Letter from the Provost:

Thank you for exploring Sponsored Program Activity 2018-2019. Over the last year, Towson University faculty across the spectrum have sought and won highly competitive federal, state, and private funding for research and programs. From dance to politics, from nursing to cyber security, faculty at TU are leading scholarly discussions that change the way we understand our world.

During the period from July 1, 2018 – June 30, 2019, Towson University submitted 175 proposals and was awarded $12 million in external funding. This publication, Sponsored Program Activity 2018-2019, celebrates the interesting and innovative scholarly projects and initiatives that TU faculty and staff have undertaken this past year.

In the coming year, it is my sincere hope that we continue to expand this important work. Our Office of Sponsored Programs & Research provides support to assist with finding funding sources, developing proposals and budgets, submitting proposals, and managing awards.

Congratulations to each of the faculty members and staff who have applied for or received external funding. You have demonstrated your commitment to making Towson University a first-class institution of higher learning. As one of the nation’s top public universities, we are actively improving the lives of thousands of students through teaching and research. I invite you to explore the exciting work occurring on our campus.

Best wishes,

Dr. Melanie Perreault
Provost & Executive Vice President for Academic Affairs
CONNECTING SLEEP AND A HEALTHY HEART

Devon Dobrosielski, an associate professor in the Department of Kinesiology, once had a conversation with a member of the Johns Hopkins Pulmonary and Critical Care Medicine faculty that shifted the trajectory of his research focus. At the time, he was conducting clinical trials designed to examine the benefits of exercise and dietary-induced weight loss among those with chronic disease. He was asked by sleep physicians, “Why aren’t you measuring sleep?” Poor sleep is considered to have a major impact on body weight, and sleep apnea increases one’s risk for cardiovascular disease. Although Dobrosielski considers himself an exercise physiologist, he started to better appreciate how sleep represents the third crucial element in a healthy lifestyle—along with diet and physical activity.

“In Kinesiology,” he explained, “we tell people to exercise in order to improve cardiovascular health. But it is not entirely clear whether these positive benefits are attenuated in those suffering from poor sleep or those who suffer from sleep disorders, like sleep apnea, independent of age, sex and obesity status.” Beginning in January 2017, he and his team began recruiting 60 obese men and women between the ages of 30 and 65 years to take part in a research study, funded by the National Institutes of Health. All eligible participants underwent an overnight sleep study to determine the presence and severity of sleep apnea. The Pulmonary and Critical Care Associates of Baltimore conducted overnight testing after which all participants completed a battery of tests at the Towson University Wellness Center to examine cardiovascular health. Cardiovascular health was reassessed after the participants completed a six week exercise intervention following the guidelines outlined by the American College of Sports Medicine. Dobrosielski is in the process of analyzing the data collected and aims to have the main paper submitted for publication in the spring of 2020. If his hypothesis is supported by the data, this will lend further support to promote treatment of sleep disorders when people are implementing lifestyle change in order to maximize the positive cardiovascular impact of exercise.

“The advantage we have over large research institutions is that we are small enough to be able to concentrate on undergraduate students at this level.” About 20 students participated in this project. Of these, several have gone on to present at the TU Honors College Celebration of Scholarship and Learning, the TU Undergraduate Research & Creative Inquiry, the American College of Sports Medicine (ACSM) Regional Chapter Meeting, and the Maryland Sleep Society Annual Meeting. Two were nominated for undergraduate research awards at the ACSM meeting. Some worked on the research for three semesters and were able to train the next round of student researchers. “We have something special here in that we are doing high quality science with undergraduates. And not only kinesiology students. I’ve worked with biology students who have gone on to present research...It’s our own niche here in the Kinesiology Department where we’re developing a dynamic undergraduate research program.”
SATIRICAL IMAGES & THE AMERICAN REVOLUTION

While it may seem that today’s climate of caustic political satire is unique to our era, Nancy Siegel, professor of art history, would disagree. She observes, “If we look back to the 18th century, we see that the tradition of caricaturing political figures is not new to our time period.” Artists of the period reveled in bawdy and theatrical imagery, typified by comically grotesque figures performing lewd and vulgar actions, which defined the genre of British satirical prints. Artists and printmakers regularly lampooned their own government with vibrant images expressing characters and conflicts of the day.

Siegel is lead curator for the upcoming exhibit “Curious Taste: The Appeal of Transatlantic Satire.” The exhibit explores 18th and early 19th-century British and American satirical prints as well as the role collectors of satirical prints played in the survival of these historical documents. The exhibit will open at Yale University before travelling to England and Germany. The American Antiquarian Society will host an online version. The exhibit will feature prints and related ephemera from prominent satirists, such as James Gillray, Thomas Rawlinson, James Akin, and Paul Revere. Siegel is particularly excited to include information about Hanna Humphrey, one of London’s leading sellers of caricature prints in the late 18th century and one of the few female publishers.

Siegel supplemented a Towson University Faculty Development and Research Committee grant with numerous other grants and fellowships to support the research for the project. Most recently, she received a Georgian Papers Fellowship from the Omohundro Institute and Royal Collection Trust to travel to Windsor Castle to study the letters of King George III, Queen Charlotte, and their children for discussion of their portrayal in satirical prints. She also will study caricatures with culinary imagery such as George devouring the treasury of the Empire and other ways in which a culinary vocabulary was used for political derision.

A unique aspect of the project is its focus on the role of the collector. Traditionally, satirical prints were not considered high art. They were printed on paper stock of varying quality, the images were simplistic and often cartoonish, and there was an abundance of text. Nonetheless, these prints proved desirable and they often ended in the hands of wealthy collectors. It wasn’t uncommon for prominent citizens to compile folios of prints to trade among associates.
Collectors used the prints to spark political conversations by members of society who had ample understanding of the contexts and critiques being leveled on the person or political problem. Used in a similar manner to how the current generation might use a meme, besides providing amusement, the prints helped to galvanize opinions about the social and political realities of the time. “Satirical prints in the 18th century functioned as our present-day newsfeed. You would go to the print seller’s window to see the new satires. Who’s being mocked publicly, who’s being shamed?”

A second line of funding is supporting Siegel’s work on a manuscript titled, “Political Appetites: Revolution, Taste, and Culinary Activism in the Early Republic.” While most of us know the story of the Boston Tea Party as a political protest critical to the colonists’ struggle, few know that women used food as a form of protest during the American struggle for independence. Women made “Liberty Tea” using local herbs and flowers rather than imported tea, which was taxed. Hand-written recipes and published cookbooks featured dishes that honored and celebrated American ideals during the war and beyond. Recipes were given names that had patriotic value, such as, “Election Cake,” “Democratic Tea Cakes,” “Washington Pie,” “Franklin Buns,” and “Jackson Jumbles.” “Food,” Siegel argues, “is very much tied into our politics, our culture, and it was something that was understood by a large population—everyone eats.” In the coming months, Siegel will continue this work as a Research Fellow at the Obama Institute for Transnational American Studies at Johannes Gutenberg University in Mainz, Germany. Her time will be spent lecturing on satirical prints with culinary imagery, the German influence on colonial American food, continuing her research, and conducting historical food demonstrations.

