



## ANNUAL REPORT FISCAL YEAR 2023

JULY 1, 2022 - JUNE 30, 2023



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# WELCOME

The conclusion of FY2023 marked my eighth year as UTC's inaugural vice chancellor for research. This has been a period of great change, and, looking back over ORSP Annual Reports of past years, I'm buoyed by the creativity, resilience and commitment to excellence of UTC faculty, staff and students. Individually and collectively, we have faced many challenges and obstacles. As the campus has grown and sought to improve our facilities, faculty and staff have found ways to maintain sponsored project activity through moves and renovations. In a rapidly changing regulatory landscape that places greater burdens on institutions and principal investigators, UTC has risen to the challenges and expanded our research portfolio to new sponsors and fields of endeavor. Even amidst the global COVID-19 pandemic, UTC's faculty and staff forged ahead, breaking institutional records for proposal submission activity. Despite these challenges, UTC's sponsored programs ecosystem has flourished—because of the compelling, intellectually rigorous, innovative and intentionally collaborative efforts of our faculty and staff.

Comparing snapshots of FY2015 and FY2023 documents key indicators of achievement. In the interim, sponsored project award dollars have increased by 76%, proposal dollars requested have increased by 99% and research and development expenditures have increased by 105%. We've come a long way! UTC has established an R&D presence in downtown Chattanooga at the Edney Building, invested in core high-performance computing capacities and diversified our research portfolio. UTC has extended our community engagement footprint and impact, with sponsored program activity providing educational enrichment and opportunity, improvements in the preparation of regional healthcare providers, traffic and mobility advancements and pandemic prevention initiatives. While these statistics are encouraging, the contributions and achievement of UTC's faculty and staff transcend metrics.

Please join me in congratulating all of the FY23 awardees and recognizing those who submitted proposals. I also want to acknowledge all those working behind the scenes across the institution to enable campus accomplishments. The skill, expertise and commitment of so many on campus working together is an investment that will pay dividends as we work together to create a shared future.



#### Dr. Joanne Romagni

Vice Chancellor for Research & Dean of the Graduate School



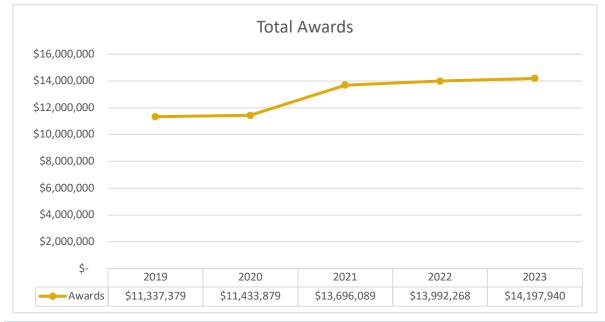
Dr. Reinhold Mann Deputy Vice Chancellor for Research

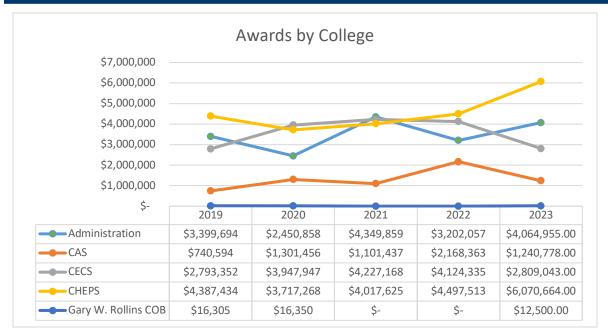
# **FY23 UTC SNAPSHOTS**



# **INSTITUTION OVERVIEW**

## **FIVE YEAR TREND - AWARDS**

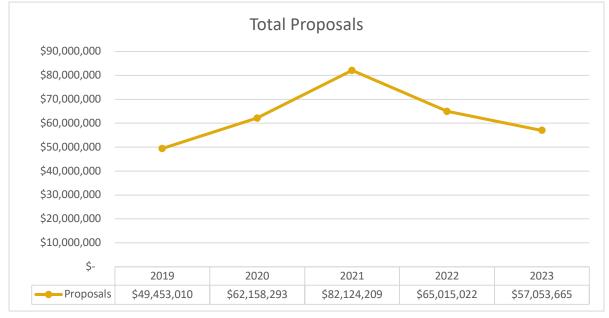


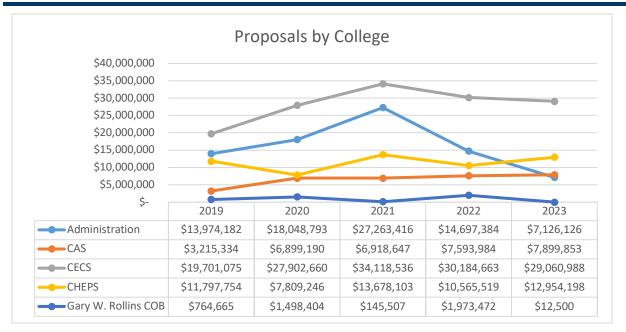


NOTE: HERFS/CARES Act funding has been excluded from this report for the purpose of clarity. Historical trends on that funding mechanism are documented in the FY22 Annual Report. Page | 5

# **INSTITUTION OVERVIEW**

## FIVE YEAR TREND - PROPOSALS



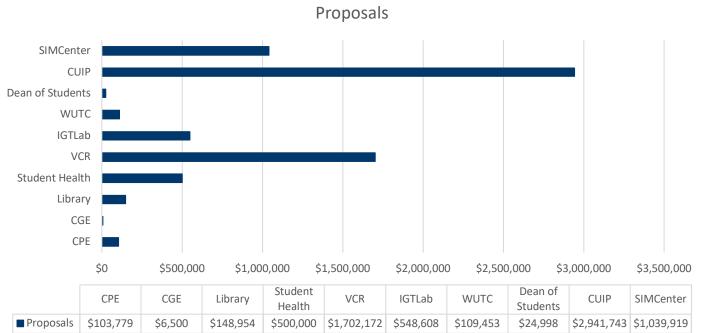


NOTE: HERFS/CARES Act proposals have been excluded from this report for the purpose of clarity. Historicaltrends on that funding mechanism are documented in the FY22 Annual Report.Page | 6

# **ADMINISTRATION**

## AWARDS AND PROPOSALS BY DEPARTMENT

\$1,800,000 \$1,600,000 \$1,400,000 \$1,200,000 \$1,000,000 \$800,000 \$600,000 \$400,000 \$200,000 \$0 Student CPE CGE Library SSS VCR IGTLab WUTC CUIP SIMCenter Health Awards \$54,382 \$6,500 \$3,630 \$500,000 \$691,480 \$1,672,083 \$103,239 \$109,543 \$550,285 \$373,813



CPE: Center for Professional Education; CGE: Center for Global Education; SSS: Student Support Services; VCR: Vice Chancellor for Research; CUIP: Center for Urban Informatics and Progress; IGTLab: Interdisciplinary Geospatial Technology Lab

Awards

# **UTC RESEARCH INSTITUTE**

On Monday, May 1, 2023, the **UTC Research Institute** was launched to bolster UTC's focus on building cross-disciplinary teams and catalyzing partnerships to establish

enduring programs of excellence that address high-priority challenges at the local, state and national levels that can't be solved using a single-discipline approach.

