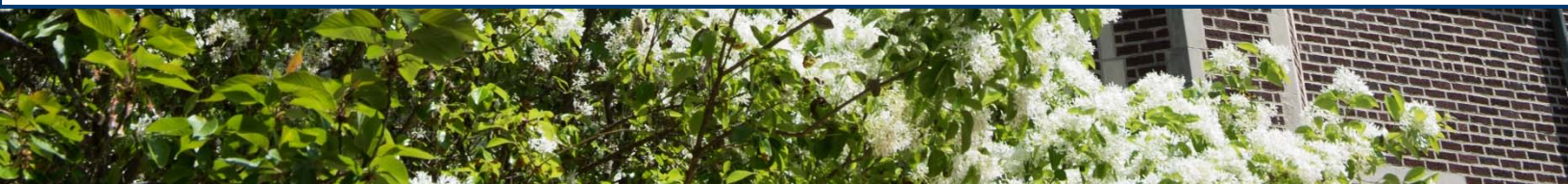




 THE UNIVERSITY OF TENNESSEE  
**CHATTANOOGA**  
OFFICE OF RESEARCH AND  
SPONSORED PROGRAMS

ANNUAL REPORT  
Fiscal Year 2018  
*July 1, 2017– June 30, 2018*



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## Welcome

The Office of Research & Sponsored Programs (ORSP) seeks to promote scholarship, research, creative activities, and engagement by encouraging and providing comprehensive support to faculty, staff, and students in the pursuit of sponsored programs. The breadth and diversity of sponsored activities undertaken by faculty, staff, and students throughout this past year make invaluable contributions towards UTC's mission and strategic plan goals.

The 2017-18 Office of Research and Sponsored Programs Annual Report highlights only a few of the many sponsored program successes realized by UTC faculty and staff. The campus continues to attract external resources that invest in our community, engage research and scholarship across academic disciplines, promote student opportunities, foster innovation through research and development, and grow our capacities in strategic and sustainable ways.

I would also like to recognize the efforts of the many faculty, staff, administrators, and community partners who enable and empower sponsored program accomplishments. Please join me in congratulating all of the Fiscal Year 2018 awardees for their successes and thanking those who have submitted proposals during Fiscal Year 2018. The skill, expertise, and good effort of so many on campus working together is an investment that will pay dividends for our shared future.



Joanne Romagni  
*Vice Chancellor for  
Research & Dean of the  
Graduate School*



# UTC SPONSORED PROGRAM HIGHLIGHTS

# 2018 Fast Facts



Re**SEARCH** Dialogues brought together more than 650 faculty, students, and staff across multiple disciplines