THE UNIQUE RELATIONSHIP BETWEEN SOME OF EARTH’S TINIER CREATURES

Evolutionary biologists are fascinated by the relationships that develop between different species. Although some of these relationships may seem improbable or even perplexing, exploring them can yield important insights. John LaPolla, professor of Biological Sciences, and Faith Weeks, assistant professor of Biological Sciences, are investigating one such relationship between some of the earth’s smaller inhabitants. With National Science Foundation funding, they are undertaking a project titled, “A Phylogenomic Approach to Understanding the Symbiosis Between Acropyga Ants and Xenococcine Mealybugs.” The species referenced in the title, predominantly located in tropical areas, are known to have a unique symbiotic relationship that LaPolla and Weeks believe merits further study. They are using the grant to explore the history of the mutualism that exists between the species in the hopes of identifying a pattern of cospeciation, a form of coevolution in which the process by which populations evolve to become a distinct species dictates the evolution of another, and gaining insight into symbiotic evolution and the nature of symbiotic relationships.
A symbiotic relationship is a close association between two or more organisms of different species, often but not necessarily benefiting each member. While several forms of symbiotic relationships exist in nature, obligate symbiosis occurs when two organisms are in a mutually beneficial relationship and cannot survive without each other. In this case, Acropyga ants and xenococcine mealybugs have a good thing going—according to the fossil record, their mutually beneficial relationship has existed for over 15 million years (and molecular divergence dating suggest the relationship between the two groups has been going on for at least 30 million years).

The ants consume a substance secreted by the mealybugs, known as honeydew, for nutrients. In return, the mealybugs rely upon the ants for protection and survival. The unique relationship between Acropyga ant and mealybug populations is compelling. They are so intertwined that they have never been found without each other. Their mating behavior may explain why Acropyga are entirely subterranean, but as is the case with most ant species, they experience a period of time when they produce winged queens and winged males who emerge to fly away from their birth nest to mate. After mating, the queen will land, remove her wings, and dig down to start a new colony. The Acropyga ant queens always carry a pregnant adult female mealybug on their mating flights. This practice likely ensures that the new colony will have its own supply of mealybugs to feed from and protect. Their relationship does not simply give each species a greater chance of survival—they appear to require the relationship in order to survive.

A systematic entomologist whose focal organisms are primarily ants, LaPolla is serving as the primary field researcher. In June, he conducted population studies in Peru to determine how colonies relate to one another and how populations within individual colonies were related. The research team asked: Which Acropyga are with which mealybug? Are all mealybugs in one nest related? If they came from a single female carried by an Acropyga, they should show signs of inbreeding. Or, was there more than one queen? LaPolla and his team believe this study has the potential to offer important insight regarding the evolution and maintenance of animal-to-animal mutualistic symbiosis. They will travel to Costa Rica and Borneo to collect data on additional nests. LaPolla will use DNA sequencing of these samples to determine if geographically distinct specimens developed the same symbiotic relationships. Additionally, the fieldwork may aid the discovery of new species.

While LaPolla is focusing on field study and DNA sequencing, Weeks, a specialist in science education, is bringing her passion for the insect world to the broader public. Sitting in her lab, surrounded by a variety of exotic species, Weeks enthusiasm for the insect world is infectious. As she puts it, "We know insects are awesome, how do we take that to everyone else?" She has two strategies. First, she planned month-long summer workshops that involve teachers in hands-on research—identifying species and learning entomology. This year, three middle school teachers participated and gained experience that they can bring back to their classrooms. Second, Weeks developed a new course, "Field and Natural Science," that will teach field work basics, allow students to contribute to the research, and offer an opportunity for undergraduate students to collaborate with the teachers who attended the workshops to develop curriculum and activities. The course challenges middle school education and environmental studies majors to consider how they can use these experiences in their careers.

Aside from the potential for insight into the evolution and relationship of these two insect groups, this collaboration will have equally beneficial impacts on science education. LaPolla sums it up: "The way we set up this project fits TU really well because of its really nice integration of basic science research and the educational focus of TU—the training of teachers, both in-service and pre-service."
EXPLORING MODERNITY’S LITERARY CROSSROADS

The city of Trieste has been a crossroad of cultures for at least 4,000 years. As a trading center that connected the cultures of Europe to the Mediterranean Sea, it was a mixing place of ideas, religions, and people. From its beginning as an Illyrian settlement, to its time as part of the Roman Republic and Empire, and then the Hapsburg Empire, Trieste has long been a valuable space because it was where different peoples could meet, do business, and be connected to the currents of different cultures. It is also the geographical focus of Salvatore Pappalardo’s upcoming book “Modernism in Trieste: Habsburg Phoenicians and the Literary Invention of Europe 1870-1939.” Supported by an American Council of Learned Societies Project Development grant, Pappalardo, an associate professor of English, is putting the finishing touches on the book.

Intellectuals in the late 19th and early 20th century thought of Trieste as a small urban experiment for a “United States of Europe” due to its diverse population with multiple loyalties and emotional attachments to various ethnic, cultural, and linguistic communities. Pappalardo’s research is a comparative study of three modernist authors, living and writing in Trieste, and how they used literary modernism to challenge the rise of xenophobic nationalism in late 19 and early 20th-century Europe. By reimagining the role of the protagonist for the Phoenicians, the borderless and cosmopolitan Semitic Mediterranean archenemies of the Greeks and Romans, these authors were able to reimagine the cultural foundation of a more inclusive Europe and subvert widespread xenophobic rhetoric tied to nationalist ideologies.

The project engages Robert Musil’s “The Man without Qualities,” Italo Svevo’s “Zeno’s Conscience,” and James Joyce’s “Finnegans Wake.” Writing in the aftermath of World War I when Trieste first becomes Italian, the authors offer a multifaceted portrayal of the city. Pappalardo demonstrates how the authors and the fictional characters they write often don’t identify with the nation, but rather with a regional patriotism. The flexible loyalties and shifting allegiances of the books’ characters mirror those seen in the population of Trieste in defiance of the monolingual, monocultural concept of the nation. In Pappalardo’s words, “We tend to see the end of WWI as a watershed moment where people magically started thinking differently, but the literary fiction I look at demonstrates the contrary. People were still anchored in non-national allegiances that defy national identifications.”

Through his work, Pappalardo inserts himself into an ongoing conversation surrounding the conceptualization of Europe, the refugee crisis in the Mediterranean, and answering the question: What does it mean to locate the origin of Europe in a literary invention, something that goes beyond political and economic ideas? His research considers the contribution literary fiction has offered to debates surrounding the cultural and political unity of the continent. By shifting his perspective to view Trieste as a center of transregional and transnational networks, instead of a peripheral border city, Pappalardo crafts an argument for Trieste as a capital of transnational literary modernism. In turn, analyzing the works of several modernist authors through the updated Trieste lens reveals a tradition of literary modernism that existed in direct defiance of nationalism and offers a non-national mindset and a possible paradigm of identity for a future European community.

As such, Pappalardo’s work has an important message that is relevant today, both in terms of challenging nationalism as an ideology and the idea that the nation is the only way for people to find a home in the world. As he puts it, “you can have multiple allegiances, multiple national allegiances, or regional allegiances that circumvent the nation. And democracy and human rights are possible in a context that is outside the nation.” An important reminder in the context of 21st-century nationalist rhetoric gaining momentum in the United States and Europe.
BRINGING PROBLEM-BASED LEARNING TO RURAL PAKISTAN

In our increasingly globalized world, English is the lingua franca for active engagement in the international economy and broader global community. At the same time, science education is critically important to developing countries that are seeking to enhance their economic success. Mahnaz Moallem, professor and chair of the Department of Educational Technology & Literacy, is weaving these two together helping rural schools in Pakistan to excel in both areas.

Moallem recently joined Towson University after a stint as a past program officer for the National Science Foundation and as a faculty member at the University of North Carolina Wilmington. With a grant from the Department of State and in a collaboration that was initiated while at her former institution, Moallem is coupling her passion for project-based learning with her experience as an English language learner to advance the pedagogical and technological knowledge and skills of middle school teachers in Pakistan.