Led by Executive Director Dr. Mina Sartipi, the Institute manages the Center for Urban Informatics and Progress (CUIP) and the Center of Excellence in Applied Computational Science and Engineering (CEACSE), as well as major research infrastructure, including the Quantum Node Network, Urban



Members of the UTC Center for Urban Informatics and Progress team include (from left) graduate students Yasir Hassan, Monireh Rahmati, Medhi Khaleghian and Giang Do, Director of Operations/Chief Engineer Austin Harris, graduate student Tuan Nguyen, Grant Writer/Administrator Jordan Gwarjanski and Dr. Mina Sartipi. Photo by Angela Foster/UTC.

Connected and Automated Vehicle Testbeds and open access and secure computational clusters.

The Institute has two initial focus areas: mobility and transportation and quantum technologies. These areas are broad, aligned with strong community engagement and with recognized or emerging R&D capabilities and facilities.

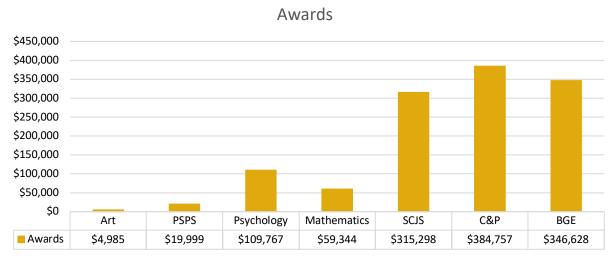


## **Administration Spotlight**

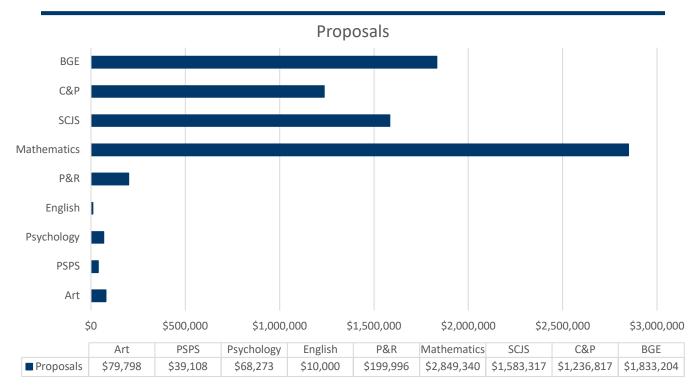
With a \$253,119 grant from the Tennessee Department of Transportation, **Austin Harris**, CUIP's director of operations, is leading a team to develop a web-based tool to share available roadway data and centerlines with local governments to improve communication with TDOT and enhance road planning processes.

# **COLLEGE OF ARTS AND SCIENCES**

## AWARDS AND PROPOSALS BY DEPARTMENT



PSPS: Political Science and Public Service; SCJS: Social, Cultural and Justice Studies; C&P: Chemistry and Physics; BGE: Biology, Geology and Environmental Science



PSPS: Political Science and Public Service; P&R: Philosophy and Religion; SCJS: Social, Cultural and Justice Studies; C&P: Chemistry and Physics; BGE: Biology, Geology and Environmental Science

## **COLLEGE OF ARTS AND SCIENCES**

## **CAS Spotlights**

**Dr. Brooke Persons (Social, Cultural and Justice Studies**) in collaboration with UTK's Forensic Anthropology Center received more than **\$150K** in funding from the Virgin Islands Water and Power Authority (VIWAPA). Dr. Persons and her team have been engaged in archeological monitoring and excavation of a portion of the historical Cruz Bay cemetery in St. John U.S. Virgin Island since 2021. The FY23 awards supported cemetery mitigation efforts at an archaeological site in Cruz Bay.





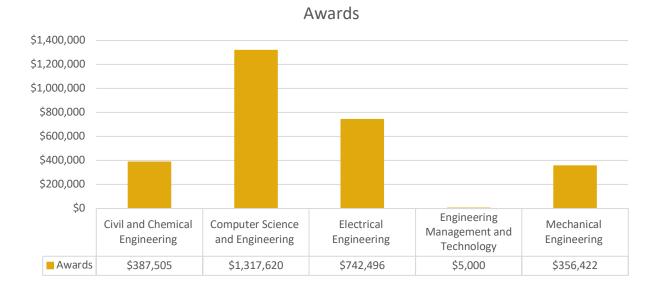
**Dr. Zibin Guo (Social, Cultural and Justice Studies)** received \$125K in funding from the U.S. Department of Veterans Affairs. This award extends Dr. Guo's long-standing efforts over the past 7 years of continuous funding to make wheelchair and adaptive Tai Chi Chuan programming available to veterans and healthcare providers at Veterans Administration facilities. Dr. Guo's pioneering efforts have benefitted veterans across the nation by promoting physical fitness as well as mental health among veterans with mobility challenges.

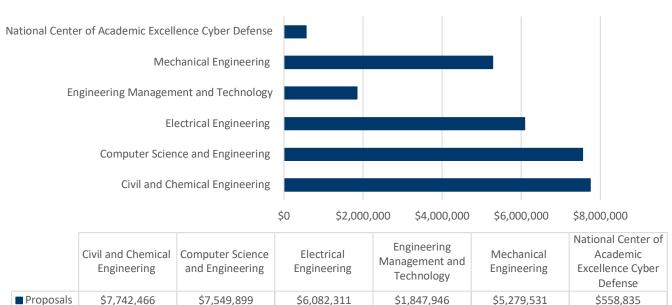
**Dr. Benjamin Stein (Chemistry and Physics)** received more than \$370K in funding from the National Institutes of Health. Dr. Stein received an R15 award entitled, "Characterization of non-canonical regulatory pathways in the Caulobacter NtrYX signaling system." Dr. Stein leveraged his initial award of \$322K to secure an additional \$50K in funding to support the purchase of a new autoclave. Dr. Stein and his team are researching how microbes adapt to different environments which may have applications in the development of antimicrobial therapies in the future.



# COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

### AWARDS AND PROPOSALS BY DEPARTMENT





Proposals

# COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

## **CECS** Spotlights



Two mechanical engineering faculty received awards from the National Science Foundation's Engineering Research Initiation Program: **Dr. Yunye Shi** (left) received **\$196K** in funding for her research on algaederived biofuel. **Dr. Reetesh Ranjan** (right) received **\$159K** in funding for his research on flame-turbulence interactions.



**Dr. Mbakisya Onyango, Dr. Jejal Reddy Bathi** (Civil and Chemical Engineering), **Dr. Yu Liang** (Computer Science and Engineering), **Dr. Ignatius Fomunung,** and **Dr. Joseph Owino** (Civil and Chemical Engineering) received \$220K from the Tennessee Department of Transportation. Their study analyzes the impacts of climate change on Tennessee's transportation infrastructure and seeks to identify strategies to reinforce and sustain critical transportation infrastructure.

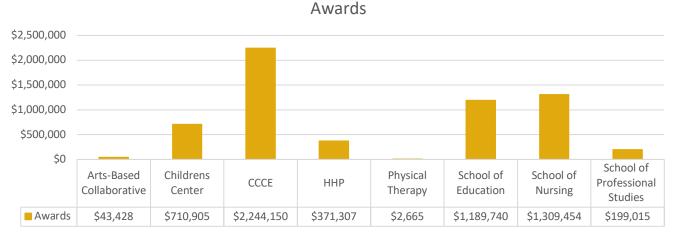




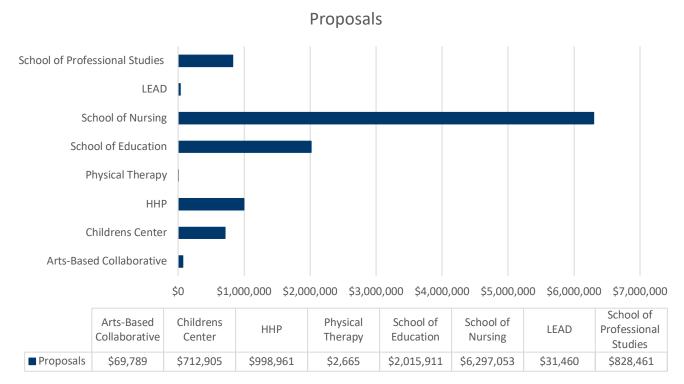
Dr. Hong Qin (Computer Science and Engineering), Dr. Ziwei Ma (Mathematics), Dr. Azad Hossain (Biology), Dr. Gregory Heath (Health and Human Performance) and Dr. Nagwan Zahry (Communication) secured \$1M from the National Science Foundation's Predictive Intelligence for Pandemic Prevention program. Their Phase I project aims to use machine learning to predict potential COVID-19 mutations and identify whether these mutations could lead to a future pandemic. This award positions Dr. Qin and his team to pursue expanded support for a Phase II, center-scale award.

# COLLEGE OF HEALTH, EDUCATION, AND PROFESSIONAL STUDIES

## AWARDS AND PROPOSALS BY DEPARTMENT



CCCE: Center for Community and Career Education; HHP: Health and Human Performance



HHP: Health and Human Performance; LEAD: Learning and Leadership Programs

# COLLEGE OF HEALTH, EDUCATION, AND PROFESSIONAL STUDIES

## **CHEPS Spotlights**



GEAR UP, led by **Dr. Hunter Huckabay**, received over **\$740K** in funding from the U.S. Department of Education. GEAR UP supports after-school programs, summer programs, mentorships, and workshops for high school students in Hamilton County. This continuation funding is part of a 7-year, \$4.5M award from the U.S. Department of Education to ensure students graduate from high school with the academic preparation, skills and knowledge to succeed in postsecondary programs.

**Dr. Kristina Wick (School of Nursing)** received **\$744K** in funding from the Tennessee Department of Health. This funding represents the second installment of a \$1.5M award to address COVID-19 health disparities among high-risk and underserved populations. Through this statewide initiative, Dr. Wick and her team have partnered with a number of stakeholders to host 28 events providing outreach, resources and education to more than 1,800 faith leaders, volunteers and congregation members, empowering Tennesseans to support, advocate and care for those impacted by Alzheimer's disease and related dementias.





**Dr. Amir Alakaam (Health and Human Performance)** received \$332K in funding from the Tennessee Department of Health for the project entitled, "Developing a Curriculum for Public Health Workforces in Tennessee." Through this project, his team is developing a set of training materials and modules focused on public health and nutrition to help advance the knowledge and skills of public health professionals and providers in the state of Tennessee. The curriculum will help practitioners integrate evidence-based health interventions into practice and provide more culturally informed care.

# GARY W. ROLLINS COLLEGE OF BUSINESS

## AWARDS AND PROPOSALS BY DEPARTMENT



## **RCOB** Spotlight



**Dr. Stephan Davenport (Accounting)** received two awards totaling \$12.5K from the Internal Revenue Service via a collaborative partnership with the Urban League of Greater Chattanooga. With this funding, Dr. Davenport engaged students enrolled in his Introduction to Preparing Taxes class in experiential learning. Dr. Davenport and his students have implemented an IRS Volunteer Income Tax Assistance site at UTC, helping low-income and underserved members of our community prepare and submit their annual taxes. This partnership with the Urban League exemplifies the benefits of community-based learning for our students and community.

# **FACULTY ENGAGEMENT**

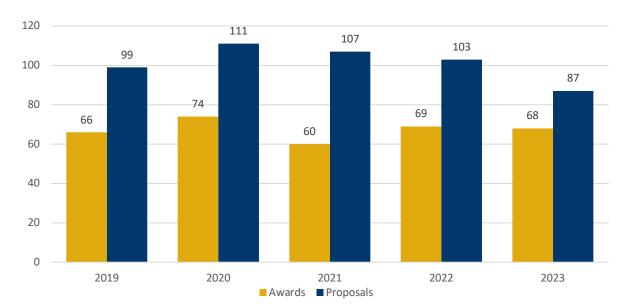
#### UTC faculty and staff make critical contributions to scholarship and learning on campus...and beyond!

**Dr. Jennifer Ellis (School of Education)** has been appointed as a program director in the Directorate for STEM Education at the National Science Foundation for the third consecutive year. She is the co-director of the Robert Noyce Teacher Scholarship Program and the Scholarships in Science, Technology, Engineering and Mathematics (S-STEM) program. Both programs fund scholarships for students at postsecondary institutions across the US.





**Dr. Mina Sartipi (CUIP)** was selected for a joint faculty appointment with the Oak Ridge National Lab and continued her mobility and transportation research activities working with sponsors such as TDOT, ORNL, DOE, the City of Chattanooga, the Enterprise Center, corporate sponsors and CARTA.