**\$48K**

In student research funding through the 2017 & 2018 SEARCH grant

**99**

External awards funded



National Science Foundation funded 14 faculty projects

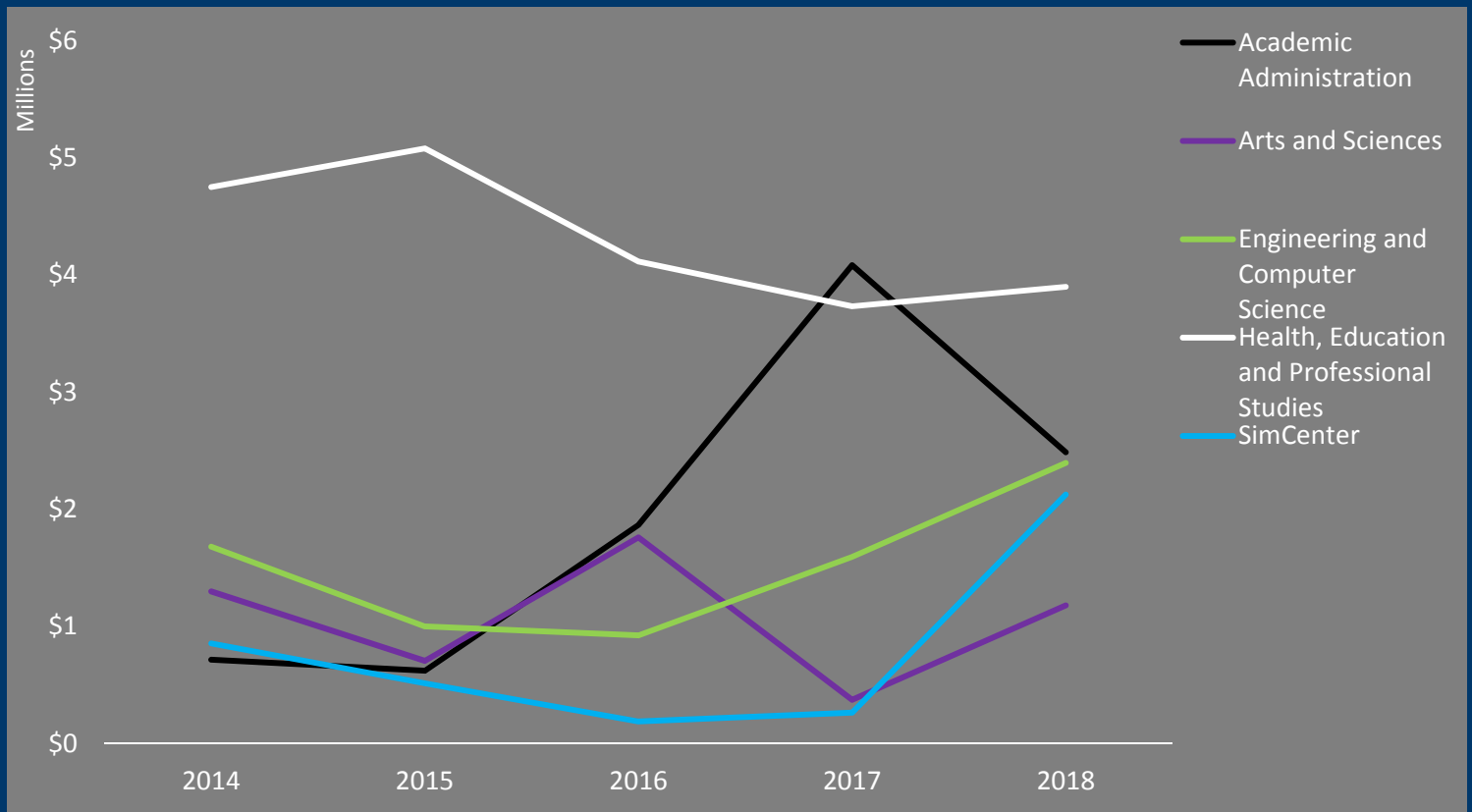


Research funding increased by 76% from FY17 to FY18

**55**

Faculty and staff received funding

# Five-Year Trends



*Over the past five years...*

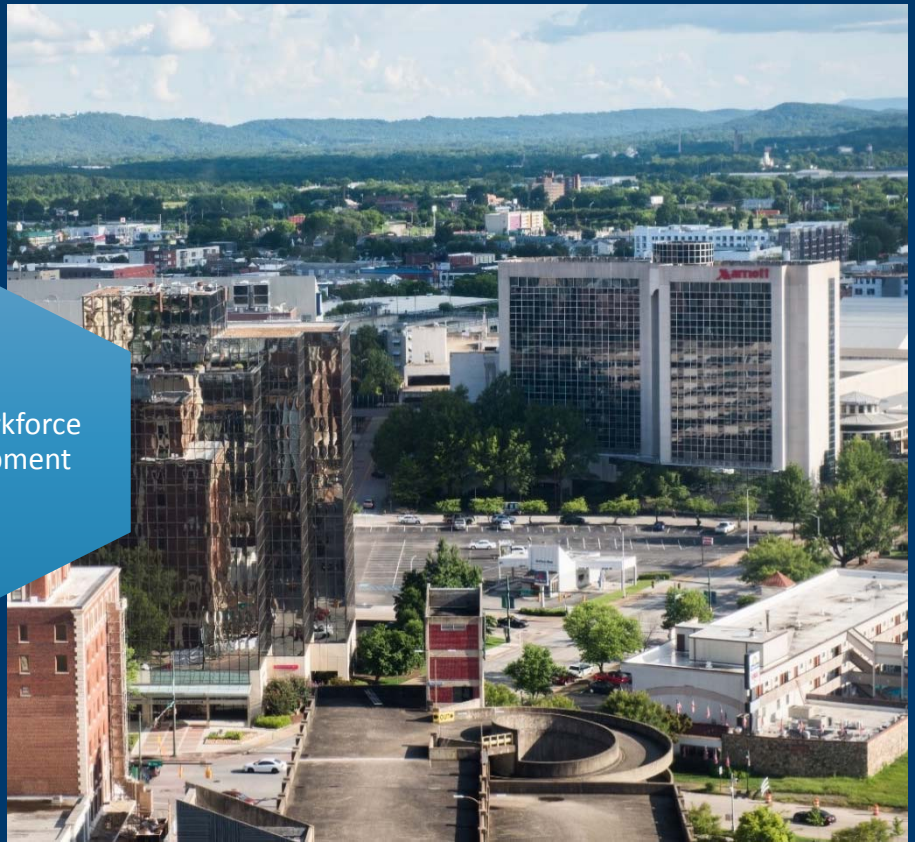