This particular project trains STEM program instructors to integrate computing into their subject areas. The projects utilize modeling and simulation to make content meaningful and demonstrate how STEM fields are integrated. The project, titled “Innovating and Designing Engaged Applications in STEM Education: Expanding the Knowledge and Capacity of Pakistani institutions,” draws on Moallem’s expertise as an instructional designer and uses Problem-Based/Project-Based Learning (PBL). Moallem observes that the shift to PBL has been challenging in the United States. That knowledge – and experience in overcoming such challenges – was invaluable when implementing PBL strategies in Pakistan.

To maximize local impact, she and her colleagues targeted low-income, rural areas in collaboration with the University of Education in Lahore, Pakistan. Once there, 25 teachers spent a week working with teachers from two boys’ schools and two girls’ schools. They worked with their Pakistani counterparts to develop modules that would better integrate STEM learning into their instruction. The modules were designed for 6th, 7th, and 8th grade students and focused on water, water resources, and water management issues—all contemporary concerns for their Pakistani communities. The students worked with their communities to identify problems and then chose one to conduct an investigation, and come up with a solution. They then tested their solution in a way that incorporated computing using an open source platform that fits conveniently on a flash drive called Squeak Etoys. Although the on-site workshops have been completed, the group continues to use Edmodo and WhatsApp to conduct online professional development, host a weekly webinar, and communicate overseas.

Moallem recognizes that there is a need, especially in rural Pakistan, for “the development of a network of well-trained, English language learner teacher-leaders who can implement and train other colleagues in best practices around supporting English learning.” She looks forward to building upon her previous work to develop new connections that bring together her interest in curriculum design, STEM education, and international education. “Our work has become global. We can’t just operate in our own silo anymore. If we want to be effective, if we want to be impactful, we need to look outside our own zone.” We look forward to learning about Moallem’s next initiative and how it exposes TU students to more of the world.
PRACTICAL SOLUTIONS FOR THE CONSTRUCTION INDUSTRY

When you look at a skyscraper, has it ever occurred to you how academics are involved? The $1.2 trillion construction industry accounts for more than 7% of America’s gross domestic product and is the primary means of employment for 10.6 million workers. The industry is far too monumental for schools of business not to engage. Natalie Scala’s current collaboration with the Construction Industry Institute (CII) and the University of Texas at Austin is an example of a Towson University professor engaging industry in a manner that benefits students. An associate professor in the Department of Business Analytics & Technology Management, Scala’s project, “Challenges and Opportunities to Promote Collaborative Scheduling in Construction Projects,” is lending her expertise to develop pragmatic industrial solutions.

The CII is a three-way partnership between owners, contractors, and academia. The relationship is based on the premise that each party contributes from its experience and competence to the overall work of the Institute. The academic community brings its knowledge of the research process and a credible, neutral voice to the process. Owners and contractors provide real-world knowledge and actual experience-based questions and answers. Together, these three form a triad that lends itself to conducting research for the construction industry.

Scala’s project focuses on shifting from the use of traditional scheduling to a collaborative scheduling (CS) system. In traditional scheduling, a schedule is created at the beginning of the project as a baseline and not always updated as the work progresses. This results in an unadaptable schedule that may not be able to adjust quickly or effectively. CS, on the other hand, is defined as “a comprehensive process that aligns and engages stakeholders throughout the life cycle of their project to coordinate activities and resources on a project and achieve its goal.” Scala argues that a schedule should be treated as a communication tool, not a mass of paperwork, in order to provide the level of constant collaboration required to improve project performance.
The project team is analyzing the limitations and barriers facing implementation of CS. This has led to the development of a maturity model to assess the effectiveness of a project and determine what capabilities need to be acquired next to improve the project’s scheduling performance. The model evaluates major project elements, such as Schedulers and Planners, Schedule Alignment with Owner, Scheduling Representation, and Communication. The investigators meet representatives from owner and contractor firms regularly and are able to interview them for focus groups, collect data, and conduct case studies. Based on these interactions, the CII participants suggest adjustments that will improve the workflow, communications network, and overall project efficiency.

Scala’s earlier work with CII provided authentic experiences for undergraduate students. This project builds on her previous efforts and includes graduate students whose participation is funded through CII. Vince Schiavone, a graduate student in the College of Business, and Dominique Hawkins, who was enrolled in TU’s accelerated dual degree in supply chain management are supported by the grant. “It has been exciting to make a difference and try to answer a real-world problem companies are experiencing. Travelling, meeting with companies, and getting exposed to the different ideas has shaped my way of thinking” noted Schiavone. Hawkins also shares that “her participation in the project has been nothing short of eye-opening. Not only has it been a great experience being able to interact with and learn from professionals currently in the construction industry, but also a unique opportunity to utilize real-world data to gain analytical skills.” Scala and her team have been pleased by the collaborative nature of the project and look forward to delivering their final research report in June 2020 then presenting at the 2020 CII Conference two months later in a 22-story building in downtown Denver.
Sponsored programs provide funding for materials, supplies, equipment, travel time, summer support, course releases and research time. They improve the experience for students and provide recognition to the faculty members who secure them.

**THE IMPACT OF EXTERNAL FUNDING**

- 78 sponsors providing new support to TU
- 222 students supported by sponsored projects
- 143 faculty members supported by sponsored programs funding
- $12 million new awards received

TU’S PORTFOLIO OF ACTIVE PROJECTS

- $45 million
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

**Proposal Development**

**James Smolinski**
Proposal Development Manager

**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 (SPAR)

**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**

**Leena Dave**
Assistant Director
Primary Post-Award Contact for College of Education, College of Health Professions

**Jai-Lyn Elliot**
Post-Award Administrator
Primary Post-Award Contact for College of Business & Economics, 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

**Compliance**

**Ashley Dawson**
Compliance Administrator
Primary Contact for IRB and IACUC

**OSPR Oversight**

**Nancy Dufau**
Assistant Vice President
July 1, 2018 – June 30, 2019

Towson University faculty and staff receive funding from a diverse array of sponsors to complete projects in all fields. This year $12 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. Amounts are not listed for fellowships awarded directly to an individual. Congratulations to all those who received funding during this period.

**FUNDING RECEIVED**

**COLLEGE OF BUSINESS**

**E-BUSINESS & TECHNOLOGY MANAGEMENT**

- Tobin Porterfield
  *Motivating Commercial Participation in Disaster Recovery*
  Baltimore Gas & Electric
  $4,000

*Pandora Student Extern: Juan Velosa
Pandora Jewelry
$50,754*

- Natalie Scala
  *Challenges and Opportunities to Promote Collaborative Scheduling in Construction Projects*
  Construction Industry Institute via the University of Texas
  $80,385

**FINANCE**

- Lisa Simmons
  *Business Communication Case Study Competition*
  Target Corporate Giving
  $2,000

**EDUCATIONAL TECHNOLOGY & LITERACY**

- Mahnaz Moallem
  *Innovating and Designing Engaged Applications in STEM Education*
  U.S. Department of State via University of North Carolina Wilmington
  $21,112

- William Sadera
  *Co-PI: Andrea Parrish*  
  *Reducing the Literacy Achievement Gap: A Transdisciplinary Focus on High Incidence Disabilities MOOC*
  Maryland State Department of Education via Kennedy Krieger Institute
  $10,800

**ELEMENTARY EDUCATION**

- Vicki McQuitty
  *Engaging Students, Families, and Teachers in Place-based Learning*
  National Park Service via the National Writing Project
  $3,500

  *Young Writers Workshop: Advocacy & Action*
  U.S. Department of Education via the National Writing Project
  $20,000

