive in her praise for all who partner with her both on and off campus, which has led to much success. The Ailey II residencies have always had steady funding from state and county art grant programs, and more recently a grant from the National Endowment for the Arts. The aforementioned partnership with BCPSS provided funds to facilitate the participation of campers from Title I schools, thus solidifying AileyCamp Baltimore’s mission to enhance the lives of underserved children. It also required Fisher-Harrell to document more rigorously the positive impacts that the camp has on participants. That led to funding from the Baltimore Towson University Partnership and also opened up the possibility for new avenues of funding.

Of course, funding has not been the program’s only challenge. In late spring, it appeared likely that the COVID-19 pandemic would shut the camp down. However, the passion for the program by all involved – BCPSS, AAADT, and TU – overcame what appeared to be insurmountable obstacles. With significant behind the scenes work, lots of creativity, and adaptability, an abbreviated Virtual AileyCamp experience was held for returning campers in July and August. The Ailey programs are much beloved across the TU community and the impact of the camp experience in particular is palpable for all who participate. In fact, this past year campers from the first group started college—some are even studying dance at TU with Professor Fisher-Harrell once more.



## **CONVERTING MATHEMATICS TEXTBOOKS TO BRAILLE: A STEP TOWARD MORE ACCESSIBLE MATHEMATICS**

In 2019, TU professor of mathematics Alexei Kolesnikov, TU mathematics professor emerita Martha Siegel, and former National Security Agency mathematician Al Maneki joined forces with a group of mathematicians working to create open source mathematics textbooks by compiling single source files for books that can then be produced in a variety of formats (web browser, printed, audiobook, etc.). With funding from the American Action Fund, a national service agency that specializes in providing help to blind people that is not readily available to them from government programs or other existing service systems, they were able to begin in earnest the project titled, “College Mathematics Textbooks to Braille.” While the group started with a text used by college mathematics majors, they aim to create a tool that will easily convert any open source mathematics textbook to braille—software that can potentially do this for any book prepared in this format. Moreover, the final tool will not be a commercial product in order to further their broader goal of making textbooks as accessible as possible.

When the start of term approaches, most students have a wealth of options at their fingertips for purchasing textbooks. Buying or renting, print or electronic, Amazon, Chegg, and the University Store are just some of the

many options available to acquire textbooks in mere days, no matter how specialized the topic. But did you know that it typically takes six months to produce a mathematics textbook in braille? While audio options are available, they are not ideal, particularly when the formula is complex. In such cases, blind students may forget the beginning of the formula by the time the end is being read.

As Kolesnikov explains, “The hurdles that blind students face in entering technical fields, mathematics in particular, are unreasonable.” His role in reducing those hurdles began in 2018 when he received a mass email from Siegel, who was seeking assistance acquiring a statistics textbook for a student who was blind. Eventually, Siegel connected with Maneki and they agreed to gather a team of people to make braille mathematics textbooks more accessible. Kolesnikov is not an expert in Nemeth Braille Code, the braille code for encoding mathematical and



scientific notation linearly using standard six-dot braille cells for tactile reading by the visually impaired. So he was hesitant to respond to Siegel’s continued emails until a slow summer day provided him with the time necessary for some light experimentation. Kolesnikov figured it would be easy enough to take input, essentially a text file of a mathematics textbook, and use an existing conversion tool to produce an output, a file that could be sent to a brailleing device for production. He spent the remainder of the summer testing other existing conversion methods and printing the output on a braille in Cook Library only to have each version rejected by Maneki for serious mistakes. By the end of the summer it was clear that converting mathematics textbooks to braille was a serious problem with only partial solutions and promising results, but nothing foolproof.

Converting mathematics textbooks to a format for tactile reading is particularly challenging because they are complex books composed of literary text, mathematics, graphs, diagrams, and other images. The team’s current process begins with converting an original mathematics textbook file (LaTeX file) to an XML file format. The literary text is then separated from the mathematics and images. Pre-existing open-source conversion tools then convert the literary text to braille while the mathematics is passed to a speech-rule-engine for conversion to Nemeth Braille. The literary text and speech-rule-engine output are then compiled into a single document that can be sent to the braille for production. Graphs, diagrams, and images present more of a challenge because the labels often overlap the images when they are generated automatically. The initial draft includes 300 unique expressions that form the building blocks of 6,125 total math formulas. A number of certified Nemeth translators checked for accuracy and the team is working on a list of corrections.

In early August, the group held a virtual workshop sponsored by the American Institute of Mathematics (AIM). Participants included members of the open-source textbook group, researchers in assistive technologies, disability support specialists, and accessibility industry representatives. All engaged in activities to improve transcription tools and produce raised graphics while gathering information about available technologies, advice for authors, and policy recommendations. Kolesnikov views the project as service to the discipline. “We’re making something available, in the hope that next time a student is deciding between pursuing mathematics or doing something else, there will be fewer hurdles to overcome and fewer people will be turned away from the field because of an accessibility issue.”





## **THE SCHOOL YEARS: EXPLORING THE RELATIONSHIP BETWEEN K-12 EXPERIENCES AND ADULT OUTCOMES FOR YOUNG ADULTS WITH AUTISM SPECTRUM DISORDER**

Connie Anderson is passionate about her research, which focuses on young adults with autism spectrum disorder (ASD). The qualitative research methods that she uses delve deeply into the personal histories and experiences of individuals with ASD, their parents, and educators. By allowing all involved the opportunity to tell their stories, Anderson hopes to enhance the success of individuals with ASD and to empower them to advocate for change.

An associate professor in the Department of Health Sciences, Anderson and her co-investigator, assistant professor Caroline Wood, are funded by a grant from the Organization for Autism Research (OAR) that builds on an earlier project they funded along with the A. J. Drexel Autism Institute. In the previous study, Anderson conducted interviews with young adults with ASD and their parents to explore their experience transitioning from high school to young adulthood. While large statistical studies demonstrate that young adults with ASD are less likely to be in school or working, no one knew why. As the interviews progressed, a common theme emerged. The current study reexamines the data from the earlier study but targets the school years with the additional perspective of educators who work with children and teens with ASD. As of this year, Anderson and Wood have conducted a total of 66 one-on-one interviews: 35 parents, 12 young adults with ASD, and 19 educators in a variety of roles and from a variety of different schools. While the analysis is not yet complete, patterns are emerging. Problems such as delayed diagnosis, unaddressed bullying, and a lack of interventions to provide basic social skills and the ability to self-advocate are often at the root of current problems faced by high school graduates with ASD as they transition to young adulthood.



Anderson observed that the interviews conducted were both deeply personal and intensely emotional for many participants. One educator believed that advocating for the students and requesting additional resources led to negative career consequences for her. An African-American teacher emphasized the unique challenges faced by some because of the enormous disparity in funding between schools due to systemic racial inequality. Stories that inspire hope were also told. Students and parents often detailed the positive impact had by individual teachers who truly understood ASD. Even in schools with fewer resources, those educators stood out as shining examples. These are the areas Anderson seeks to explore with her research. How do you create an inclusive and accepting culture at a school? What are the incredible lengths some educators will go to in order to help others understand students with ASD and support their success? But also, where do things go wrong and when do all the principles of special education and the intent of the law fail? And what consequences may this have in the long term?

In the field of autism studies, these issues in schools are well-known, but anecdotal. There is very little concrete research that puts the pieces together and relates them to adult outcomes. And there is even less that relates these issues between parents and educators. Anderson anticipates that her research will be that piece in the literature that substantiates the anecdotal pieces and lends legitimacy to them with careful analysis saying, “I hope that this will shine a light on some of these issues, empower advocates, change policies, and inspire more research.”