## UNIQUE LEAD PRINCIPAL INVESTIGATORS

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## **FACULTY ENGAGEMENT**



Dr. Hong Qin (Computer Science and Engineering) and Dr. Jin Wang (Mathematics) were one of only a handful of teams selected for a one-year AI Research Seed grant from the University of Tennessee. The exploratory project aims to develop a new modeling technique to advance the field of epidemiology and promote global health equity.

**Dr. Tatiana Allen (Chemistry and Physics)** received access to the Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National Laboratory to facilitate her pulsed laser deposition research on film materials.



#### Best of luck to UTC's FY23 NSF CAREER proposal submission cohort!

The **NSF CAREER** program supports the research aspirations of early career faculty in pursuing intellectually rigorous and impactful scholarship in NSF-eligible areas of inquiry. The following faculty spent the better part of summer 2023 preparing for submission:



**Dr. Murat Barisik** (Mechanical Engineering) requested \$993,029 for a project entitled, "Molecular-level characterization of gas and solid heat conduction in aerogels."

**Dr. Hamdy Ibrahim** (Mechanical Engineering) requested \$556,776 for a project entitled, "Hybrid Surface Coating Toward Corrosion-Controlled Magnesium-Based Implants."





**Dr. Jared Pienkos** (Chemistry and Physics) requested \$687,955 for a project entitled, "In support of N-O transition metal chemistry: utilizing the N-oxide functional group to tune the properties of coordination complexes."

**Dr. Reetesh Ranjan** (Mechanical Engineering) requested \$614,506 for a project entitled, "Towards Physics-Based Modeling of Transition to Turbulence in Wall-Bounded Flows with Predictive Capabilities."





**Dr. Khalid Tantawi** (Engineering Technology and Management) requested \$690,412 for a project entitled, "Characterization of the Electrophysiology of the Lipid Bilayer Membranes of Cancer Cells in the Post-Exposure to Chemotherapy."

# **FACULTY ENGAGEMENT**

#### Congratulations to UTC's Open Publishing Support Fund FY23 Recipients!

**The Open Publishing Support Fund** is an internal fund that assists with expenses related to article processing charges for eligible peer-reviewed, open access journals.



**Dr. Erkan Kaplanoglu (Engineering Management and Technology)** is a co-author on the article entitled, "Comparative Design Improvement of the Growing Rod for the Scoliosis Treatment Considering the Mechanical Complications," which was published in *IEEE Access*.

**Dr. Gary Wilkerson (Health and Human Performance)** is the lead author on the article entitled, "Subtle Impairments of Perpetual-Motor Function and Well-Being," which was published in *Frontiers in Sports and Active Living*.





**Dr. Jennifer Hogg (Health and Human Performance)** is the lead author on the article entitled, "Changes in dual-task cognitive performance elicited by physical exertion vary with motor task," which was published in *Frontiers in Sports and Active Training*.

**Dr. John Graef (Mathematics)** is the lead author on the article entitled, "The stability of nonlinear delay integro-differential equations in the sense of Hyers-Ulam Nonautonomous Dynamical systems," which was published in *Nonautonomous Dynamical Systems*.





**Dr. John Lee (Chemistry and Physics)** is a co-author on the data report entitled, "N-(2,3,5,6-Tetrafluoropyridin-4-yl)formamide," which was published in *International Union of Crystallography*.

**Dr. Max Jordon (Physical Therapy)** is the lead author on the article entitled, "Duration of Electro-Dry Needling Does Not Change the Pain Response Following Repeated Nociceptive Thermal Stimuli in Asymptomatic Individuals: A Randomized Intervention Study," which was published in the *Journal Archives of Rehabilitation Research and Clinical Translation*.



## Thank you to our research partners!



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### CHATTANOOGA Office of Research and Sponsored Programs



Ashley Ledford, Terri Bearbower, Meredith Perry, Lindsey Nabors, David Veazy, Todd Moore-Doman and Angie Morelock

**Meredith Perry** 

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# APPENDIX A: Awards and Proposals by Lead PI

Lead Investigator	Total Award	Total Proposal	Lead Investigator	Total Award	Total Proposal
Alaakam, Amir	Amount \$332,500	Amount \$74,995	Hayes, Loren	Amount \$74,977	Amount
•	\$43,428		•	\$74,977	\$74,798
Allen, Laurie Bailey, Andrew	\$43,428 \$8,983	\$2,066,782 \$8,983	Hickey, Amber Hill, Linda	\$24,979	\$100
Barbee, Meredith	<i><b>J</b>0,303</i>	\$55,00	Hogg, Jennifer	ŞZ <del>4</del> ,373	\$767,966
	¢100.000			625 000	<i>9707,900</i>
Barbosa, Jose	\$100,000	\$632,748	Hood, Ralph	\$35,000	6742.005
Barisik, Murat	6C7 407	\$1,624,993	Hornsby, Cindy	\$710,905	\$712,905
Bathi, Jejal Reddy	\$67,497	\$12,500	Hubbard, Latisha	4-10	\$24,998
Bhosale, Rahul		\$143,305	Huckabay, Hunter	\$749,776	
Booth, Jamie	\$6,500	\$6,500	Ibrahim, Hamdy		\$1,518,740
Boykin, Twyler	\$297,601		Jordon, Max	\$1,000	\$1,000
Bridges, Keith	\$545,181		Kaplanoglu, Erkan	\$5,000	\$344,072
Brock-Hon, Amy		\$25,000	Kendall, Catherine	\$5,815	\$34,530
Carver, Ethan	\$92,000		Kim, Seong Dae		\$556,036
Craddock, Hill	\$11,510	\$11,510	Kong, Lingju		\$246,077
Cunningham, Christopher	\$67,773	\$67,773	Lane, Bryan	\$109,543	\$109,453
Danquah, Michael		\$2,045,409	Laseter, Melissa	\$691,480	
Davenport, Stephan	\$12,500	\$12,500	Leasi, Francesca		\$657,016
DeVries, Stephanie	\$2 <i>,</i> 770	\$28,769	Lee, Belinda		\$374,217
Doolittle, Amy		\$40,000	Li, Tian		\$799,935
Doyle, Kevin	\$4,200		Liang, Yu		\$98,273
Dungey, Keenan	\$11,500	\$13,500	Loveless, Daniel	\$320,943	\$1,511,927
Ellington, Lucien	\$118,753	\$128,427	Lynberg, Jennifer	\$72,571	\$1,534,311
Ellis, Jennifer	\$131,307	\$131,307	Ma, Ziwei		\$299,994
Eltom, Ahmed	\$1,200	\$1,200	Mahtabi, Mohammad		\$711,581
Erdemir, Gokhan		\$111,372	Mann, Reinhold		\$30,089
Ferdoush, Jannatul		\$5,000	Mauldin, Marcus	\$19,999	\$39,108
Fomunung, Ignatius	\$64,858	\$3,743,230	McAllister, Deborah	\$52 <i>,</i> 555	
Ford, Dawn	\$39,812	\$157,005	Mix, Charlie	\$103,239	\$548,608
Freeze, John		\$103,779	Murillo, Krysta	\$42,400	\$100,000
Gao, Lani	\$59,344	\$29,672	Myers, Elizabeth	\$1,000	\$1,000
Giles, David		\$411,674	O'Brien, Elizabeth	\$189,000	\$753,931
Guo, Zibin	\$125,581		Onyango, Mbakisya	\$220,025	\$450,517
Hanks, June	\$665	\$665	Owino, Joseph	\$35,125	\$148,427
Harris, Austin	\$253,119	\$253,118	Pack, Daniel	\$188,709	\$1,839,680