  National Council of Teachers of English Conference Grant Activities Mini-Grant
  U.S. Department of Education via the National Writing Project
  $5,000

**SECONDARY EDUCATION**

- Todd Kenreich
  *Maryland Geographic Alliance Professional Development Delivery*
  National Geographic Society
  $18,000

**SPECIAL EDUCATION**

- Kandace Hoppin
  *Co-PIs: Gilda Martinez-Alba, Elizabeth Neville*  
  *Enhancing Multi-tiered Frameworks: Integrating, Aligning, and Strengthening Behavioral, Social, and Emotional Supports*
  U.S. Department of Education via the Maryland State Department of Education
  $44,468

- Patricia Rice Doran
  *Co-PIs: Gilda Martinez-Alba, Elizabeth Neville*  
  *English Learners Moving to Proficient Outcomes with Engagement and Rigor (EMPOWER)*
  Year 2: $456,802; Total: $2,221,723

- Gregory Knollman
  *An Interdisciplinary Approach to the Development & Implementation of a Fitness to Work Program among High School Students with Disabilities*
  U.S. Department of Education via the Maryland State Department of Education
  $25,017

- Elizabeth Neville
  *Continued Scholarships to Support Participants of TU Campus 2018 Cohort*
  U.S. Department of Education via the Maryland State Department of Education
  $50,000

- Amy Noggle
  *Co-PI: Sara Hooks*  
  *Supporting and Engaging Fathers of Children in a Title I School: Fathers of Children with Disabilities and Culturally and Linguistically Diverse Fathers*
  U.S. Department of Education via the Maryland State Department of Education
  $32,396

**COLLEGE OF EDUCATION**

**COLLEGE OF EDUCATION ADMINISTRATION**

- Vicki McQuitty
  *Co-PI: Carla Finkelstein*  
  *Pathways to Professions USM Consortium*
  Coppin State University
  YR 1: $5,914; Total: $86,643

**EARLY CHILDHOOD EDUCATION**

- Ocie Watson-Thompson
  *FY19 Child Care Career and Professional Development Fund*
  Maryland State Department of Education
  $21,934
COLLEGE OF FINE ARTS & COMMUNICATION

ART + DESIGN, ART HISTORY, ART EDUCATION
- J. Susan Isaacs
  FY18 Art Gallery
  Maryland State Arts Council
  $2,500

- Nancy Siegel
  2019 Georgian Papers Programme Fellowship
  Royal Collection Trust, London and Omohundro Institute of Early American History & Culture

ASIAN ARTS & CULTURE CENTER
- Joanna Pecore
  Asian Arts & Culture Center FY19 Grants for Organizations
  Maryland State Arts Council
  $18,422

COMMUNICATION STUDIES
- Desiree Rowe
  Critical Investigations into American Popular Culture: Feminism, Superheroes, and Reflexive Ethnography, Kyushu University, Japan
  Fulbright Scholar Award

DANCE
- Linda-Denise Fisher-Harrell
  AileyCamp - Baltimore City Public School System
  Baltimore City Public School System
  YR 1: $111,000; Total: $387,813

- Ailey Baltimore
  National Endowment for the Arts
  $10,000

FY19 AileyYLL - Maryland State Arts Council Basic Grant
Baltimore City Public School System
$2,500

THEATRE ARTS
- Julie Potter
  Co-PI: Joyce Gerczycnski
  What Were You Wearing? Weaving a New Narrative
  Maryland Humanities Council
  $10,000

COLLEGE OF HEALTH PROFESSIONS

SPEECH-LANGUAGE PATHOLOGY & AUDIOLGY
- Diana Emanuel
  2018 Audiology Externship - Maria Makhina
  Live Better Hearing
  $25,000

- 2019 Audiology Externship - Breanna Collins
  Live Better Hearing
  $30,000

- 2019 Audiology Externship - Amber Palermo
  Chesapeake Hearing Centers
  $8,534

- 2019 Audiology Externship - Danielle Yurevich
  Hearing Assessment Center
  $32,000

- 2019 Audiology Externship - Amanda Carlin
  Live Better Hearing
  $30,000

- Jennifer Smart
  Special Olympics Healthy Athletes Program Coordinator
  Special Olympics Maryland
  $11,113

HEALTH SCIENCES
- Connie Anderson
  The Role of Schools in Adult Outcomes for Students with Autism Spectrum Disorder: Perspectives of Young Adults, Families, and Educators
  Organization for Autism Research
  $18,650

KINESIOLOGY
- Gerald Jerome
  Center to Accelerate Translation of Interventions to Decrease Premature Mortality in SMU
  National Institutes of Health via Johns Hopkins University
  $12,889

NURSING
- Adriane Burgess
  Co-PI: Vicky Kent
  Planning Grant: Graduate Planning for TU Entry Level Masters
  National Science Foundation via the Maryland Higher Education Commission
  YR 1: $123,179; Total: $149,556

- Sarah Caro
  New Nursing Faculty Fellowship
  Maryland Higher Education Commission
  YR 1: $10,000; Total: $20,000

- Seung Woo Choi
  New Nursing Faculty Fellowship
  Maryland Higher Education Commission
  YR 1: $10,000; Total: $20,000

- Nurse Educator Doctoral Grant Award
  Maryland Higher Education Commission
  $30,000

- Elizabeth Crusse
  Nurse Educator Doctoral Grant Award
  Maryland Higher Education Commission
  $30,000

- Harford Community College - Towson University Collaborative
  Harford Community College
  YR 1: $7,320; Total: $36,655

- Towson University Nursing Degree Completion Initiative
  Maryland Higher Education Commission
  YR 4: $427,561; Total: $1,658,385

- Hayley Mark
  Co-PI: Regina Twigg
  TU Collaborative Partnership Program
  Maryland Higher Education Commission
  YR 2: $256,611; Total: $1,266,250

- Co-Pls: Elizabeth Austin, Nancy Hannafin
  Increasing the Supply of Qualified Nurse Faculty
  Maryland Higher Education Commission
  YR 1: $285,247; Total: $902,000

- Margaret McCormick
  Co-Pls: Elizabeth Austin, Nancy Hannafin
  Providing Authentic Learning Experiences about Parkinson’s Disease: Bringing Humanity into the Classroom—Phase I
  Parkinson's Foundation
  $7,500
• Kathleen Ogle  
*Planning Grant: Graduate Program Planning & Revisions*  
Maryland Higher Education Commission  
**YR 1:** $75,400; **Total:** $146,570

• Laura Sessions  
*New Nursing Faculty Fellowship*  
Maryland Higher Education Commission  
**YR 1:** $10,000; **Total:** $20,000

• Briana Snyder  
*Online Option for Degree Completion*  
Maryland Higher Education Commission  
**YR 1:** $269,363; **Total:** $1,050,062

• Regina Twigg  
*FY18 New Nursing Faculty Fellowship*  
Maryland Higher Education Commission  
**YR 1:** $10,000; **Total:** $20,000

---

**COLLEGE OF LIBERAL ARTS**

**COLLEGE OF LIBERAL ARTS ADMINISTRATION**

• Karen Eskow  
*Autism Waiver and Child/Youth Outcomes*  
Maryland State Department of Education  
**$444,812**

---

**ENGLISH**

• Salvatore Pappalardo  
*Modernism in Trieste: Habsburg Phoenicians and the Literary Invention of Europe, 1870-1939*  
American Council of Learned Societies

---

**GEOGRAPHY & ENVIRONMENTAL PLANNING**

• Jeremy Tasch  
*From Resource Curse to Opportunity: Researching, Teaching, and Practicing Sustainable Development at the Higher School of Economics, Russia*  
Fulbright Distinguished Chairs Award