## INCREASING THE PARTICIPATION OF FATHERS IN THE CLASSROOM

Educators seek to engage parents because they know that their involvement is critical to their children's success. And while the call for greater parental involvement is a universal one, few delve further to discern whether barriers may inhibit some from participating. With funding from the Maryland State Department of Education two faculty

members from the College of Education are working to identify factors that may deter fathers and father figures from participating in their children's schooling and implement strategies to encourage their participation.

Amy Noggle and Sara Hooks, associate and assistant professors of special education and early childhood education respectively, focus on several barriers. First is a lack of information. Although research demonstrates that increased parental involvement can enhance social and emotional development outcomes, many educators don't realize that it is important to actively reach out to fathers and father figures specifically. Second, is time. Many parents, particularly those of children attending Title I schools, may work two to three jobs, making it difficult for them to drop in during the school day. Traditional patterns often make it more acceptable for a mother or mother figure to take time off from work to attend school-day activities than for a father or father figure. Another constraint is maternal gatekeeping, which impacts families with a separate living situation particularly hard because it can lend itself to one parent not keeping the other informed. "Too often as teachers," says Noggle, "we'll send flyers or notices home in backpacks. We assume that information will get disseminated to everyone, but that isn't always the case. And we assume that when we don't see one parent in school, they don't care, but that isn't always the case either." The final barrier is the demographic makeup of school staff, which is predominantly female, especially in early childhood and elementary classrooms. The often younger female teachers relayed that they are more accustomed to interacting with mothers. Meanwhile, the fathers expressed that they don't know what to do, or what questions to ask in the classroom setting. These feelings are often compounded by cultural and linguistic barriers.



To further explore the topic of father engagement, the pair partnered with Stevens Forest, a Title I elementary school located in Howard County that includes 50% non-native English speakers. They created the Father Involvement Task Force comprised of the Assistant Principal and Principal, Noggle and Hooks, four fathers, and key staff, including the Spanish-speaking liaison, to determine the best way to bolster father engagement. Their approach included hosting "A Day Out with Dad" at the start of the school year. At the event, Stevens Forest students rotated through activities alongside their father figures and two fathers from the community served as guest speakers in an effort to facilitate the involvement of fathers and other male role models specifically.



The project also emphasizes professional development. Sessions dealt with state and federal initiatives to increase father involvement, the significance of and barriers to their involvement, and working with challenges facing culturally and linguistically diverse fathers and fathers of children with disabilities. They also simulated a parent teacher conference wherein TU education majors were asked to handle a parent-

teacher conference with a 30-35 year-old man. The point was to provide students with an opportunity to convey sometimes difficult news to parents. And, to upend the more typical scenario when new teachers are delivering this news to a woman. Noggle said that it was a challenge for some students, but that “dealing with initial uncomfortableness is really what strives to make us stronger in this case.” Noggle and Hooks hope this project builds awareness among those working in education and creates a model that can be emulated by other Title I schools in the county and beyond to create a shift in the culture toward increased father involvement.



## **HARNESSING INTERNATIONAL EXPERIENCES TO BUILD A SUSTAINABLE FUTURE**

Towson University was honored to be the home institution of two Fulbright Distinguished Chair Award recipients during the 2019-2020 academic year. Professor Brian Fath, department of Biological Sciences, was selected as a Fulbright Distinguished Chair in Social Sciences at Masaryk University in Brno, Czech Republic and Professor Jeremy Tasch, Department of Geography & Environmental Planning, was selected as a Fulbright Distinguished Chair in Sustainable Development at the National Research University: The Higher School of Economics (HSE) in Moscow, Russia. The Fulbright Distinguished Chair Awards are among the most prestigious appointments in the Fulbright Scholar Program, and approximately 40 are offered each year to individuals who have eminent teaching and research records. Along with the larger Scholar Program that offers 1,100 awards to U.S. scholars annually, the Fulbright Programs recognize and promote the critical relationship between educational exchange and international understanding.

Professors Tasch and Fath both found that the experience enriched their individual scholarship, opened the door to future international collaboration, and enhanced their ability to provide a well-rounded education of exceptional quality to their TU students.

Each engaged in teaching activities at their host institutions. Fath taught graduate and undergraduate courses in the Masaryk University Department of Environmental Studies, teaching for the first time from *Foundations for Sustainability: A Coherent Framework of Life Environment Relations*, a new text he co-authored, and honing an overview of the main topics and themes in environmental science. Among the most rewarding facets of the experience was the opportunity to work within a school of social sciences. Fath welcomes the interdisciplinary exchange of ideas between his home in the natural/physical sciences and the social sciences, which will further enhance his teaching in the future.

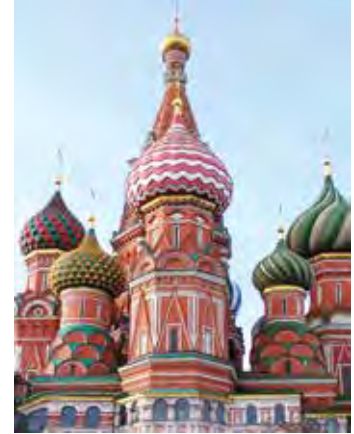


Professor Tasch traveled to Russia in January only to have the semester abroad cut short by the COVID-19 pandemic. While much of his teaching was virtual, Tasch directed his graduate students through individual projects that combined theory and practice to develop locally relevant solutions that lessen local dependence on traditional forms of development and energy resources. For instance, one student project explored ways to create innovative green spaces in tight urban areas to grow niche products for personal consumption and sale to other residents as a way of augmenting minimal salaries. Tasch is proud of the work his students accomplished and found each focused on bringing the future today in participatory, grounded, bottom-up, and sustainable ways.



Fath and Tasch are certainly no strangers to international collaboration. Fath currently holds a position as a Senior Research Scholar with the Advanced Systems Analysis (ASA) Program with the International Institute for Applied System Analysis (IIASA) in Laxenburg, Austria. For him, the Fulbright opportunity was particularly well-timed. One of his collaborators in Austria recently received a grant to fund 15 Ph.D. students dispersed to a handful of universities across Europe, including Masaryk. For his part, Fath committed to co-supervise Ph.D. students in Brno with one of his new colleagues and he was grateful to be there in person when the work began.

In Tasch's case, the Fulbright award led to a new relationship with the Valdai Discussion Club, a well-known think tank in Moscow. Before COVID-19, he intended to conduct research to determine how to work with northern communities—population centers that can be quite small—that exist beyond the Arctic Circle so they can produce their own energy and gain independence from large-scale energy production. The Valdai Discussion Club ultimately invited Tasch to be one of four keynote speakers at a conference centered on the potential for conflict in the Arctic among Russia, China, and the United States. He also wrote an article for the think tank that has since been published and maintains a standing invitation to join their continued Arctic Initiatives throughout 2020.



While the Fulbright experience was truncated, Tasch was able to lay the groundwork for a number of future potential research projects. For Fath, teaching in the Czech Republic was a gratifying way of coming full circle from his experience as an exchange student while the country was opening after the fall of the Soviet Union. Similar to Professor Tasch, he was able to pave the way for future projects in Europe—a network of opportunities he actively opens to his TU students. Both professors assert that their time abroad is essential to what makes them better educators at TU. It adds to their cache of real-life experiences to draw from when teaching the theoretical, abstract, and intangible elements of their respective fields in what Tasch described as “a different way of making learning active.” Fath enthused, “I’m always trying to expand and broaden students’ perspectives through these different connections and experiences.” In this increasingly globalized world, TU is fortunate to have faculty who can bring the world outside the United States to life for its students.