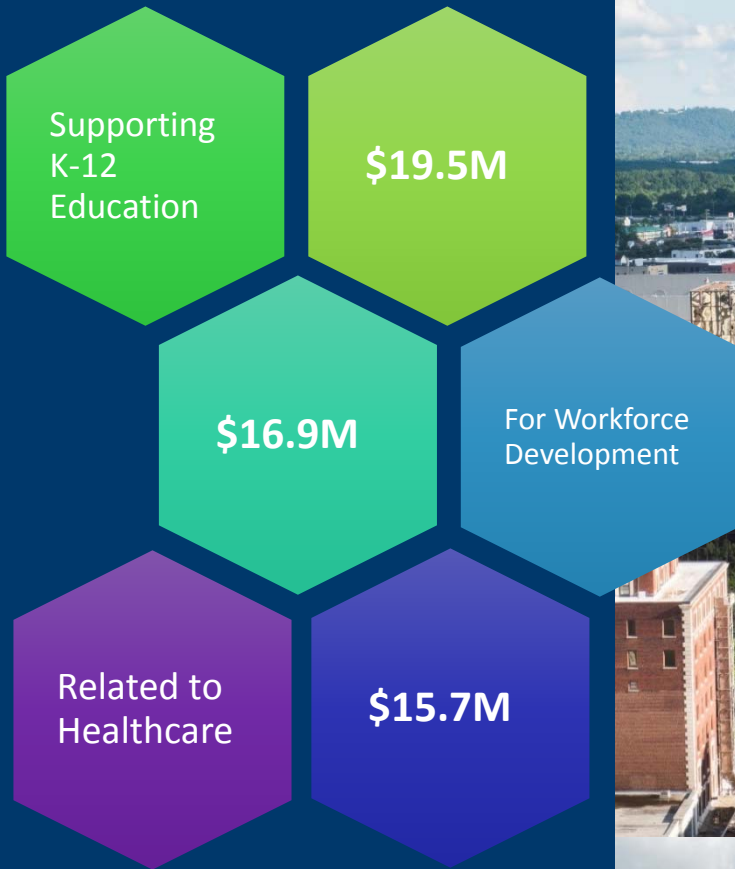
External funding increased by

**30%**

**36%**

of external funding was *research* focused

# Community Focused



Across all funding categories, external funding at UTC emphasizes projects that serve the greater Chattanooga community. Over the past five years, UTC faculty and staff have received **\$52 million** for projects related to K-12 education, workforce development and healthcare.