---

**PSYCHOLOGY**

• Bethany Brand  
*Top DD Supplemental Funds*  
MODUM BAD via the Towson University Foundation  
**$35,000**

---

**SOCIOPY, ANTHROPOLOGY & CRIMINAL JUSTICE**

• Samuel Collins  
*Co-PI: Matthew Durington*  
*Let's Have Tea-Reconstructing the Network of the 19th Amendment*  
National Park Service  
**$38,999**

• Harjant Gill  
*Tales from Macholand: 360 Virtual Reality Documentary Series Exploring Indian Masculinities*  
Fulbright-Nehru Academic and Professional Excellence Fellowship  
*Tales from Macholand: 360 Virtual Reality Documentary Series Exploring Indian Masculinities*  
American Institute of Indian Studies

---

**FISHER COLLEGE OF SCIENCE & MATHEMATICS**

**BIOLOGICAL SCIENCES**

• Vanessa Beauchamp  
*Glen Arboretum Restoration at Towson University*  
Chesapeake Bay Trust  
**$23,054**

• Jacqueline Doyle  
*SNP Genotyping of Neotoma magister Individuals Sampled in the New Jersey Palisades*  
New Jersey Department of Environmental Protection  
**Year 3:** $2,000; **Total:** $18,085  
*Genetics and Genomics of Neotoma magister Individuals Sampled in the New Jersey Palisades*  
New Jersey Department of Environmental Protection  
**$17,496**

• Elana Ehrlich  
*Comparative proteomics: The KSHV Ubiquitome in Latency and Reactivation at Technion-Israel Institute of Technology*  
National Institutes of Health

• Brian Fath  
*Foundations for Sustainability, Masaryk University, Czech Republic*  
Fulbright Distinguished Chair Award

---

**CHEMISTRY**

• Clare Muhor  
*Research Advisor FY16 Muhor*  
U.S. Agency for International Development  
**Year 4:** $32,424; **Total:** $140,000

• David Ownby  
*Mixture Toxicity of Uranium and Co-Occurring Metals from Breccia Pipe Uranium Ore and Waste Rock to Aquatic Invertebrates - Mixture Studies*  
U.S. Geological Survey  
**$12,639**

• 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 3:** $98,101; **Total:** $500,536

---

**COMPUTER & INFORMATION SCIENCES**

• Aisha Ali-Gombe  
*Leveraging Userland In-Memory Objects for Cybercrime Investigations and Malware Classification*  
National Science Foundation  
**$174,999**
**ENVIRONMENTAL SCIENCE AND STUDIES PROGRAM**

- **Christopher Salice**  
  Terrestrial Wildlife and Oil and Gas Development on National Wildlife Refuges: Exploring Impacts on Amphibians  
  U.S. Geological Survey  
  $35,578

- **Assessment of Estuarine Benthic Macroinvertebrate Samples for Exterior Monitoring of Hart-Miller Island Dredged Materials Containment Facility**  
  Maryland Department of the Environment  
  $15,000

**MATHEMATICS**

- **Linda Cooper**  
  Co-Pls: Charles Dierbach, Sandy Spitzer  
  Developing a Pathway for Computer and Mathematical Sciences Secondary Education Certification at Towson University  
  University System of Maryland  
  $49,980

- **Alexei Kolesnikov**  
  Co-Pl: Christopher Cornwell  
  College Mathematics Textbooks to Braille  
  American Action Fund  
  $82,550

- **Felice Shore**  
  First in the World MHRI Project  
  U.S. Department of Education via the University System of Maryland  
  Year 4: $32,400; Total: $129,600

- **Sandy Spitzer**  
  Co-Pls: Diana Cheng, Kimberly Corum, Kristin Frank, Laila Richman  
  Transforming Mathematics Instruction through Modeling, Making, and Mentoring  
  National Science Foundation  
  $74,958

- **Maureen Yarnevich**  
  Using Open Educational Textbook and Resources to Teach Math 119: PreCalc  
  University System of Maryland  
  $1,500

**PHYSICS, ASTRONOMY & GEOSCIENCES**

- **Joel Moore**  
  Using High-Frequency Measurements to Determine the Frequency and Amplitude of Pulsed Road Salt Inputs to Streams  
  U.S. Geological Survey via the Maryland Water Resources Research Center  
  $41,299

- **James Overduin**  
  Summer Research Internship for Undergraduates in Physics and Astronomy at Towson University  
  Maryland Space Grant Consortium  
  $9,720

  Research Partnership to Explore Dark Matter through Anomalies in the Diffuse Ultraviolet Background  
  American Physical Society  
  $5,000

- **Co-Pls: Parviz Ghavamian, Jennifer Scott, Alexander Storrs**  
  Summer Research Internship for Undergraduates in Astronomy and Space Science at Towson University  
  Maryland Space Grant Consortium  
  Yr. 2: $6,253; Total: $45,914

- **Support for MScr Summer Research Interns to Present at the 23rd AAS Meeting**  
  Maryland Space Grant Consortium  
  $1,837

- **Jennifer Scott**  
  Co-Pl: Rajeswari Kolagani  
  Summer Research Support for a Native American Astronomer-in-Training  
  Maryland Space Grant Consortium  
  Year 2: $1,043; Total: $8,543

- **Continuing Summer Research Support for a Native American Astronomer-in-Training**  
  Maryland Space Grant Consortium  
  $9,000

- **Vonnie Shields**  
  Development of Botanical-based Pesticide to Control Pests of Medical Importance  
  U.S. Department of Agriculture  
  $194,700

- **Vera Smolianinova**  
  Co-Pl: Mary Devadas  
  Metamaterial-based Generation and Modulation of ULF and VLF Signals  
  Defense Advanced Research Projects Agency via the Vesperix Corporation  
  Yr. 2: $50,553; Total: $390,553
SCITECH STUDENT LEARNING LAB
- Mary K. Stapleton
  Harbor Scholars Program
  Chesapeake Bay Trust via the Waterfront Partnership of Baltimore
  Yr. 1: $24,624; Total: $27,360

SCHOOL OF EMERGING TECHNOLOGIES
- Jinjuan Feng
  Graduate Assistantship FY19
  Maryland Department of Human Services
  $22,055

ADMINISTRATIVE OFFICES

CENTER FOR STUDENT DIVERSITY
- Luis Sierra
  Party At The Polls
  Mile 22 Associates
  $1,000

COUNSELING CENTER
- Allison Frey
  FY19 Alcohol, Tobacco, and Other Drugs Prevention Center
  U.S. Department of Health and Human Services via the Maryland Department of Health
  $159,701
- Gregory Reising
  MD SPIN FY19
  University of Maryland – Baltimore
  $6,000

OFFICE OF INCLUSION & INSTITUTIONAL EQUITY
- Brian Jara
  Co-PI: Shaunna Payne Gold
  Third Rail Topics
  Interfaith Youth Core
  $4,000

OFFICE OF SUSTAINABILITY
- Patricia Watson
  FY19 Maryland Bikeways
  Maryland Department of Transportation
  $603,622

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, 2018 to June 30, 2019, SPAR staff secured $3,703,012 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 divisions of SPAR followed by the number of awards secured.