### **THE POWER OF CORRESPONDENCE: MAPPING THE NETWORK OF SUFFRAGE ACTIVISTS**

The National Park Service (NPS) turned to two Towson University faculty members to create an interactive series of story maps that commemorate the 100th anniversary of the 19th Amendment, which granted women the right to vote. While in practice the Amendment only ensured the

franchise for primarily white, middle and upper class women, the achievement was momentous. Sam Collins and Matt Durlington, professors in the Department of Sociology, Anthropology & Criminal Justice, are working to illustrate the breadth, complexity, and often contradictory nature of the U.S. suffrage movement through the extensive network of suffrage correspondence.

The NPS oversees many sites that are important to the suffrage movement. Some are well-known, such as Seneca Falls, New York, the location of the first women's rights convention. Others are not. For example, the Minuteman National Historic Site in Concord, Massachusetts is often associated with the American Revolution,

however, it also features Wayside House, a 17th century structure that was once home to 19th century author Louisa Alcott, famous for writing *Little Women* and for her activism within the suffrage movement.

Collins and Durlington were tasked with highlighting such NPS sites. The project, titled “Let’s Have Tea-Reconstructing the Network of

the 19th Amendment,” is their fourth with NPS and builds upon a methodology they developed with a grant from the National Science Foundation that aimed to “conduct media-based research in a more ethical and transparent way through the lens of anthropology using social network analysis and collaborative media making.”



The duo observes that the power of the suffrage movement lies in its breadth: “It brought together a variety of different people from various places, from the very local to the very global. There were huge figures like Jane Adams, alongside smaller figures as well. Every town in the United States had someone who was active in the movement.” Nothing demonstrates that geographical scale and complexity better than its extensive network of correspondence, the social media network of the time.

Beginning with 50 of the best-known suffrage activists, Collins, Durlington, and their team researched their correspondence in digital archives and the footnotes of secondary source material. They read letters and identified correspondence referencing the suffrage movement. Each activist was then plotted on story maps created using mapping software. Individuals are represented with an orange dot. When clicked, their network of correspondents is revealed. From there, one can bounce from activist to activist in a way that viscerally demonstrates the interconnectivity of the movement.

So far, the team has created a robust map that illustrates the connections among 1,000 suffrage activists and various other intertwined social movements. They continue to add content, build applicable models for different NPS sites, and create curricular materials that utilize the maps. One of their main goals is to establish a crowd-sourcing model for people to contribute information about local suffragists. Creating an open network that allows the public to share in the intellectual discovery of new suffrage activists will result in a map that represents as full a picture of the movement as possible.

The project relied upon an impressive network of support and collaboration. Undergraduate students identified suffrage activists, located their correspondence and supporting visual media, decided which information should be included, and edited the text featured on the maps. Kate Wilkinson, an associate professor in the Department of Women’s & Gender Studies, and Paporn Thebpanya, a professor in the Department of Geography & Environmental Planning, contributed historical content and expertise. They were especially grateful to have the Division of Strategic Partnerships & Applied Research (SPAR) Center for GIS (CGIS) as a partner. Christina Nemphos and Alexandra Mikulski, GIS Specialists with CGIS, were essential for bridging the technical aspects of mapmaking with the intellectual element of building a correspondent network.

A virtual event was held on August 18th to officially launch the Suffragist Storymap featuring opening remarks from General Linda Singh, TU’s inaugural Leader-in-Residence. Maps of suffrage correspondence show the movement to be, in many ways, the first truly modern social movement. The letters of the suffrage activists reveal that it intersected with a host of other social movements, including abolition, temperance, pacifism, spiritualism, and even vegetarianism. Collins and Durlington hope that the project will bring the people behind the letters to life as the complex and often contradictory human beings that they were.

## FUNDING RECEIVED

July 1, 2019 – June 30, 2020

Towson University faculty and staff receive funding from a diverse array of sponsors to complete projects in all fields. This year \$6.7 million in new funding was secured, enriching activities across campus. The list below includes external funding awarded, both new awards and supplements to existing awards. Congratulations to all those who received funding during this period.

### COLLEGE OF BUSINESS

#### BUSINESS ANALYTICS AND TECHNOLOGY MANAGEMENT

- **Natalie Scala**  
Co-PI: Joshua Dehlinger  
*Anne Arundel Board of Elections Election Judge Training for 2020*  
Anne Arundel County Board of Elections  
\$5,000

#### MANAGEMENT

- **David Brannon**  
Co-PI: Anna Obedkova  
*Outcomes of Entrepreneurial Education: Perceptions of Career Readiness Judge Training for 2020*  
Colonial Academic Alliance  
\$7,000

### COLLEGE OF EDUCATION

#### EARLY CHILDHOOD EDUCATION

- **Ocie Watson-Thompson**  
*FY20 Child Care Career and Professional Development Fund*  
U.S. Department of Health and Human Services via Maryland State Department of Education  
\$137,123

#### EDUCATIONAL TECHNOLOGY & LITERACY

- **William Sadera**  
*The Neuroscience of Learning: Mathematics and Educational Disabilities MOOC*  
Maryland State Department of Education via Kennedy Krieger Institute  
\$25,680

### ELEMENTARY EDUCATION

- **Lijun Jin**  
*China Experience: Empowering American Public School Teachers to Transform Social Studies Curriculum in Secondary Classrooms*  
U.S. Department of Education  
\$99,586
- **Vicki McQuitty**  
Co-PI: Pamela Hickey  
*2020-2021 National Writing Project/ National Park Service Science in the Park*  
National Writing Project  
\$3,500

### SECONDARY & MIDDLE SCHOOL EDUCATION

- **Todd Kenreich**  
*Maryland Geographic Alliance Professional Development Delivery 2020*  
National Geographic Society  
\$10,000

### SPECIAL EDUCATION

- **Amy Noggle**  
Co-PI: Sara Hooks  
*Focus on Fatherhood: Engaging Fathers and Father Figures in a Title 1 School*  
U.S. Department of Education via Maryland State Department of Education  
\$22,574
- **Patricia Rice Doran**  
Co-PIs: Gilda Martinez-Alba; Elizabeth Neville  
*English Learners Moving to Proficient Outcomes with Engagement and Rigor (EMPOWER)*  
U.S. Department of Education  
Year 3: \$548,261; Total: \$2,221,722

### COLLEGE OF FINE ARTS & COMMUNICATION

#### ART + DESIGN, ART HISTORY, ART EDUCATION

- **Katharine Fernstrom**  
*Maryland Open Source Textbook Initiative Mini-Grant*  
University System of Maryland  
\$1,000
- **Judith Isaacs**  
*Maryland State Arts Council Creativity FY20 Gallery*  
Maryland State Arts Council  
\$3,500

### ASIAN ARTS & CULTURE CENTER

- **Joanna Pecore**  
*Asian Arts & Culture Center FY20 Grants for Organizations*  
Maryland State Arts Council  
\$15,838  
  
*Asia North*  
William G. Baker, Jr. Memorial Fund  
\$10,000  
  
*Asian Arts & Culture Center Howng & Vercauteren Borja Showcase*  
E. Rhodes and Leona B. Carpenter Foundation  
\$25,000  
  
*Asian Arts & Culture Center Operating FY20*  
Baltimore County Commission of Arts & Sciences  
\$7,500

### COMMUNICATION STUDIES

- **Christopher Abbott**  
*Colonial Academic Alliance Debate for Civic Learning*  
Colonial Academic Alliance  
\$4,500

### DANCE

- **Linda-Denise Fisher-Harrell**  
*AileyCamp License Agreement 2019-2023*  
Alvin Ailey Dance Foundation, Inc.  
Year 1: \$25,000; Total: \$125,000