Lead Investigator	Total Award Amount	Total Proposal Amount	Lead Investigator	Total Award Amount	Total Proposal Amount
Persons, Brooke	\$153,600	\$62,499	Smith, Morgan		\$1,484,701
Policastro, Christina	\$36,117	\$36,117	Stein, Benjamin	\$373,257	\$50,882
Pool, Tracye		\$10,000	Tantawi, Khalid		\$217,310
Qin, Hong	\$1,124,969	\$449,988	Taylor, Jessica		\$31,460
Ranjan, Reetesh	\$159,427	\$1,220,407	Tucker, John		\$12,251
Reising, Donald	\$231,644	\$2,729,504	Vann, Karen	\$277,375	
Resnick, Irven		\$199,996	Varol, Serkan		\$625,971
Roache, Amber	\$536,223	\$2,553,525	Waldrop, Rachel	\$4,985	\$5,000
Romagni, Joanne	\$1,672,083	\$1,672,083	Walker, Ruth	\$500	\$500
Runyon, Carolyn		\$144,049	Wang, Jin		\$2,273,597
Ryan, Erin	\$3 <i>,</i> 630	\$4,905	Wang, Yingfeng		\$2,751,449
Sartipi, Mina	\$297,166	\$2,688,625	Watson, Will	\$54,383	
Shaw, Joey	\$55 <i>,</i> 383	\$39,248	Wick, Kristina	\$744,252	\$3,738,428
Shelton, Jill	\$6,494		Wingate, Kimberly	\$772,154	\$121,866
Shi, Yunye	\$196,995	\$196,995	Xie, Mengjun		\$2,858,487
Simms-Roberson, Priscilla	\$4,000	\$5,000	Yang, Li	\$192,651	\$192,651
Skjellum, Anthony	\$373,813	\$2,763,294	Yang, Sungwoo		\$1,199,078
Smith, Christine	\$500,000	\$500,000	Yang, Wang Yong		\$317,500
			Yuan, Yukun		\$34,511
			Grand Total	\$14,197,940	\$57,053,665

# APPENDIX B: Awards by Month

### **JULY 2022**

Dr. Tatiana Allen (Chemistry and Physics) has been granted the use of equipment at the Oak Ridge National Laboratory for the project entitled, "Pulsed Laser Deposition of Fe-Tb-Dy Amorphous Oxide Semiconductor Films."

Dr. John Ellington and Jeffrey Melnik (School of Education) have received \$27,817 from the Freeman Foundation for the project entitled, "Freeman Foundation Teacher Professional Development Programs."

Dr. Ignatius Fomunung (Civil and Chemical Engineering) and Dr. Trevor Elliott (Mechanical Engineering) have received \$19,964 from TPT Technologies, Inc. for the project entitled, "Demonstration, Testing, and Refinement of a Sustainable, Non-Stop, Autonomous, Affordable, Personalized (SNAAP) Transportation System."

Dr. Lani Gao (Mathematics) has received \$29,672 from TeleSpecialists for the project entitled, "Graduate Assistantship via Data Analysis."

Dr. Elizabeth O'Brien (School Psychology) has received \$189,000 from the Tennessee Department of Education for the project entitled, "School Psychology Intern Program."

Dr. Zibin Guo (Social, Cultural and Justice Studies) has received \$5,581 from the Tuscaloosa Department of Veteran's Affairs for the project entitled, "Wheelchair/Adaptive Tai Chi Chuan Training for Tuscaloosa VAMC."

Dr. Linda Hill (School of Nursing) has received \$24,979 from the Health Resources and Services Administration for the project entitled, "2020 HRSA Nurse Anesthetist Traineeships."

Dr. Krysta Murillo, Dr. Charlotte Ellington and Dr. Renee Murley (School of Education) have received \$42,400 from the Tennessee Higher Education Commission for the project entitled, "Each One Reach One."

Dr. Mbakisya Onyango, Dr. Joseph Owino, Dr. Ignatius Fomunung, Dr. Jejal-Reddy Bathi (Civil and Chemical Engineering) and Dr. Yu Liang (Computer Science and Engineering) have received \$220,025 from the Tennessee Department of Transportation for the project entitled, "The Effect of Extreme Climate Shifts to Pavement Infrastructure in Tennessee."

Dr. Hong Qin (Computer Science and Engineering), Dr. Gregory Heath (Health and Human Performance), Dr. Azad Hossain (Biology, Geology and Environmental Science), Dr. Nagwan Zahry (Communication) and Dr. Ziwei Ma (Mathematics) have received \$1,000,000 from the National Science Foundation for the

project entitled, "PIPP Phase I: Develop and evaluate probabilistic frameworks to predict and prevent future coronavirus pandemics."

Dr. Amber Roache, Dr. Priscilla Simms-Roberson and Dr. Jenny Holcombe (School of Nursing) have received \$536,223 from the Health Resources and Services Administration for the project entitled, "Clinical-Academic Network for Developing Leaders."

Will Watson (Center for Professional Education) has received \$54,382 from the Tennessee Office of Criminal Justice Programs for the project entitled, "Southeastern Leadership Academy."

Dr. Kristi Wick (School of Nursing) and Dr. Jessica Freeman (Communication), in collaboration with the Tennessee Department of Health have received \$744,252 from the Centers for Disease Control and Prevention for the project entitled, "National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved, Including Racial and Ethnic Minority Populations and Rural Communities."

### AUGUST 2022

Dr. Jose Barbosa (Biology, Geology and Environmental Science), Dr. Sandra Affare (Engineering Management and Technology), Dr. Melissa Powell (Health and Human Performance) and Dr. Angelique Ramnarine (Mathematics) have received \$100,000 from the National Institute of Food and Agriculture for the project titled, "Agriculture and Nutrition for Girls while Encouraging Leadership and STEM-Enrichment (ANGELS)."