CENTER FOR GIS
- Abilities Network (1)
- Maryland Department of Agriculture (2)
- Maryland Department of Information Technology via Whitney, Bailey, Cox & Magnani, LLC (1)
- Maryland Port Administration (2)
- Maryland Transit Administration (1)
- Maryland Department of Agriculture (1)
- Maryland Department of Housing and Community Development (2)
- Maryland Department of Public Safety & Corrections via the SQA Networks, LLC (1)
- Maryland SPIN (1)
- Maryland State Department of Assessments & Taxation (1)
- T. Rowe Price (1)
- U.S. Department of Health and Human Services via the Maryland Department of Health (2)

CENTER FOR PROFESSIONAL STUDIES
- Cisco Systems, Inc. (1)
- Maryland Department of Housing and Community Development (1)
- Maryland State Department of Education via the Maryland Center for Construction Education and Inn (1)
- Maryland Transit Administration (1)
- U.S. Department of Education via the Maryland State Department of Education (1)
- Maryland Department of the Environment (1)
- Maryland State Arts Council (1)
- Maryland State Licensed Beverage Association (1)
- National Marine Sanctuary Foundation (1)
- U.S. Department of Health and Human Services via the Maryland Department of Health (1)
- Washington Gas (2)
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 research 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, 2018 to June 30, 2019. We thank the individuals who have submitted a proposal during this period.

COLLEGE OF BUSINESS & ECONOMICS

E-BUSINESS & TECHNOLOGY MANAGEMENT
- Mona Mohamed
  *Persuasion of Tacit Knowledge in Teaching Information Technology*
  National Science Foundation

- Tobin Porterfield
  *Pandora Student Extern: Juan Velosa*
  *Pandora Jewelry*
  *Motivating Commercial Participation in Disaster Recovery*
  *Baltimore Gas and Electric*

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

COLLEGE OF EDUCATION

COLLEGE OF EDUCATION ADMINISTRATION
- Laurie Mullen
  Co-PIs: Carla Finkelstein, Vicki McQuitty
  *Pathways to Professions USM Consortium*
  Coppin State University

EARLY EDUCATION
- Ocie Watson-Thompson
  *FY20 Child Care Career and Professional Development Fund*
  Maryland State Department of Education

EDUCATION TECHNOLOGY & LITERACY
- Mahnaz Moallem
  *Innovating and Designing Engaged Applications in STEM Education*
  U.S. Department of State via University of North Carolina Wilmington

- Co-PIs: Sara Allman, Saleha Suleman
  *Teaching Excellence and Achievement: Cultural Understanding through Partnership*
  U.S. Department of State

- William Sadera
  *The Neuroscience of Learning: Mathematics and Educational Disabilities*
  Maryland State Department of Education via Kennedy Krieger Institute

ELEMENTARY EDUCATION
- Lijun Jin
  *China Experience: Empowering American Public School Teachers to Transform Social Studies Curriculum in Secondary Classrooms*
  U.S. Department of Education

- Vicki McQuitty
  *Young Writers Workshop: Advocacy & Action*
  U.S. Department of Education via National Writing Project

  *Engaging Students, Families, and Teachers in Place-based Learning*
  National Park Service via National Writing Project

  *NCTE Conference Grant Activities Mini-Grant*
  U.S. Department of Education via National Writing Project

SECONDARY EDUCATION
- Todd Kenreich
  Co-PI: Sara Hooks
  *Maryland Geographic Alliance Professional Development Delivery*
  National Geographic Society

SPECIAL EDUCATION
- Amy Noggle
  *Focus on Fatherhood: Engaging Fathers and Father Figures in a Title 1 School*
  U.S. Department of Education via Maryland State Department of Education

COLLEGE OF FINE ARTS & COMMUNICATION

ART + DESIGN, ART HISTORY, ART EDUCATION
- J. Susan Isaacs
  *FY20 Art Gallery*
  Maryland State Arts Council

- Erin Lehman
  *Waterways*
  Baltimore County Commission on Arts and Sciences

ASIAN STUDIES
- Joanna Pecore
  *Asian Arts & Culture Center FY20 Operating Grant*
  Baltimore County Commission on Arts and Sciences

- Asian Arts & Culture Center FY20 Operating Grant
  Maryland State Arts Council

  *Reclaimed Creations*
  E. Rhodes and Leona B. Carpenter Foundation

  *Asian Arts & Culture Center Fall 2019 Programs*
  The Brown Foundation

DANCE
- Linda-Denise Fisher-Harrell
  *AlleyCamp Baltimore 2019*
  Baker Donelson

  *AlleyCamp Baltimore 2019*
  Baltimore Children & Youth Fund

  *AlleyCamp FY2020*
  Baltimore City Public School System
HEALTH SCIENCES
- Connie Anderson
  The Role of Schools in Adult Outcomes for Students with Autism Spectrum Disorder: Perspectives of Young Adults, Families, and Educators
  Organization for Autism Research
- Bo Kyum Yang
  Are Advanced Practice Providers Related to Better Resident Care Outcomes in Nursing Homes?
  National Council of State Boards of Nursing, University of Maryland - Baltimore

KINESIOLOGY
- Gerald Jerome
  Center to Accelerate Translation of Interventions to Decrease Premature Mortality in SMI
  National Institutes of Health via Johns Hopkins University

NURSING
- Adriane Burgess
  Co-PI: Vicky Kent
  Planning Grant: Graduate Planning for TU Entry Level Master’s Program
  Maryland Higher Education Commission
- Hayley Mark
  New Nursing Faculty Fellows – Sarah Caro, Seung Woo Choi, Laura Sessions, Regina Twigg
  Maryland Higher Education Commission
- Seung Woo Choi
  Nursing Educator Doctoral Grant Award
  Maryland Higher Education Commission
- Elizabeth Crusse
  Nursing Educator Doctoral Grant Award
  Maryland Higher Education Commission
  Harford Community College - Towson University Collaborative
  Harford Community College

COLLEGE OF HEALTH PROFESSIONS

SPEECH-LANGUAGE PATHOLOGY & AUDIOLOGY
- Diana Emanuel
  2019 Audiology Externship - Amanda Carlin
  Live Better Hearing
- 2019 Audiology Externship - Breanna Collins
  Live Better Hearing
- 2019 Audiology Externship - Danielle Yurjevich
  Hearing Assessment Center
- 2019 Audiology Externship - Amber Palermo
  Chesapeake Hearing Centers
- Jennifer Smart
  Special Olympics Healthy Athletes Program Coordinator
  Special Olympics Maryland
- Kaitlyn Wilson
  Effects of Video Modeling on Social Communication Behaviors of Adults with Autism Spectrum Disorder in a Community-based Social Skills Group
  Organization for Autism Research

OCCUPATIONAL THERAPY & OCCUPATIONAL SCIENCE
- Kendra Heatwole Shank
  Mapping Community Mobility for People in Early-Stage Dementia to Predict Participation Trajectories while Aging in Place
  National Institutes of Health

COLLEGE OF LIBERAL ARTS

COLLEGE OF LIBERAL ARTS ADMINISTRATION
- Karen Eskow
  Mental Health Curriculum Project: Fostering Awareness and Resiliency on Topics of Mental Health and Wellbeing in College Students
  Baltimore Community Foundation
  Autism Waiver and Child/Youth Outcomes
  Maryland State Department of Education

FAMILY STUDIES & COMMUNITY DEVELOPMENT
- Hana Bor
  Study Abroad 2019: Exploring Israel: Culture, Diversity, Education, and Social Services
  Charles Crane Family Foundation

ENGLISH
- Salvatore Pappalardo
  Modernism in Trieste: Habsburg Phoenicians and the Literary Invention of Europe, 1880-1939
  American Council of Learned Societies
  Modernism in Trieste: Habsburg Phoenicians and the Literary Invention of Europe, 1880-1939
  National Endowment for the Humanities
FOREIGN LANGUAGES
- Colleen Ebacher
  Partners in Education: Working Together to Enhance the Teaching of Latin America - Peru 2019-2020
  U.S. Department of Education