### MASS COMMUNICATION

- **Pallavi Guha**  
*Maryland Open Source Textbook Initiative Mini-Grant*  
University System of Maryland  
\$1,000

### COLLEGE OF HEALTH PROFESSIONS

#### HEALTH SCIENCES

- **Connie Anderson**  
*Parent and Youth Transition Hopes and Fears: Implications for Continued Engagement in SPARK*  
The Simons Foundation via Kennedy Krieger Institute  
\$112,830



- **Marsha Davenport**  
*Towson Physician Assistant Student Society Stop the Bleed Initiative*  
nccPA Health Foundation  
\$1,000

## **KINESIOLOGY**

- **Gerald Jerome**  
*Center to Accelerate Translation of Interventions to Decrease Premature Mortality in SMI*  
National Institutes of Health via Johns Hopkins University  
Year 2: \$13,148; Total: \$26,037
- **Karla Kubitz**  
*A Mixed Methods Investigation of the Team Cohesion/Performance Relationship across the Semester in Team-Based Learning Teams*  
Team-Based Learning Collaborative  
\$2,284

## **NURSING**

- **Elizabeth Austin**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Nasreen Bahreman**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Adriane Burgess**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Seung Choi**  
*PLAN: Dementia Literacy Education and Navigation for Korean Elders with Probable Dementia and their Caregivers*  
National Institutes of Health via Johns Hopkins University  
Year 1: \$21,940; Total: \$49,610
- **Elizabeth Crusse**  
*Towson Degree Completion Initiative*  
Maryland Higher Education Commission  
Year 5: \$430,246; Total: \$1,658,385  
  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Mary Curran**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Stanjay Daniels**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Karen Frank**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Janice Hoffman**  
*FY20 New Nursing Faculty Fellowship*  
Maryland Higher Education Commission  
\$20,000
- **Marie Kemerer**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Susan King**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Mary Lashley**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Marguerite Lucea**  
*FY20 New Nursing Faculty Fellowship*  
Maryland Higher Education Commission  
\$20,000
- **Teresa Nikstaitis**  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000
- **Kathleen Ogle**  
*Nurse Support Program II Graduate Program Planning & Revisions*  
Maryland Higher Education Commission  
Year 2: \$71,170; Total: \$146,570  
  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000

- **Briana Snyder**  
*Online Option for Degree Completion*  
Maryland Higher Education Commission  
Year 2: \$473,336; Total: \$1,050,062  
  
*Nurse Support Program II Academic Nurse Educator Certification*  
Maryland Higher Education Commission  
\$5,000

## **COLLEGE OF LIBERAL ARTS**

### **FOREIGN LANGUAGES**

#### **Colleen Ebacher**

*Partners in Education: Working Together to Enhance the Teaching of Latin America - Peru 2019-2020*  
U.S. Department of Education  
\$99,995

### **PHILOSOPHY & RELIGIOUS STUDIES**

#### **Emily Bailey**

*Maryland Open Source Textbook Initiative Mini-Grant*  
University System of Maryland  
\$1,000

### **POLITICAL SCIENCE**

#### **Matthew Hoddie**

*Power Sharing, Political Goods Provision, and Post-Conflict Stability in the Philippines*  
National Science Foundation via Gettysburg College  
Year 4: \$2,962; Total: \$48,195

### **PSYCHOLOGY**

#### **Paz Galupo**

**Co-PI: Christa Schmidt**  
*Simulated Conversation Training for Mental Healthcare Providers to Improve Care for Transgender and Gender Nonconforming Individuals*  
National Institutes of Health via SIMmersion, LLC  
\$199,035

#### **Wonjin Sim**

*International Students' Dreams during Cultural Transition*  
International Association for the Study of Dreams via Chatham University  
\$3,120  
  
*Enhancing Practice-Based Evidence for Spiritually Integrated Psychotherapies: An Interdisciplinary Big Data Project*  
John Templeton Foundation via Brigham Young University  
\$79,968

## **SOCIOLOGY, ANTHROPOLOGY & CRIMINAL JUSTICE**

- **Samuel Collins**  
**Co-PI: Matthew Durington**  
*Let's Have Tea-Reconstructing the Network of the 19th Amendment*  
National Park Service  
Year 1: \$74,307; Total: \$113,306

## **WOMEN'S & GENDER STUDIES**

- **Cindy Gissendanner**  
*Girls in the Game - FY20*  
Girls in the Game  
\$4,999

## **FISHER COLLEGE OF SCIENCE & MATHEMATICS**

### **BIOLOGICAL SCIENCES**

- **Jacqueline Doyle**  
*Population of Indiana's Allegheny Woodrats*  
Indiana Department of Natural Resources  
\$13,924
- **Laura Gough**  
*The Role of Biogeochemical and Community Openness in Governing Arctic Ecosystem Response to Climate Change and Disturbance*  
National Science Foundation via the Marine Biological Laboratory  
Year 4: \$36,000; Total: \$214,000
- **Steven Kimble**  
*Identification of Ranavirus Infection-associated Genes in a Zoo Population of Eastern Box Turtles (*Terrapene c. carolina*)*  
North American Box Turtle Conservation Committee  
\$1,000
- **Michelle Snyder**  
*Bridges to the Doctorate: A Partnership between Towson University and University of Maryland School of Medicine*  
National Institutes of Health  
Year 3: \$283,513; Total: \$768,884  
**Co-PI: Renee Dickie**  
*Bridges to the Baccalaureate, Yrs. 15-19*  
National Institutes of Health  
Year 3: \$278,107; Total: \$1,430,076
- **Petra Tsuji**  
*Evaluation of Sorghum Bioactive Compounds in Cancer Metabolic Pathways*  
U.S. Department of Agriculture  
Year 1: \$20,000; Total: \$45,000

## **CHEMISTRY**

- **John Sivey**  
*CAREER: BrCl and Other Highly Reactive Brominating Agents in Disinfected Waters: Implications for Disinfection By-Product Formation and Control*  
National Science Foundation  
Year 4: \$ 98,814; Total: \$500,536

## **COMPUTER & INFORMATION SCIENCE**

- **Siddharth Kaza**  
*The Cybersecurity Labs and Resource Knowledge-base (CLARK) - A Prototype*  
National Security Agency  
Year 4: \$300,000; Total: \$847,958
- **Michael McGuire**  
*Collaborative Research: Creating and Integrating Data Science Corps to Improve the Quality of Life in Urban Areas*  
National Science Foundation  
\$173,790
- **Nam Nguyen**  
**Co-PIs: Siddharth Kaza, Michael O'Leary**  
*Cybersecurity Scholarships at Towson University*  
National Security Agency  
\$74,558
- **Yeong-Tae Song**  
**Co-PI: Jinie Pak**  
*Maryland Institute for Emergency Medical Services Systems (MIEMSS) Invited Project*  
Maryland Institute for Emergency Medical Services Systems  
\$64,979
- **Wei Yu**  
*Smart Grid*  
National Institute of Standards & Technology via Prometheus Computing, LLC  
Year 5: \$20,000; Total: \$412,096  
*National Institute of Standards & Technology (NIST) Professional Research Experience Program (PREP) Gaithersburg*  
National Institute of Standards & Technology  
Year 2: \$105,794; Total: \$1,036,027

## **ENVIRONMENTAL SCIENCE & STUDIES PROGRAM**

- **Christopher Salice**  
*Physiological, Ecological and Environmental Determinants of PFAS Uptake in Freshwater Fish: Towards an Improved Bioaccumulation Model*  
U.S. Department of Defense  
Year 1: \$442,739; Total: \$1,735,137  
*Impacts of Regenerative Streamwater Conveyance on Iron in Restored Streams and Potential Effects on Aquatic Organisms*  
EA Engineering, Science, & Technology, Inc.  
\$72,928  
*Advancing the Understanding of the Ecological Risk of Per- and Polyfluoroalkyl Substances – Supplement*  
U.S. Department of Defense  
Year 1: \$242,852; Total: \$485,703