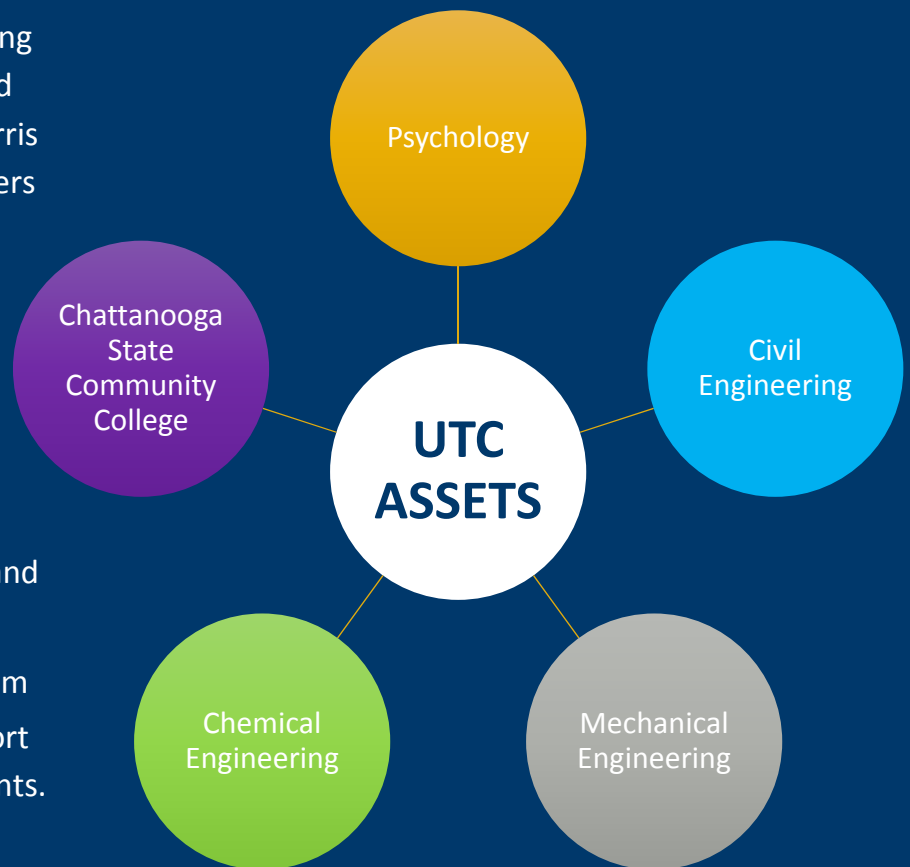
# Multidisciplinary Activities



UTC strives to increase multidisciplinary research through faculty collaboration and collaboration with other institutions. In 2018, Drs. Ignatius Fomunung and Weidong Wu (Civil Engineering), Dr. Gary McDonald (Mechanical Engineering), Dr. Bradley Harris (Chemical Engineering), and Dr. Kate Rogers (Psychology) partnered with Chattanooga State Community College to increase retention of engineering transfer students and decrease the time to graduate.

Through their project UTC-ASSETS (Academic Intervention, Social Supports and Scholarships for Engineering Transfer Students), they received **\$992,996** from the National Science Foundation to support the success of engineering transfer students.

This is just one example of how UTC is collaborating to support students and conduct innovative research.





# COLLEGE OF ARTS AND SCIENCES



# Arts & Sciences Highlights

Dr. Jennifer Boyd (Biology, Geology & Environmental Science) is leading a **\$1.1 million** multi-institutional award from the National Science Foundation entitled, "RUI: Collaborative Research: Reasons for Rarity? Exploring Acclimatory and Adaptive Constraints to Commonness." Through this award, Dr. Boyd has mobilized collaborating researchers from Austin Peay State University, Seton Hill University, the University of Georgia, and the University of Oxford.