GEOGRAPHY & ENVIRONMENTAL PLANNING
- Todd Moore
  Hydrometeorology of Flooding Events along Flash Flood Alley, Texas
  National Science Foundation

- Jeremy Tasch
  Pacific Russia in the Asian Pacific: The Political Economies of the Asian Pivot
  National Science Foundation

HISTORY
- Kimberly Katz
  Co-PI: Erik Ropers
  Humanizing Curricular Approaches to Human Rights: Uniting the Humanities and the Social Sciences
  National Endowment for the Humanities

- Karen Oslund
  National Science Foundation

POLITICAL SCIENCE
- Aminata Sillah
  Co-PI: Donn Worgs
  Opportunity Youth Research Project: Strengthening the Sustainability of Young People Between the Ages of 16-24: A Joint Proposal from Towson University Professors Coalition of Urban and Metropolitan Universities

PSYCHOLOGY
- Bryan Devan
  Untangling the Pathology of Aging: Developing Advanced Biometric Analytics of Neurobehavioral Mental Health Autonomous ID

SOCIOLOGY, ANTHROPOLOGY & CRIMINAL JUSTICE
- Samuel Collins
  Co-PIs: Suranjan Chakraborty, Matthew Durrington
  Digital Stoops along Networked Streets: Community Technology and the Future of Work in Baltimore
  National Science Foundation

  Co-PI: Matthew Durrington
  Let’s Have Tea-Reconstructing the Network of the 19th Amendment
  National Park Service

FISHER COLLEGE OF SCIENCE & MATHEMATICS

BIOLOGICAL SCIENCES
- Vanessa Beauchamp
  Glen Arboretum Restoration at Towson University
  Chesapeake Bay Trust

- Jacqueline Doyle
  Population of Indiana’s Allegheny Woodrats
  Indiana Department of Natural Resources

  Genetics and Genomics of Neotoma magister Individuals Sampled in the New Jersey Palisades
  New Jersey Department of Environmental Protection

- Elana Ehrlich
  Ubiquitin and Ubls in KSHV
  National Institutes of Health

- Brian Fath
  Collaborative Research: AccelNet: The Open Modeling Foundation: An International Network of Networks for Standards-Based Computation in Social, Ecological, & Geophysical Sciences
  National Science Foundation

- Cynthia Ghent
  RECCUSE: REgional Consortium for Change in Undergraduate STEM Education through Data-Driven Faculty Professional Development
  Network of STEM Education Centers

- Barry Margulies
  Human Cytomegalovirus Glycoprotein pUS27 Interference with Host Defenses
  National Institutes of Health

  Antiviral Intravaginal Rings to Prevent Herpesvirus Infection
  National Institutes of Health

- Mara Shainheit
  Identification of Proteins at the Immune Interface between Streptococcus pneumoniae and Neutrophils
  National Institutes of Health

- Michelle Snyder
  Structure-Function Characterization of NADase Active Bacterial Toll-IL-1 Receptor (TIR) Resistance Proteins
  National Institutes of Health

- Petra Tsuji
  Evaluation of Sorghum Bioactive Compounds in Cancer Metabolic Pathways
  U.S. Department of Agriculture

CHEMISTRY
- Mary Devadas
  Optimizing a Single Beam Optical Trap Coupled with Photothermal Heterodyne Imaging for Sensing and Catalytic Applications
  National Science Foundation

  Understanding the Photophysics of Chromophore - Gold Superatom Clusters for Energy Storage and Two - Photon Absorption for Imaging and Sensing
  Research Corporation for Science Advancement

- Kelly Elkins
  Comparison of DNA Yield in the Epiphysis, Diaphysis, and Metaphysis of Long Bones
  Forensic Sciences Foundation

- Clare Muhoro
  Research Advisor to US-AID
  U.S. Agency for International Development
• Khanh-Hoa Tran-Ba  
  Ensemble and Single-Molecule Fluorescence Studies of the Solid-Phase Extraction in Polymers  
  American Chemical Society

**COMPUTER & INFORMATION SCIENCE**

• Aisha Ali-Gombe  
  Leveraging Userland In-Memory Objects for Cybercrime Investigations and Malware Classification  
  National Science Foundation

• Nadim Alkharouf  
  Characterization of Genes Associated with Survival and Pathogenicity of Phytoplasmas and Spiroplasmas  
  U.S. Department of Agriculture

  Characterization of Genes Associated With Stress Responses in Alfalfa and Identification of New and Emerging Disease-Causing Pathogens in Alfalfa  
  U.S. Department of Agriculture

• Suranjnan 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

  Building Resilience to Excessive Heat in the United States: Leveraging the Web to Disseminate Short-Term Forecast Models of Excessive Heat for Public Health Policymakers  
  National Oceanic and Atmospheric Administration

• Lin Deng  
  Co-PIs: Suranjnan Chakraborty, Joshua Dehlinger  
  Developing a Cloud-based Cyber Investigation Case Simulator for Enhancing Students Learning Experience at the University of Baltimore and Towson University  
  U.S. Department of Justice via University of Baltimore

• Siddharth Kaza  
  The Cybersecurity Labs and Resource Knowledge-base (CLARK) - A Prototype  
  National Security Agency

  Collaborative: CLARK - One-stop Access to Cybersecurity Curriculum  
  National Science Foundation

• Co-PI: Cara Tang  
  GenCyber SPLASH: Secure Programming Logic Aimed at Students in High School  
  National Security Agency

• Michael McGuire  
  Co-PI: Todd Moore  
  Collaborative Research: Data Integration Tools and Deep Learning Models for the Analysis of Tornado Climatology  
  National Science Foundation

  HDR DSC: Collaborative Research: Creating and Integrating Data Science Corps to Improve the Quality of Life in Urban Areas  
  National Science Foundation

• Nam Nguyen  
  Co-PIs: Siddharth Kaza, Michael O'Leary  
  Cybersecurity Scholarships at Towson University  
  National Security Agency

• Wei Yu  
  Co-PI: Chao Lu  
  Modeling and Simulation of Smart Grid Prometheus Computing  
  National Security Agency

  Collaborative Research: Safety-Aware Learning-Enabled Cyber-Physical Design for Assured Autonomy  
  National Science Foundation

**ENVIRONMENTAL SCIENCE**

• Christopher Salice  
  Terrestrial Wildlife and Oil and Gas Development on National Wildlife Refuges: Exploring Impacts on Amphibians  
  U.S. Geological Survey

  Assessment of Estuarine Benthic Macroinvertebrate Samples for Exterior Monitoring of Hart-Miller Island Dredged Materials Containment Facility  
  Maryland Department of the Environment

  Advancing the Understanding of the Ecological Risk of Per- and Polyfluorooalkyl Substances - Supplement  
  U.S. Department of Defense

• Impacts of Regenerative Streamwater Conveyance on Iron in Restored Streams and Potential Effects on Aquatic Organisms  
  Chesapeake Bay Trust via EA Engineering, Science, and Technology

**MATHEMATICS**

• Linda Cooper  
  Co-PIs: Charles Dierbach, Sandy Spitzer  
  Developing a Pathway for Computer and Mathematical Sciences Secondary Education Certification at Towson University  
  University System of Maryland

• Kristin Frank  
  Co-PIs: Diana Cheng, Kimberly Corum  
  Bringing 3D Printing and Digital Printing to Baltimore City Students  
  Constellation Energy

• Vincent Guingona  
  Vapnik-Chervonenkis Density and Related Notions of Dimension in Model Theory  
  National Science Foundation

• Alexei Kolesnikov  
  College Mathematics Textbooks to Braille  
  American Action Fund