## **MATHEMATICS**

- **Lindsey-Kay Lauderdale**  
*Research Experiences for Undergraduates in Mathematics at Towson University*  
National Security Agency  
\$99,500

## **PHYSICS, ASTRONOMY & GEOSCIENCES**

- **Parviz Ghavamian**  
*A Tale of Two Remnants: A Comparative Study of the Young Ia SNRs 0509-67.5 and 0519- 69.0*  
National Aeronautics and Space Administration via the Space Telescope Science Institute  
\$16,000
- **Pamela Lottero-Perdue**  
*Developing Preservice Elementary Teachers' Ability to Facilitate Goal-Oriented Discussions in Science and Math via the Use of Simulated Classroom Interactions*  
National Science Foundation via Educational Testing Service  
Year 2: \$7,000; Total: \$14,000
- **Joel Moore**  
*Why is Sulfate Elevated in (Sub)urban Watersheds and Declining Slower than Atmospheric Deposition? Fingerprinting Sources of Sulfate in Forested, Suburban, and Urban Streams*  
Maryland Water Resources Research Center  
\$6,895

*Using High-frequency Data and Concentration-discharge Relationships to Describe Solute Mobilization and Transport in Suburban and Urban Watersheds (Graduate Fellowship)*  
 U.S. Geological Survey via the Maryland Water Resources Research Center  
 \$6,000

• **James Overduin**

*Summer Research Internship for Undergraduates in Physics and Astronomy at Towson University*  
 Maryland Space Grant Consortium  
 Year 2: \$4,099; Total: \$13,819

*Summer Research Internship for Undergraduates in Physics and Astronomy at Towson University 2020*  
 Maryland Space Grant Consortium  
 \$11,534

• **Jennifer E. Scott**

**Co-PI: Patricia Westerman**  
*Faculty Academic Center of Excellence at Towson (FACET) Open Educational Resources (OER) Teaching and Research Initiative*  
 University System of Maryland  
 \$20,000

• **Vera Smolyaninova**

*Nanostructured Metamaterials for High-Tc Superconductivity*  
 Office of Naval Research  
 Year 3: \$23,525; Total: \$77,661

**SCITECH STUDENT LEARNING LAB**

• **Mary Stapleton**

*Harbor Scholar Professional Learning Workshop*  
 National Oceanic and Atmospheric Administration  
 \$149,975



**ADMINISTRATIVE OFFICES**

**COOK LIBRARY**

- **Joyce Garczynski**  
**Co-PI: Clare Kuntz**  
*Lift Every Voice African American Poetry Grant*  
 Library of America  
 \$1,200

**Sara Arnold-Garza**  
*Assessment Toolkit for High-Impact Practices in Academic Libraries*  
 Colonial Academic Alliance  
 \$4,000

**COUNSELING CENTER**

- **Emily Sears**  
*FY19 Alcohol, Tobacco, and Other Drugs (ATOD) Prevention Center*  
 U.S. Department of Health and Human Services via Maryland Department of Health  
 Year 2: \$159,701; Total: \$319,402
- FY21 Alcohol, Tobacco, and Other Drugs (ATOD) Prevention Center*  
 Maryland Department of Health  
 \$159,701

**OFFICE OF THE PROVOST**

- **Melanie Perreault**  
**Co-PIs: David A. Vanko, Cynthia Ghent**  
*The AGEP Alliance State System Model to Transform the Hiring Practices and Career Success of Tenure Track Historically Underrepresented Minority Faculty in Biomedical Sciences*  
 National Science Foundation  
 Year 2: \$58,804; Total: \$119,534

**STUDY ABROAD**

- **Jacklyn Fisher**  
*Peer Advisor Mentoring Grant*  
 Center for International Studies Abroad  
 \$2,020



## STRATEGIC PARTNERSHIPS & APPLIED RESEARCH

The Division of Strategic Partnerships & Applied Research (SPAR) plays a unique role at Towson University, securing contracts to support the needs of Maryland agencies and private businesses. In the period from July 1, 2019 to June 30, 2020, SPAR staff secured \$1.2 million to provide services to the organizations below. The projects ranged from economic analysis to professional development workshops to geographic information services. The list below indicates the names of the organizations providing awards to the various areas within SPAR.

### CENTER FOR GIS

- Harford Community College
- Maryland Department of Agriculture
- Maryland Department of Commerce
- Maryland Transit Administration
- U.S. Department of Health and Human Services via the Maryland Department of Health

### CENTER FOR PROFESSIONAL STUDIES

- Cisco Systems, Inc.
- Maryland Center for Construction
- Education and Innovation
- Maryland Department of Labor, Licensing & Regulation

### ENTREPRENEURSHIP

- Baltimore County Government

### OFFICE OF IT SERVICES

- Empowering Minds Resource Center
- Maryland State Department of Assessments & Taxation
- Maryland Department of Housing and Community Development
- Retrospective Index to Music Periodicals (RIPM) Consortium
- U.S. Department of Health and Human Services via the Information & Technical Assistance Center for Councils

### REGIONAL ECONOMICS STUDIES INSTITUTE

- Baltimore Office of Promotion & The Arts
- Maryland Department of Health
- Maryland State Arts Council
- Maryland State Highway Administration

## PROPOSALS SUBMITTED

The process of preparing a proposal demonstrates commitment to one's scholarly work as well as to Towson University and its students. The finished product represents hours of scholarly work that will be reviewed through a rigorous peer review process. The following list illustrates the diverse array of scholarly interests and the dedication of the TU faculty. The list includes proposals submitted from July 1, 2019 to June 30, 2020. We thank the individuals who have submitted a proposal during this period.

### COLLEGE OF BUSINESS & ECONOMICS

#### E-BUSINESS & TECHNOLOGY MANAGEMENT

- Mona Mohamed  
*Behavioral Intention of Subcutaneous Implantable Microchip Use by Persons with Disability*  
National Science Foundation

#### ECONOMICS

- Seth Gitter  
*REU Site: Economics of Demographic and Health Outcomes in Low Income Countries*  
National Science Foundation
- Juergen Jung  
Co-PI: Vinish Shrestha  
*Healthcare and Gender Specific Child Investments in Developing Countries*  
National Science Foundation

- Thomas Rhoads

*Biblical Models of Family and Church as Moral Foundations for the Free Market*  
Acton Institute

### COLLEGE OF EDUCATION

#### EARLY EDUCATION

- Lisa Herbst  
*Towson University - The University Child Care Center Accreditation Project*  
SC Johnson & Son, Inc.