About half of this award is coming directly to UTC so that Dr. Boyd and her students can compare the abilities of rare and common plant species of the Southeast to respond to environmental change.

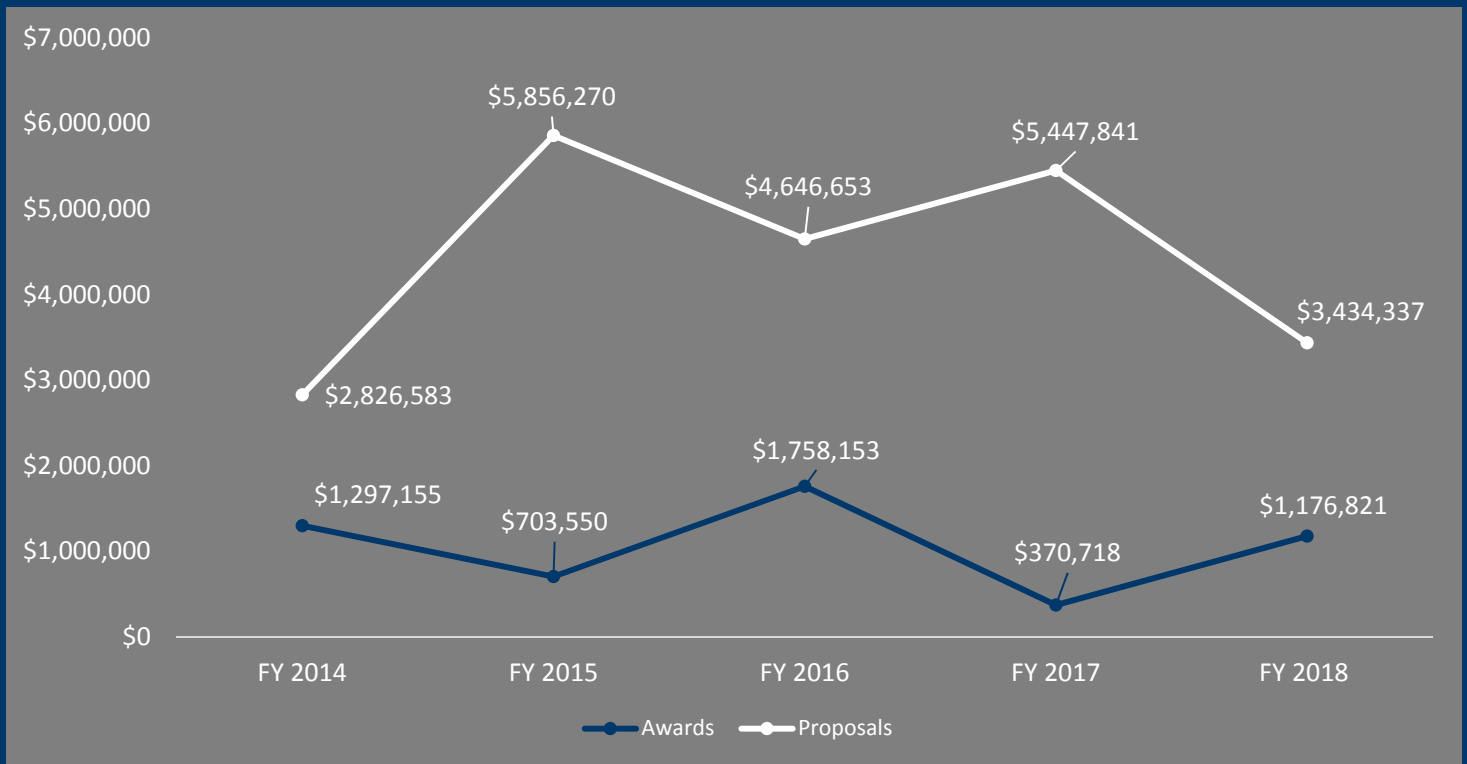


Funding increased by **217%** from 2017



of external funding was *research* focused

# Arts & Sciences Five-Year Trends



Over the past five years, the average external funding for College of Arts and Sciences is **\$1,061,279**. Average proposal dollars requested is **\$4,442,337**.