• Angel Kumchev  
  NSA IPA Mathematics  
  National Security Agency

• Lindsey-Kay Lauderdale  
  Extremal Problems Concerning Graphs and Their Automorphism Groups  
  National Science Foundation

• Sandy Spitzer  
  Co-PIs: Diana Cheng, Kimberly Corum, Kristin Frank, Laila Richman  
  Transforming Mathematics Instruction through Modeling, Making, and Mentoring  
  National Science Foundation

• Maureen Yarnevich  
  Using Open Educational Textbook and Resources to Teach Math 119: PreCalculus  
  University System of Maryland
PHYSICS, ASTRONOMY & GEO SCIENCES

- Ronald Hermann
  Co-PI: Joel Moore
  TU GREATEST (Towson University’s Geoscience Recruitment Experiences Aimed Toward Earth Science Teachers)
  National Science Foundation

- Deepika Menon
  Investigating Science Teacher Identities of Prospective Elementary Teachers
  American Association of University Women
  Investigating Science Teacher Identities of Prospective Elementary Teachers: A Cross-Cultural Analysis
  The Spencer Foundation

- 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
  U.S. Geological Survey via Maryland Water Resources Research Center
  Co-PIs: David Ownby, Christopher Salice
  Coupling High-Frequency Water Quality Monitoring and Ecotoxicological Experiments to Quantify the Ecological Effects of Road Salt Application on Stream Ecosystems
  U.S. Geological Survey via Maryland Water Resources Research Center

- James Overduin
  Summer Research Internship for Undergraduates in Astronomy and Space Science at Towson University
  Maryland Space Grant Consortium
  Summer Research Internship for Undergraduates in Physics and Astronomy at Towson University
  Maryland Space Grant Consortium
  Research Partnership to Explore Dark Matter through Anomalies in the Diffuse Ultraviolet Background
  Gordon and Betty Moore Foundation via American Physical Society

- Jennifer Scott
  Summer Research Support for a Native American Astronomer-in-Training
  Maryland Space Grant Consortium
  Astronomer in Training 2019
  Maryland Space Grant Consortium

SCHOOL OF EMERGING TECHNOLOGIES

- Jinjuan Feng
  Graduate Assistantship FY20
  Maryland Department of Human Services

SCITECH

- Mary Stapleton
  Harbor Scholars Program
  Chesapeake Bay Trust, Waterfront Partnership of Baltimore
  Harbor Scholar Professional Learning Workshop
  National Oceanic and Atmospheric Administration
  Glen Arboretum Restoration and Center for STEM Excellence Environment Outreach
  Baltimore Gas and Electric

UMB CURE CATALYST
  National Institutes of Health, University of Maryland - Baltimore

ADMINISTRATIVE OFFICES

CIVIC ENGAGEMENT

- Christopher Jensen
  FY20 Civic Engagement
  Baltimore County Commission of Arts and Sciences

COUNSELING CENTER

- Allison Frey
  FY19 Alcohol, Tobacco, and Other Drugs Prevention Center
  U.S. Department of Health and Human Services via Maryland Department of Health

- Gregory Reising
  MD SPIN FY19
  University of Maryland – Baltimore

- Emily Sears
  FY20 Alcohol, Tobacco, and Other Drugs Prevention Center
  U.S. Department of Health and Human Services via Maryland Department of Health

OFFICE OF EQUAL OPPORTUNITY & DIVERSITY

- Brian Jara
  Co-PI: Shaunna Payne Gold
  Third Rail Topics: Where Faith & Identity Grapple
  Interfaith Youth Core
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 for projects to be completed in 2019-20.

- **Gashaw Abeza**  
  Kinesiology  
  *Ambush Marketing in the Digital Age: The Case of the Olympic Games*  
  $5,159

- **Delina Agnosteva**  
  Economics  
  *International Cartels and the Margins of Trade*  
  $5,230

- **Elyshia Aseltine**  
  Sociology, Anthropology and Criminal Justice  
  *Archival Study of Race and Policing in Baltimore City*  
  $1,760

- **Mark Bulmer**  
  Biological Sciences  
  *Mold Control with Termite Antifungal Proteins*  
  $6,000

- **Hua Chang**  
  Marketing  
  *The Effects of Personalization on Brand Personality and Brand Relationship*  
  $5,820

- **Lin Deng**  
  Computer & Information Sciences  
  *Achieving Fully Automated Testing for Android Apps Using Artificial Intelligence Techniques*  
  $6,000

- **Mary Devadas**  
  Chemistry  
  *Sensing of Chemical Warfare Agents Using a Graphene Oxide-Metal Nanoparticle System*  
  $6,000

- **Michael Elliott**  
  Sociology, Anthropology & Criminal Justice  
  *Variations of the Sacred in Pop Culture Fandoms*  
  $5,355

- **Mary Gergis**  
  Nursing  
  *Effects of Positive Thinking and Resourcefulness on Perceived Stress among Hospice and Palliative Care Nurses*  
  $5,733

- **Seth Gitter**  
  Economics  
  *Displaced Persons and Trust in Government in the Democratic Republic of the Congo*  
  $1,760

- **Susan Gresens**  
  Biological Sciences  
  *Diversity and Phylogeny of Cricotopus*  
  $6,000

- **Ellen Hondrogiannis**  
  Chemistry  
  *Determining the Method Threshold for the Identification of Gasoline Extracted from Burnt Nylon Carpet*  
  $6,000

- **Scott Johnson**  
  Biological Sciences  
  *An Investigation of Two Aspects of the Biology of Female Birds*  
  $4,990
Amanda Jozkowski  
Occupational Therapy  
*Digital Conversion and Testing of Ready, Set, Play! Assessment Tool*  
$4,636

Hee Jun Kim  
Nursing  
*Cross-Cultural Differences in Chronic Pain and Associated Factors between Korean Americans and Koreans in Korea*  
$5,993

Rian Landers-Ramos  
Kinesiology  
*Acute Exercise Responses to Novel Cardiovascular Risk Factors across Physical Activity Habits in College-Aged Adults*  
$6,000

Pam Lottero-Perdue  
Physics, Astronomy & Geosciences  
*A Good Plan*  
$5,925

Barry Margulies  
Biological Sciences  
*Transdermal Week-Long Antitherpeptic Therapy*  
$6,000

Eva Mengelkoch  
Music  
*Love and Loyalty: Musical Confessions of Albrecht Mendelssohn Bartholdi*  
$6,000

Joel Moore  
Physics, Astronomy & Geosciences  
*Using High-Frequency Data to Understand Road Salt Inputs to Streams*  
$4,320

Wendy Nelson  
Physics, Astronomy & Geosciences  
*Unlocking Trace Element Treasure Troves*  
$5,884

Christopher Oufiero  
Biological Sciences  
*Within and Among Species Variation in Feeding Performance and Morphology of Praying Mantises*  
$6,000

Erik Ropers  
History  
*Images and Representations of War in Japanese Visual Culture*  
$6,000

Mara Shainheit  
Biological Sciences  
*Identifying Proteins Used by the Bacterium Streptococcus pneumoniae to Eave Killing by the Immune System*  
$6,000

Nancy Siegel  
Art History  
*Curious Taste - The Appeal of Transatlantic Satire*  
$5,978

Jing Tian  
Mathematics  
*On the Numerical Procedure for the Design of the Contra-Rotating Propellers System*  
$4,320

Petra Tsuji  
Biological Sciences  
*Selenium-Mediated Epigenetic Regulation of Glutathione Peroxidase 2 in Colon Cancer*  
$6,000

Yongchen Zhao  
Economics  
*Identification and Time Series Properties of the Breakeven Points of the Purchasing Managers’ Index and Its Components*  
$6,000