Jamie Booth (International Education) has requested and received \$6,500 from the University Studies Abroad Consortium for the project entitled, "USAC Ambassador Program."

Twyler Boykin (Center for Community Career Education) has received \$297,601 from the U.S. Department of Education for the project entitled, "University of Tennessee at Chattanooga Upward Bound Math and Science."

Dr. Keith Bridges (Center for Community Career Education) has received \$232,050 from the U.S. Department of Education for the project entitled, "Northwest Georgia Educational Opportunity Center NWGEOC."

Dr. Keith Bridges (Center for Community Career Education) has received \$313,131 from the U.S. Department of Education for the project entitled, "Southern Appalachian Educational Opportunity Center (SAEOC)."

Dr. Ethan Carver (UTC Graduate School), in collaboration with faculty mentors Dr. Jennifer Boyd and Dr. Loren Hayes (Biology, Geology and Environmental Science), have received \$92,000 from the National Science Foundation for the project entitled, "Graduate Research Fellowship Program (GRFP) Award."

Dr. Lucien Ellington (School of Education) has requested and received \$2,500 from The Jack Miller Center for Teaching America's Founding Principles and History for the project entitled, "2022 Constitution Day Lecture."

Dr. Dawn Ford and Emma Sampson (Health and Human Performance), in collaboration with the City of Chattanooga, have received \$14,061 from the Office of Minority Health for the project entitled, "UTC MPH Program Support of City of Chattanooga's CARE Coalition."

Cindy Hornsby (Children's Center), in collaboration with the Tennessee Department of Human Services, has requested and received \$141,246 from the U.S. Department of Health and Human Services for the project entitled, "Child Care Stabilization Funds— Battle Academy."

Cindy Hornsby (Children's Center) in collaboration with the Tennessee Department of Human Services, has requested and received \$215,206 from the U.S. Department of Health and Human Services for the project entitled, "Child Care Stabilization Funds— Brown Academy."

Dr. Hunter Huckabay, Shamira Freeman, Elizabeth Eaves, Michelle Oliver, Keith Mayes (Center for Community Career Education) and Dr. Sarah Sandefur (School of Education) have received \$749,776 from the U.S. Department of Education for the project entitled, "UTC GEAR UP Project."

Melissa Laseter (Center for Community Career Education) has received \$338,961 from the U.S. Department of Education for the project entitled, "UTC Student Support Services Program."

Dr. Brooke Persons (Social, Cultural and Justice Studies) has requested and received \$20,452 from the Virgin Islands Water and Power Authority for the project entitled, "Feeder 7E Underground Archaeological Monitoring Project in Cruz Bay, St. John, U.S. Virgin Islands."

Dr. Brooke Persons (Social, Cultural and Justice Studies), in collaboration with the University of Tennessee at Knoxville, has received \$133,148 from the Virgin Islands Water and Power Authority for the project entitled, "Feeder 7E Underground Archaeological Monitoring Project in Cruz Bay, St. John, U.S. Virgin Islands."

Dr. Joey Shaw (Biology, Geology and Environmental Science) has received \$26,500 from the Association of Southeastern Biologists for the project entitled, "Wildflower Pilgrimage Graduate Assistant."

Dr. Tony Skjellum (SimCenter), in collaboration with Boston University, has received \$16,000 from the National Science Foundation for the project entitled, "Intelligent Communication Fabrics to Facilitate Extreme Scale Computing."

Dr. Tony Skjellum (SimCenter) has received \$40,000 from the Sandia National Lab for the project entitled, "ATSE Spack."

Karen Vann (Center for Community Career Education) has received \$277,375 from the U.S. Department of Education for the project entitled, "UTC Talent Search."

### SEPTEMBER 2022

Dr. Amir Alakaam (Health and Human Performance) has received \$332,500 from the Tennessee Department of Health for the project entitled, "Developing a Curriculum for Public Health Workforces in Tennessee."

Dr. Christopher Cunningham (Psychology) has received \$45,096 from Peak Performance, Inc. for the project entitled, "Support for the Training and Development Efforts of the Smart Factory Institute."

Dr. Jennifer Ellis (School of Education) has received \$131,307 from the National Science Foundation for the project entitled, "NSF Program Director Assignment."

Dr. Ahmed Eltom (Electrical Engineering) has requested and received \$1,200 from the Electric Power Research Institute for the project entitled, "GridEd Tech Transfer Workshop."

Dr. Zibin Guo (Social, Cultural and Justice Studies) and Dr. Liz Hathaway (Health and Human Performance) have received \$120,000 from the U.S. Department of Veteran's Affairs for the project entitled, "Adaptive / Wheelchair Tai Chi Chuan."

Dr. Marcus Mauldin (Political Science and Public Service) has received \$19,999 from the Tennessee Higher Education Commission for the project entitled, "PSPS 1030 - Controversies in Public Policy Open Source Book."

Charlie Mix (IGTLab) has received \$50,000 from Cherokee National Forest for the project entitled, "Cherokee NF Road Digitizing using Lidar."

Charlie Mix and Nyssa Hunt (IGTLab) have received \$2,825 from Sudbury Valley Trustees for the project entitled, "SVT Conservation Plan— Story Map Development."

Dr. Hong Qin (Computer Science and Engineering) has received \$50,000 from the National Academy of Medicine for the project entitled, "Uncovering molecular mechanisms of aging clocks with deep learning."

Dr. Mina Sartipi (CUIP) and Dr. Chandra Ward (Social, Cultural and Justice Studies), in collaboration with Chattanooga Area Regional Transportation Authority, have received \$42,248 from the U.S. Department of Energy for the project entitled, "AI-Engine for Optimizing Integrated Service in Mixed Fleet Transit Operations."

Dr. Benjamin Stein (Chemistry and Physics) has received \$322,375 from the National Institutes of Health for the project entitled, "Characterization of non-canonical regulatory pathways in the Caulobacter NtrYX signaling system."

Dr. Kim Wingate, Dr. Allen Pratt, Dr. Jason Gordon and Dr. Jennifer Lynberg (School of Education) have received \$121,866 from the Tennessee Department of Education for the project entitled, "Grow Your Own: Teacher Occupation Apprenticeship."

Dr. Li Yang (Computer Science and Engineering) has received \$192,651 from the National Science Foundation for the project entitled, "NSF Program Director Assignment."

### **OCTOBER 2022**

Dr. Jejal Reddy Bathi (Civil and Chemical Engineering) has received \$30,000 from the U.S. Geological Survey for the project entitled, "Tennessee Water Resources Research Center Program."

Dr. Christopher Cunningham (Psychology) has requested and received \$22,677 from an industry sponsor for research related to persistence and retention within the nursing workforce.