Total projects funded increased by

**13%**

**85%**

of the College of Arts & Sciences' departments attracted funding for UTC

# Arts & Sciences Spotlight: Long-Term Projects

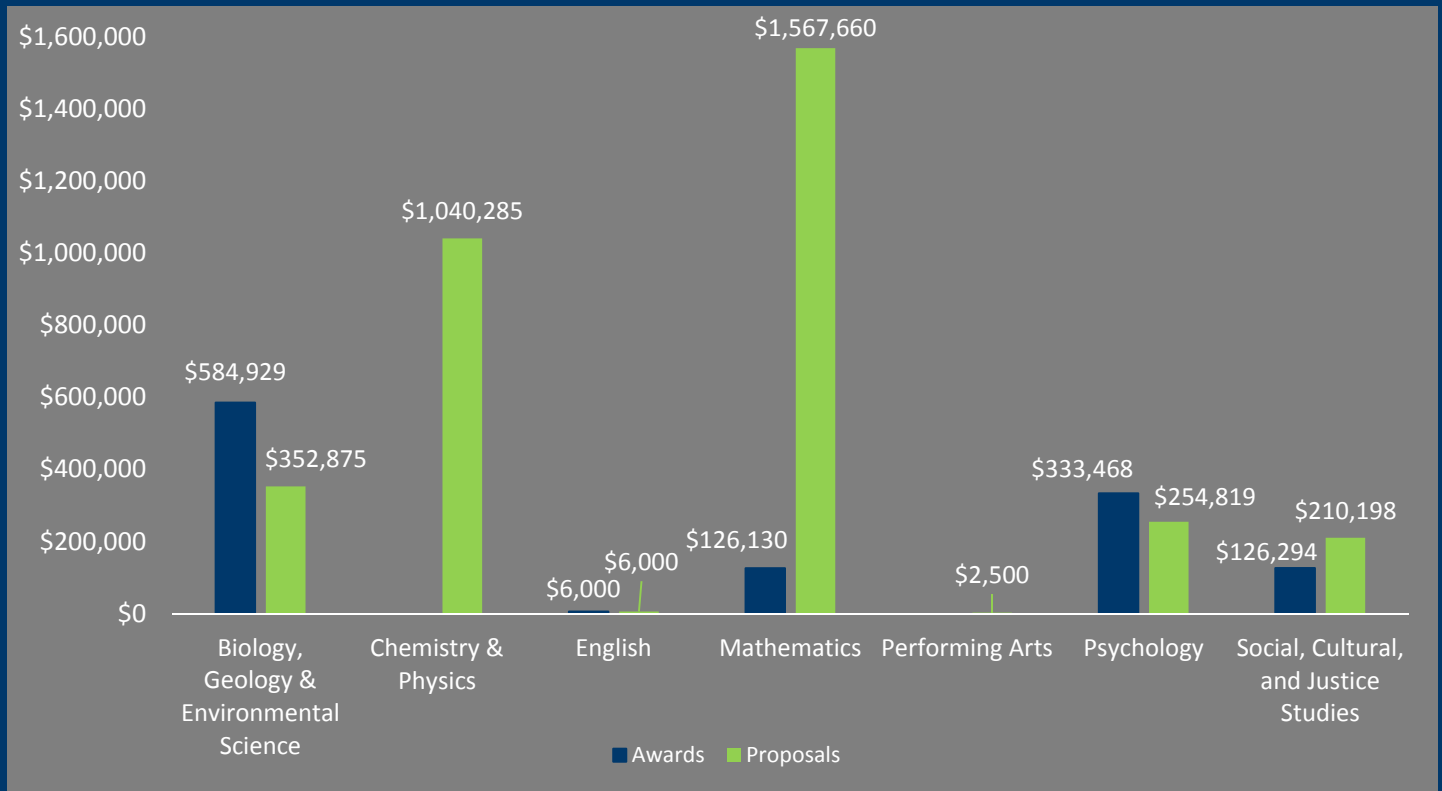
UTC highlights long-term research that contributes to our total award funding each year.