- **Ocie Watson-Thompson**

*FY21 Child Care Career and Professional Development Fund*

U.S. Department of Health and Human Services via Maryland State Department of Education

## **EDUCATIONAL TECHNOLOGY & LITERACY**

- **Mahnaz Moallem**

*SaTC: Cybersecurity Health Check Course*  
National Science Foundation

- **William Sadera**

**Co-PI: Scot McNary**

*Instrument Development and Construct Validation for the One-to One Technology Teaching Competencies*

U.S. Department of Education via Johns Hopkins University

## **ELEMENTARY EDUCATION**

- **Morna McDermott McNulty**

*COVID: Imagining School Redesign - Voices from University Students*

The Spencer Foundation

- **Vicki McQuitty**

*Young Writers Workshop: Advocacy & Action*  
State Farm

- **Marcia Vandiver**

*Increasing Diversity in STEM: Recruitment, Retention, and Multicultural and Culturally Responsive Capacity Building in Science Education*

National Science Foundation via University of North Carolina Charlotte

## **INSTRUCTIONAL LEADERSHIP & PROFESSIONAL DEVELOPMENT**

- **Jessica Shiller**

*Teacher Unions, Tactical Actions, and Health Advocacy in Response to Covid-19*

The Spencer Foundation via the State University of New York College at Cortland

*Community School Partnership: Towson University Working in Partnership with Baltimore City's Community Public Schools*  
T. Rowe Price

## **SPECIAL EDUCATION**

- **Katherine Holman**

**Co-PI: Elizabeth Neville**

*Project CASE: Enhancing Early Childhood Outcomes through a Comprehensive Coaching System*

U.S. Department of Education

- **Gregory Knollman**

*Incorporating a Person Centered Approach to Teacher Education with Support from Students & Families across the Life Span*

Maryland State Department of Education

- **Jennifer Kouo**

*Designing Effective Strategies for Online Instruction of Computational Thinking and Programming Efficacy through PBL STEM Modules*

National Science Foundation

## **COLLEGE OF FINE ARTS & COMMUNICATION**

### **ART + DESIGN, ART HISTORY, ART EDUCATION**

- **Susan Isaacs**

*Visions of Place: Complex Geographies in Contemporary Israeli Art*

ARTIS Foundation

*Maryland State Arts Council Creativity FY21 Gallery*

Maryland State Arts Council

- **Erin Lehman**

*Baltimore County Commission of Arts and Sciences FY21 Project Grant for TU Gallery*

Baltimore County Commission of Arts and Sciences

### **ASIAN ARTS & CULTURE CENTER**

- **Joanna Pecore**

*Illuminating Asian Baltimore: Amplifying Community Voices at Asia North (Spring 2021 and 2022)*

Institute of Museum & Library Services

*Exploring Filipino American Experiences: Support for Asian Arts & Culture Center's Exhibit "To My Homeland" Featuring Work by Artist Lek Vercauteren Borja*  
National Endowment for the Arts

*Asian Arts & Culture Center Baltimore County Commission of Arts and Sciences Operating FY21*

Baltimore County Commission of Arts and Sciences

*Delaplaine Foundation Asia North*  
The Delaplaine Foundation Inc.

*Nancy Peery Marriott Foundation Asian Arts & Culture Center Operating*  
The Nancy Peery Marriott Foundation

*Exploring Filipino American Experiences*  
Max & Victoria Dreyfus Foundation

## **DANCE**

- **Linda-Denise Fisher-Harrell**

*To Support Ailey II Residency at TU*  
National Endowment for the Arts

*COVID-19 Virtual AileyCamp 2020*

Baltimore Community Foundation via Towson University Foundation

*AileyBaltimore Baltimore County Commission of Arts and Science Operating FY21*

Baltimore County Commission of Arts and Sciences

## **MASS COMMUNICATION**

- **Pallavi Guha**

*Off the Limits: The Impact of Social Media and News Media on Sexual Assault and Harassment as a Campaign Issue during the Indian Parliamentary Elections of 2019*

Association for Education in Journalism and Mass Communication

## **COLLEGE OF HEALTH PROFESSIONS**

### **COLLEGE OF HEALTH PROFESSIONS ADMINISTRATION**

- **Lisa Plowfield**

**Co-PI: Marsha Davenport**

*Promoting Access to Primary Care throughout Maryland*

Health Resources & Services Administration

## **HEALTH SCIENCE**

- **Mary Carter**

*The Problem of Dual Loyalty and Nursing Home Quality of Care*

Borchard Foundation Center Law & Aging

- **Jillian Fry**

*INFEWS/T3-Reducing Resource Use at the Seafood-Energy-Water Nexus: Focus on Efficient Production and Waste Reduction*

U.S. Department of Agriculture via Johns Hopkins University

## **KINESIOLOGY**

- **Devon Dobrosielski**

**Co-PI: Rian Landers-Ramos**

*Physical Therapy and Research Occupational Training for Underrepresented and Diverse Program*

National Institutes of Health

- **Gerald Jerome**  
*Workplace Weight Loss for Adults with Low Vision*  
American Heart Association

## **NURSING**

- **Hayley Mark**  
**Co-PI: Regina Twigg**  
*Faculty Facilitated Group Senior Practicum Project*  
Maryland Higher Education Commission

## **OCCUPATIONAL THERAPY & OCCUPATIONAL SCIENCE**

- **Kendra Heatwole Shank**  
**Co-PIs: Mary Carter, Paporn Thebpanya**  
*Mapping Community Mobility for People in Early-stage Dementia to Predict Participation Trajectories while Aging in Place*  
National Institutes of Health

## **SPEECH-LANGUAGE PATHOLOGY & AUDIOLOGY**

- **Saradha Ananthakrishnan**  
*Physiological and Psychophysical Indices of Auditory Stream Segregation*  
Hearing Health Foundation
- **Jennifer Smart**  
*Working with People with Intellectual Disabilities: Creating a Lasting Impact for Inclusive Health*  
Special Olympics International
- **Nirmal Srinivasan**  
**Co-PI: Saradha Ananthakrishnan**  
*Behavioral and Subcortical Correlates of Attention and Working Memory in Speech Perception*  
American Speech-Language-Hearing Foundation

## **INSTITUTE FOR WELL-BEING**

- **Sharon Glennen**  
*COVID-19 Response: Telehealth Rehabilitation and Support for Children and Adults with Disabilities in Baltimore County*  
Baltimore County Government via Towson University Foundation
- *COVID-19 Response: Telehealth Rehabilitation Support for Baltimore Children and Adults with Disabilities*  
Baltimore's Promise via Towson University Foundation

## **COLLEGE OF LIBERAL ARTS**

### **GEOGRAPHY & ENVIRONMENTAL PLANNING**

- **Jeremy Tasch**  
**Co-PI: Mahnaz Moallem**  
*Transforming Education of Shymkent STEM Teachers*  
American Council for International Education
- **Co-PI: Mahnaz Moallem**  
*Transforming STEM in Uzbekistan*  
American Council for International Education

### **PHILOSOPHY & RELIGIOUS STUDIES**

- **Makmiller Pedroso**  
*The Impact of Environmental Uncertainty on the Evolution of Cooperation*  
National Science Foundation

### **PSYCHOLOGY**

- **Christina Dardis**  
*Implementing Empowerment Self-Defense for Women at Military Academies*  
U.S. Department of Defense via Norwich University
- *Evaluating Empowerment Self-Defense for Sexual Trauma Survivors*  
U.S. Department of Defense via Norwich University
- **Paz Galupo**  
*Gender Dysphoria as a Measure of Proximal Stress: Development and Psychometric Evaluation of a Novel Measure of Social Gender Dysphoria*  
National Institutes of Health

### **SOCIOLOGY, ANTHROPOLOGY & CRIMINAL JUSTICE**

- **Michael Elliott**  
*Unmasking the Sacred in Popular Culture: A Social Scientific Study of Comic-Con Fan Communities*  
John Templeton Foundation

## **FISHER COLLEGE OF SCIENCE & MATHEMATICS**

### **BIOLOGICAL SCIENCES**

- **Mark Bulmer**  
*Collaborative Research: Socio-eco-Immunology of Globally Important Ecosystem Engineers*  
National Science Foundation

- **Alondra Maria Diaz-Lameiro**  
*Ancient Population Genomics Explore How Humans Survived in the Andean Altiplano by Domesticating South American Camelids*  
National Geographic Society

### **Co-PI: Petra Tsuji**

*Morphological, Molecular, and Ecological Exploration of New Species of Dwarf Gecko from Northwestern Puerto Rico*  
National Geographic Society