Dr. Ignatius Fomunung and Dr. Joseph Owino (Civil and Chemical Engineering), in collaboration with Tennessee State University, have received \$24,930 from the Tennessee Department of Transportation for the project entitled, "Investigation of Towing Regulation in Tennessee."

Erin Ryan and Carolyn Runyon (Library) have received \$3,630 from the Tennessee State Library and Archives for the project entitled, "Part Time Archivist/Student Assistant."

Dr. Mina Sartipi and Dr. Osama Osman (CUIP) have received \$100,000 from the Tennessee Department of Transportation for the project entitled, "Feasibility of Real-Time Infrastructure-Driven Intervention for Improving Pedestrian Safety."

Dr. Mina Sartipi (CUIP) has received \$37,367 from Oak Ridge National Laboratory for the project entitled, "Traffic State Estimation, Detection, and Prediction for City-Level Energy Efficient Operation."

Dr. Joey Shaw (Biology, Geology and Environmental Science) has received \$28,883 from the Alabama Department of Conservation and Natural Resources for the project entitled, "A Rare and Endangered Vascular Plant Inventory of Apios priceana and Clematis morefieldii within the Walls of Jericho, Alabama."

Dr. Tony Skjellum (SimCenter), in collaboration with the University of New Mexico, has received \$237,501 from the National Nuclear Security Administration for the project entitled, "Center for Understandable, Performant Exascale Communication Systems."

Dr. Kim Wingate, Dr. Jennifer Lynberg and Dr. Jason Gordon (School of Education) have received \$650,288 from the Tennessee Department of Education for the project entitled, "Grow Your Own: Teacher Occupation Apprenticeship."

### NOVEMBER 2022

Dr. Stephan Davenport (Accounting), in collaboration with the Urban League of Greater Chattanooga, Inc, has requested and received \$2,500 from the Internal Revenue Service for the project entitled, "2021-22 IRS/Volunteer Income Tax Assistance Matching Grant Program."

Dr. Stephan Davenport and Dr. Spencer Usrey (Accounting), in collaboration with the Urban League of Greater Chattanooga, Inc., have requested and received \$10,000 from the Internal Revenue Service for the project entitled, "2022-2023 IRS/Volunteer Income Tax Assistance Matching Grant Program."

Dr. Deborah McAllister (School of Education), in collaboration with Vanderbilt University, has received \$35,555 from the National Aeronautics and Space Administration for the project entitled, "Elementary and Middle Grades STEM."

Dr. Christina Policastro (Social, Cultural and Justice Studies) has received \$36,117 from the Tennessee Coalition to End Domestic and Sexual Violence for the project entitled, "Tommy Burks Victim Assistance Academy 2023."

Dr. Priscilla Simms-Roberson (School of Nursing) has received \$4,000 from CVS Health for the project entitled, "2022-2023 CVS Health Foundation FNP/PA Scholarship."

### DECEMBER 2022

Dr. Dawn Ford and Emma Sampson (Health and Human Performance), in collaboration with the City of Chattanooga, have received \$14,263 from the Office of Minority Health for the project entitled, "UTC MPH Program Support of City of Chattanooga's CARE Coalition."

Dr. Ralph Hood and Matthew Durham (Psychology), in collaboration with the Universitat Bielefeld, have received \$35,000 from the John Templeton Foundation for the project entitled, "Faith Development Longitudinal Study Part Three."

Drs. Erkan Kaplanoglu and Ahad Nasab (Engineering Management and Technology) have received \$5,000 from the University of Tennessee Research Foundation for the project entitled, "Wearable Device for Upper Extremity Essential Tremor."

Dr. Daniel Loveless (Electrical Engineering) has received \$172,943 from the Defense Threat Reduction Agency, as a subaward from a partner university, for the project entitled, "Fundamental Research in Radiation Effects under The IIRM Alliance."

Dr. Mina Sartipi (CUIP) has requested and received \$68,044 from the Oak Ridge National Laboratory for the project entitled, "ORNL Joint Faculty Appointment."

#### **JANUARY 2023**

Dr. Lucien Ellington and Jeffrey Melnik (School of Education) have received \$88,436 from the Association for Asian Studies for the project entitled, "Education About Asia Journal 2023."

Dr. Dawn Ford (Health and Human Performance) has received \$1,500 from the UNFoundation for the project entitled, "Testing Drinking Water for Lead: Child Care Center Incentives."

Dr. June Hanks and Dr. Betsy Myers (Physical Therapy) have received \$665 from the Tennessee Physical Therapy Association for the project entitled, "Validity and Reliability of Joint Motion Assessment Devices."

Dr. Max Jordon and Dr. Matthew Grubb (Physical Therapy) have received \$1,000 from the Tennessee Physical Therapy Association for the project entitled, "Short- and Intermediate-Term Effects of Electro Dry Needling on Temporal Summation."

Dr. Donald Reising (Electrical Engineering) has received \$99,973 from Tennessee Valley Authority for the project entitled, "DFR Waveform Analysis."

Rachel Waldrop (Art) has received \$4,985 from Tri-Star Arts for the project entitled, "As It Was Give(n) to Me: Stacy Kranitz."

### **FEBRUARY 2023**

Dr. Jejal Reddy Bathi (Civil and Chemical Engineering) has received \$12,500 from the City of Chattanooga for the project entitled, "Black Creek Stormwater Capture and Reuse."

Cindy Hornsby (Children's Center), in collaboration with the Tennessee Department of Human Services-Child Care Planning and Development, has requested and received \$141,247 from the Administration for Children and Families for the project entitled, "TDHS/HHS Child Care Stabilization Funds—Battle Academy."

Cindy Hornsby (Children's Center), in collaboration with the Tennessee Department of Human Services-Child Care Planning and Development, has requested and received \$213,206 from the Administration for Children and Families for the project entitled, "TDHS/HHS Child Care Stabilization Funds—Brown Academy." Catherine Kendall (Interior Design) has received \$5,815 from the Tennessee Board of Architectural and Engineering Examiners for the project entitled, "2023 TBAEE Grant for Equipment."

Dr. Daniel Loveless (Electrical Engineering), in collaboration with a privately-owned company, has received \$148,000 from a government entity for a research project.

Charlie Mix and Nyssa Hunt (IGTLab) have requested and received \$12,790 from Thrive Regional Partnership for the project entitled, "79 Towns Community Analysis Project."

Charlie Mix and Nyssa Hunt (IGTLab) have received \$8,058 from Tennessee Valley Authority for the project entitled, "Tennessee RiverLine Principal Partnership Funding Agreement 2021-2023."

Dr. Joseph Owino (Civil and Chemical Engineering) has received \$35,125 from the Tennessee Board of Architectural and Engineering Examiners for the project entitled, "2023 TBAEE Grant for Equipment."