- **Jacqueline Doyle**  
*CAREER: Influence of Immigrant Fitness on Subpopulation Genetic Variability, Adaptive Potential and Inbreeding*  
National Science Foundation

### **Elana Ehrlich**

*The KSHV Ubiquitome: Developing a CURE (Course-based Undergraduate Research Experience)*  
National Institutes of Health

### **Brian Fath**

*Collaborative Research: AccelNet: The Open Modeling Foundation: An International Network of Networks for Standards-Based Computation in the Social, Ecological, Environmental, and Geophysical Science*  
National Science Foundation

### **Sarah Haines**

*Monarchs in Schools*  
Chesapeake Bay Trust via Monarch Joint Venture

### **John LaPolla**

*Collaborative Research: ARTS: Stabilizing the Crazy Ants: Integrating Phylogenomics and Taxonomic Training to Overcome the Taxonomic Impediment in the Genus Nylanderia*  
National Science Foundation

### **Barry Margulies**

*Human Cytomegalovirus Glycoprotein pUS27 Interference with Host Defenses*  
Hearing Health Foundation

### **Vonnie Shields**

*Development of Monitoring Tools for Peanut Burrower Bug*  
U.S. Department of Agriculture

### **CHEMISTRY**

### **Mary Devadas**

*CAREER: Role of Ligand and Metal Doping on the Electronic Structure of Superatom i-Au<sub>25</sub> and bi-Au<sub>25</sub> Gold Clusters*  
National Science Foundation



- **David Kamber**

*Expanding the Scope of Bioorthogonal Chemistry for New Strategies in Peptide Synthesis and Live-Cell Labeling*  
National Institutes of Health

- **Shuhua Ma**

*A Multi-pronged Computational Approach to Advance Kinase Drug Discovery*  
National Institutes of Health via University of Maryland – Baltimore

- **Keith Reber**

*One-Pot Preparation of Pyrrole-Fused Heterocycles Using Cyclic Sulfates: A Proposed Synthesis of Strychnuxinal A*  
Organic Syntheses, Inc.

- **John Sivey**

**Co-PI: Keith Reber**  
*Parabens as a Tool for Interrogating Halogenation in Environmental Systems: Kinetics, Products, and Implications for Water Reuse*  
National Science Foundation

- **Khanh-Hoa Tran-Ba**

*Improving Analyte Separation in Solid-Phase Extraction Using Single-Molecule Spectroscopy*  
American Chemical Society

## **COMPUTER & INFORMATION SCIENCES**

- **Subrata Acharya**

**Co-PI: Nam Nguyen**  
*REU Site: Undergraduate Research Experiences in Educational Cyber Operations*  
National Science Foundation

**Co-PI: Nam Nguyen**

*Cyber Scholarship Program 2020, Towson University*  
National Security Agency

- **Joyram Chakraborty**

**Co-PI: Aisha Ali-Gombe**  
*The Effect of UI Attractiveness on Security Policy Awareness*  
Facebook Research

- **Suranjan Chakraborty**

**Co-PIs: Joshua Dehlinger, Lin Deng**  
*Towson University and the University of Cologne Authentic Undergraduate Research in Applied Machine Learning in Software Engineering*  
National Science Foundation

- **Lin Deng**

**Co-PIs: Suranjan Chakraborty, Joshua Dehlinger**  
*Artificial Intelligence Approaches to Automated and Robust Security Vulnerability Discovery*  
The MITRE Corporation

- **Jinjuan Feng**

**Co-PIs: Jan Baum, Weixian Liao, Ziyang Tang**  
*Deep Learning Assisted Selection of Evidence-based Practices for Individuals with an Autism Spectrum Disorder in Medical and Educational Contexts*  
National Science Foundation via EduCoLab, LLC

- **Ramesh Karne**

**Co-PI: Alexander Wijesinha**  
*Bare Machine Computing Binary Transformation*  
National Science Foundation

- **Siddharth Kaza**

**Co-PI: Blair Taylor**  
*NSA Cybersecurity Center of Excellence - Regional Hub*  
California State University, San Bernardino via Capitol Technology University

**Co-PI: Blair Taylor**

*Coordinating the Curriculum Development Process and Pathways for Transitioning Military to become Cyber-Soldiers*  
National Security Agency via Mississippi State University

- **Blair Taylor**

**Co-PI: Siddharth Kaza**  
*Collaborative Research: CLARK: High-value, High-impact, Relevant Cybersecurity Curriculum*  
National Science Foundation

- **Wei Yu**

**Co-PIs: Weixian Liao, Chao Lu**  
*Towards a Learning-based Data Driven Detection Framework for Unforeseen Cyber Attacks*  
Air Force Office of Scientific Research

**Co-PI: Chao Lu**

*Smart Grid*  
National Institute of Standards & Technology via Prometheus Computing, LLC

## **ENVIRONMENTAL SCIENCE & STUDIES PROGRAM**

- **Christopher Salice**

*Multi-taxa Ecotoxicity of Novel Fluorine-Free Foams Versus New Generation Short Chain PFAS Aqueous Film Forming Foam Products*  
U.S. Department of Defense via EA Engineering, Science, and Technology, Inc.

## **MATHEMATICS**

- **Diana Cheng**

**Co-PI: Kimberly Corum**  
*STEM Model-Eliciting Activities for Middle School Students*  
Mathematical Association of America

- **Lindsey-Kay Lauderdale**

*REU Site: Research Experiences for Undergraduates in Mathematics at Towson University*  
National Science Foundation

- **Todd Moyer**

**Co-PI: Richard M Krach**  
*Can the van Hiele Model for Geometric Thought Improve the Learning of Algebra 1?*  
The Spencer Foundation

- **Michel O'Leary**

**Co-PIs: Alexei Kolesnikov, Lindsey-Kay Lauderdale**  
*Recruiting, Educating, and Graduating a Diverse Community of Mathematicians through Mentoring, Peer Support, and Undergraduate Research*  
National Science Foundation

## **PHYSICS, ASTRONOMY & GEOSCIENCES**

- **Pamela Lottero-Perdue**

*The Online Practice Suite: Practice Spaces, Simulations and Virtual Reality Environments for Preservice Teachers to Learn to Facilitate Argumentation Discussions in Mathematics and Science*  
National Science Foundation via Educational Testing Service

**Co-PI: Ming Tomayko**

*Simulation-based Approaches for Learning to Facilitate Argumentation-focused Discussions: Tools for Mathematics and Science Teacher Educators and Preservice Elementary Teachers*  
National Science Foundation via Educational Testing Service

- **Peggy McNeal**  
*CAREER: Investigating Disembedding in Meteorologists to Strengthen Meteorology Instruction*  
National Science Foundation
- **Joel Moore**  
*Collaborative Research: Network Cluster: Urban Critical Zone Processes Along the Piedmont-Coastal Plain Transition*  
National Science Foundation
- **James Overduin**  
*COVID-19 Response: Fundamental Physics Explorer*  
U.S. Department of Defense
- **Vera Smolyaninova**  
*Quest for Enhanced Axion-Photon Coupling in Tapered Waveguide Array Metasurfaces*  
Defense Advanced Research Projects Agency via Saltenna LLC.

## SCITECH

- **Mary Stapleton**  
*Project RISE (Rigorous and Inclusive Science Experiences)*  
Dr. Scholl Foundation via Towson University Foundation
- *Chesapeake Bay Trust Conservation Corps Host TU Center for STEM Excellence*  
Chesapeake Bay Trust

## ADMINISTRATIVE OFFICES

### OFFICE OF INCLUSION & INSTITUTIONAL EQUITY

- **Mahnoor Ahmed**  
*Center for Student Diversity, Program Director*  
U.S. Department of Justice

- **Brian Jara**  
*Developing Interfaith Student Peer Facilitators*  
Interfaith Youth Core

### OFFICE OF THE PROVOST

- **Shaunna Payne Gold**  
*TRIO Student Support Services FY 2020*  
Towson University  
U.S. Department of Education

### OFFICE OF PUBLIC SAFETY—UNIVERSITY POLICE DEPARTMENT

- **Woodrow Myers**  
Co-PI: Robert Reed  
*Towson University Body-Worn Camera Initiative*  
U.S. Department of Justice

## FACULTY DEVELOPMENT RESEARCH COMMITTEE (FDRC) GRANTS

Each year Towson University awards up to \$6,000 to faculty members to support faculty research. These grants are peer reviewed by a committee comprised of 12 members, two from each college. FDRC grants provide important support for research initiatives and can provide seed money that lead to future applications for external support. The following FDRC applications were awarded projects in 2019-20.

- **Alondra Diaz-Lameiro**  
Biological Sciences  
*Uncovering the Wild Ancestor of the Domestic South American Camelids using Pre-Colombian Ancient DNA*  
\$6,000
- **Seung Choi**  
Nursing  
*Impact of Contingency Management on Group Therapy Adherence among Adult Inpatients in Treatment for Substance Use Disorders*  
\$6,000
- **Lisa Custer**  
Kinesiology  
*Evaluation of Gait in Individuals with Chronic Ankle Instability while Performing Cognitive Tasks*  
\$6,000
- **Renee Dickie**  
Biological Sciences  
*The Interrelationship of Blood Vessels & Stem Cells in Skeletal Regeneration*  
\$6,000
- **Kathleen Eglseder**  
Occupational Therapy & Occupational Science  
*The Impact of Healthcare Provider Training on the Provision of Sexuality Services for Adults with Physical Disabilities*  
\$3,640
- **Diana Emanuel**  
Speech-Language Pathology & Audiology  
*The Lived Experience of the Audiologist*  
\$595
- **Luis Engelke**  
Music  
*Sounds of the Chesapeake*  
\$3,195
- **Mackenzie Fama**  
Speech-Language Pathology & Audiology  
*Using Structured Interviews to Understand the Experience of Inner Speech in Aphasia*  
\$5,552
- **Jennifer Figg**  
Art + Design, Art History, Art Education  
*Invasive Ecologies*  
\$6,000
- **Harjant Gill**  
Sociology, Anthropology & Criminal Justice  
*Tales from Macholand: Immersive Virtual Reality Web Series*  
\$5,997
- **Rachel Gordon**  
Finance  
*Joint Ventures as External Firm Monitors*  
\$5,190
- **Kendra Heatwole Shank**  
Occupational Therapy & Occupational Science  
*Testing the Feasibility of Go-along Methods to inform 'Dementia-Friendly Community' Design*  
\$4,358
- **Kimberly Hopkins**  
Art + Design, Art History, Art Education  
*(Mis)perception*  
\$5,999


- **Jian Huang**  
Finance  
*Stock Market Listing, Insider Ownership, and Marketing Expenditures: Marketing When Insiders Are Locked In*  
\$6,000
- **Hyang-Sook Kim**  
Mass Communication  
*Improving Health Literacy through Open Captions in Entertainment Media*  
\$6,000
- **Karlin Kirilov**  
Music  
*CD Album "Digital Accordion and Balkan Music"*  
\$6,000
- **Dana Kollman**  
Sociology, Anthropology & Criminal Justice  
*Bioarchaeological Examination of Pre-Classic Period Human Remains Recovered from a Lime Kiln, El Mirador Complex, Guatemala*  
\$5,084
- **Jennifer Kouo**  
Special Education  
*Comprehensive Autism Resource Environment (CARE): Optimizing Pediatric Emergency Department Care for Patients with an Autism Spectrum Disorder and their Families*  
\$3,240
- **John LaPolla**  
Biological Sciences  
*Investigations of an Obligate Mutualism: A. arnoldi and E. scorpiodes*  
\$5,100
- **Weixian Liao**  
Computer & Information Science  
*An Efficient Decentralized Artificial Intelligent System with Ensemble Techniques*  
\$5,875
- **Susan Mann**  
Dance  
*Old Wives Tales*  
\$6,000
- **Jay Nelson**  
Biological Sciences  
*Does Phenotypic Plasticity Determine a Fish Species' Ability to Persist in Urban Streams?*  
\$5,968
- **Rachel Riedel**  
Kinesiology  
*Breaking the Silence: Investigating Mental Health Education in America*  
\$4,509
- **Chetna Sethi**  
Occupational Therapy & Occupational Science  
*The Influence of Anxiety and Depression on Parental Reasoning*  
\$5,670
- **Nirmal Srinivasan**  
Speech-Language Pathology & Audiology  
*Physiological and Psychophysical Correlates of Attention and Speech Perception*  
\$5,980
- **Lynn Tomlinson**  
Electronic Media and Film  
*Narrative Animation for Fulldome Film*  
\$6,000
- **Khanh-Hoa Tran-Ba**  
Chemistry  
*Single-Molecule Measurements of Molecular Partitioning*  
\$5,940
- **Kaitlyn Wilson**  
Speech-Language Pathology & Audiology  
*Supporting Social Communication in Adults with Autism Spectrum Disorders: Creation of a Video Model Library*  
\$4,897
- **Donn Worgs**  
Political Science  
*Moral Frames and African American Politics*  
\$3,000
- **Bo Kyum Yang**  
Health Sciences  
*Exploring Diverse Staffing Patterns and Resident Care Outcomes in U.S. Nursing Homes*  
\$6,000

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## THE OFFICE OF SPONSORED PROGRAMS & RESEARCH

The Office of Sponsored Programs & Research (OSPR) strives for excellence in the procurement and management of external funding at Towson University. The dedicated staff of the OSPR provide support in the following areas:

- Identifying funding opportunities
- Navigating program requirements
- Developing and submitting competitive proposals
- Developing budgets
- Negotiating awards
- Establishing new awards and managing grant resources
- Administration of the IRB and IACUC
- Support and advice for all areas that relate to sponsored programs administration and related areas (e.g., export controls, intellectual property requirements)



The list below provides an overview of the responsibilities that each OSPR team member oversees. We encourage you to contact us with questions.

#### **Funding Searches**

##### **Katherine Fusick**

Sponsored Programs Specialist

#### **Pre-Award Team**

##### **Lissa Rapkin**

Assistant Director

Primary Pre-Award Contact for College of Business and Economics, College of Education, Biological Sciences, Chemistry, Computer & Information Sciences, Environmental Science & Studies, Strategic Partnerships & Applied Research

##### **Anne Greene**

Pre-Award Administrator

Primary Pre-Award Contact for College of Fine Arts & Communication, College of Health Professions, College of Liberal Arts, Mathematics, Physics, Astronomy and Geosciences, School of Emerging Technologies; All Non-Academic Departments other than SPAR

#### **Post-Award Team**

##### **Jai-Lyn Elliott**

Post-Award Administrator

Primary Post-Award Contact for College of Business & Economics; College of Health Professions; College of Fine Arts & Communication; College of Liberal Arts; Biological Sciences; Non-Academic Departments

##### **Kevin Smith**

Post-Award Administrator

Primary Post-Award Contact for Fisher College of Science & Mathematics other than Biological Sciences; College of Education

#### **Compliance**

##### **Ashley Dawson**

Compliance Administrator

Primary Contact for IRB and IACUC

#### **OSPR Oversight**

##### **Nancy Dufau**

Assistant Vice President

Special thanks to Katherine Fusick for her work on this booklet