Dr. Jill Shelton (Psychology) and Dr. Amy Doolittle (Social Work), in collaboration with Western Kentucky University, have received \$6,494 from the Tennessee Department of Health for the project entitled, "Bingocize: An evidence-based health promotion program to improve the quality of life of Tennessee certified nursing facility residents."

Dr. Tony Skjellum (SimCenter) has received \$30,000 from Sandia National Lab for the project entitled, "ATSE Spack."

Dr. Ruth Walker (Psychology), together with her student, Kathleen Hillman, have requested and received \$500 from the Psi Chi, International Honor Society in Psychology for the project entitled, "2022-23 Mamie Phipps Clark Diversity Research Grant."

#### **MARCH 2023**

Laurie Allen (Arts-Based Collaborative) has received \$13,428 from Hamilton County Public Schools for the project entitled, "Battle Academy – Arts 360 Project 2023."

Dr. Kevin Doyle (Counseling) has received \$4,200 from the Association for Assessment and Research in Counseling for the project entitled, "Understanding Clients' Experiences in Counseling: The Client Meaningful Experiences Scale."

Dr. Ignatius Fomunung (Civil and Chemical Engineering) and Dr. Trevor Elliott (Mechanical Engineering) have received \$19,964 from TPT Technologies for the project entitled, "Demonstration, Testing, and Refinement of a Sustainable, Non-Stop, Autonomous, Affordable, Personalized (SNAAP) Transportation System."

### **APRIL 2023**

Dr. Stephanie DeVries (Biology, Geology and Environmental Science), in collaboration with WaterWays, has received \$2,770 from the National Fish and Wildlife Foundation for the project entitled, "Stream and sediment collection and analysis for MyWaterWays.org."

Dr. Jennifer Lynberg (School of Education) has received \$12,000 from Chattanooga 2.0 for the project entitled, "Early Childhood Pilot Strategies Graduate Assistantship."

Dr. Jennifer Lynberg (School of Education) has received \$60,571 from the Tennessee Department of Education for the project entitled, "Tennessee Governors School Teacher Prep."

Dr. Christine Smith, Dr. Yasmine Key (University Health Services), Dr. Dawn Ford (Employee Wellness) and Laure Pou (Human Resources), in collaboration with the Tennessee Department of Health, have received \$500,000 from the Centers for Disease Control and Prevention for the project entitled, "Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases."

#### **MAY 2023**

Dr. Hill Craddock and Taylor Perkins (Biology, Geology and Environmental Sciences) in collaboration with the University of Missouri have received \$11,510 from the Missouri Department of Conservation for the project entitled, "Population genomics of diversity, adaptation, and gene flow in American chestnut."

Dr. Deborah McAllister (School of Education), in collaboration with Georgia Tech Research Institute, has received \$17,000 from the National Aeronautics and Space Administration for the project entitled, "Inspiring NASA's Next Generation through Building, Coding, and Machine Learning Missions (NASA ML-BOTS)."

Dr. Jejal Reddy Bathi (Civil and Chemical Engineering), Dr. Kidambi Sreenivas (Mechanical Engineering), and Dr. Stephanie DeVries (Biology, Geology and Environmental Sciences) have received \$24,997 from the Environmental Protection Agency for the project entitled, "Microplastics Sampling for Stormwater Management."

Dr. Lani Gao (Mathematics) has requested and received \$29,672 from TeleSpecialists for the project entitled, "Graduate Assistantship via Data Analysis."

Bryan Lane (WUTC) has requested and received \$109,543 from the Corporation for Public Broadcasting for the project entitled, "Radio Community Service Grant for WUTC."

Dr. Yunye Shi (Mechanical Engineering) has received \$196,995 from the US - NSF - National Science Foundation for the project entitled, "Characterizing and improving algae-derived biofuel droplet burning."

Dr. Belinda Lee (Center for Community Career Education) has received \$374,217 from the Department of Education for the project entitled, "University of Tennessee at Chattanooga Upward Bound Program."

### **JUNE 2023**

Dr. Keenan Dungey, Dr. Jared Pienkos, Dr. Benjamin Stein and Dr. Wang Yang Yong (Chemistry and Physics) have received \$11,500 from the American Chemical Society for the project entitled, University of Tennessee at Chattanooga site for the American Chemical Society Project SEED."

Dr. Andrew Bailey (Health and Human Performance) and Charlie Mix (IGTLab) have received \$8,983 from the Chattanooga Sports Committee for the project entitled, "Chattanooga Marathon."

Dr. Anthony Skjellum (SimCenter) has received \$34,312 from the Lawrence Livermore National Laboratory for the project entitled, "Leveraging Asynchronous Point-To-Point Communication in High-Performance Computing."

Melissa Laseter (Student Support Services) has received \$352,519 from the U.S. Dept. of Education for the project entitled, "UTC Student Support Services Program."

Dr. Benjamin Stein (Chemistry and Physics) has received \$50,882 from the National Institutes of Health for the project entitled, Characterization of non-canonical regulatory pathways in the Caulobacter NtrYX signaling system."

Charlie Mix and Nyssa Hunt (IGTLab) have received \$29,566 from a non-profit foundation for a research project.

Austin Harris (CUIP), Dr. Mina Sartipi (Computer Science and Engineering) and Charlie Mix (IGTLab) have received \$253,119 from the Tennessee Department of Transportation for the project entitled, "TDOT Technical Assistance Program."

Dr. Joanne Romagni (Vice Chancellor for Research and Dean of the Graduate School) has received \$850,566 from the Tennessee Higher Education Commission for the project entitled, "FY23 Center for Excellence in Applied Computational Science and Engineering."

Dr. Mina Sartipi (CUIP), Dr. Reinhold Mann (Assistant Vice Chancellor for Research), Dr. Osama Osman (CUIP) and Dr. Vahid Rasouli Disfani (Electrical Engineering) have received \$49,507 from the National Science Foundation for the project entitled, "Tennessee Technology-Enabled Advanced Mobility Engine."

Dr. Rateesh Ranjan (Mechanical Engineering) has received \$159,427 from the National Science Foundation for the project entitled, "ERI: Computational Investigation of High-Pressure Turbulent Premixed Flames - Physical Insights and Two-Scale Predictive Modeling."

Dr. Anthony Skjellum (SimCenter) has received \$16,000 from the National Science Foundation for the project entitled, "EAGER: Real-time Strategies and Synchronized Time Distribution Mechanisms for Enhanced Exascale Performance-Portability and Predictability."

Dr. Dawn Ford (Biology, Geology and Environmental Sciences) has received \$9,988 from Walden University for the project entitled, "The San Salvador Bahamas Community Garden Enrichment Program: A transdisciplinary approach to healthy living for social change."