Dr. Zibin Guo in the Anthropology department (within Social, Cultural, and Justice Studies) has attracted an extension for his successful project entitled, “Wheelchair Tai Chi Chuan as an Adaptive Sport for Veterans with Ambulatory Disability” totaling **\$118,000** over a two-year period.

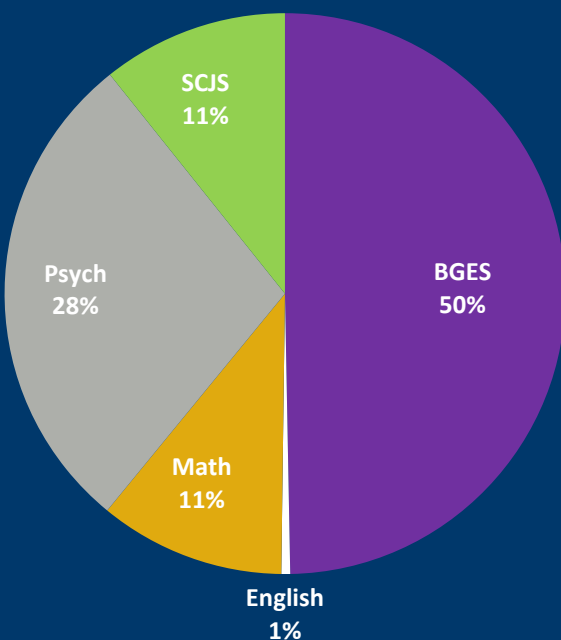
Through Dr. Guo’s research, veterans both locally and nationally have benefited from this adaptive sports program. He continues to develop training programs, conduct training workshops, and improves the program through an evaluation process.



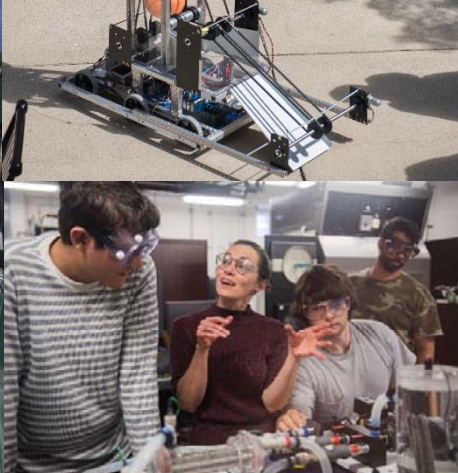
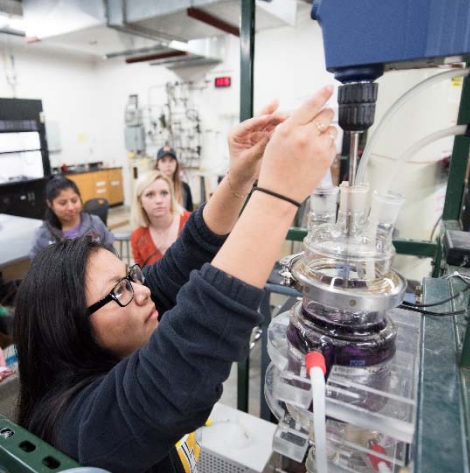
# Arts & Sciences Departmental Trends



Mathematics requested **\$1.5 million** in proposals. This has the potential to bring in more funding for the year to come.



Biology, Geology and Environmental Science attracted **50%** of College of Arts & Sciences' funding for 2018.



# COLLEGE OF ENGINEERING & COMPUTER SCIENCE

# CECS Highlights

FUTURE RESEARCH OPPORTUNITIES

64

proposals submitted in 2018

65%

of award dollars supported students through  
scholarships or research funds

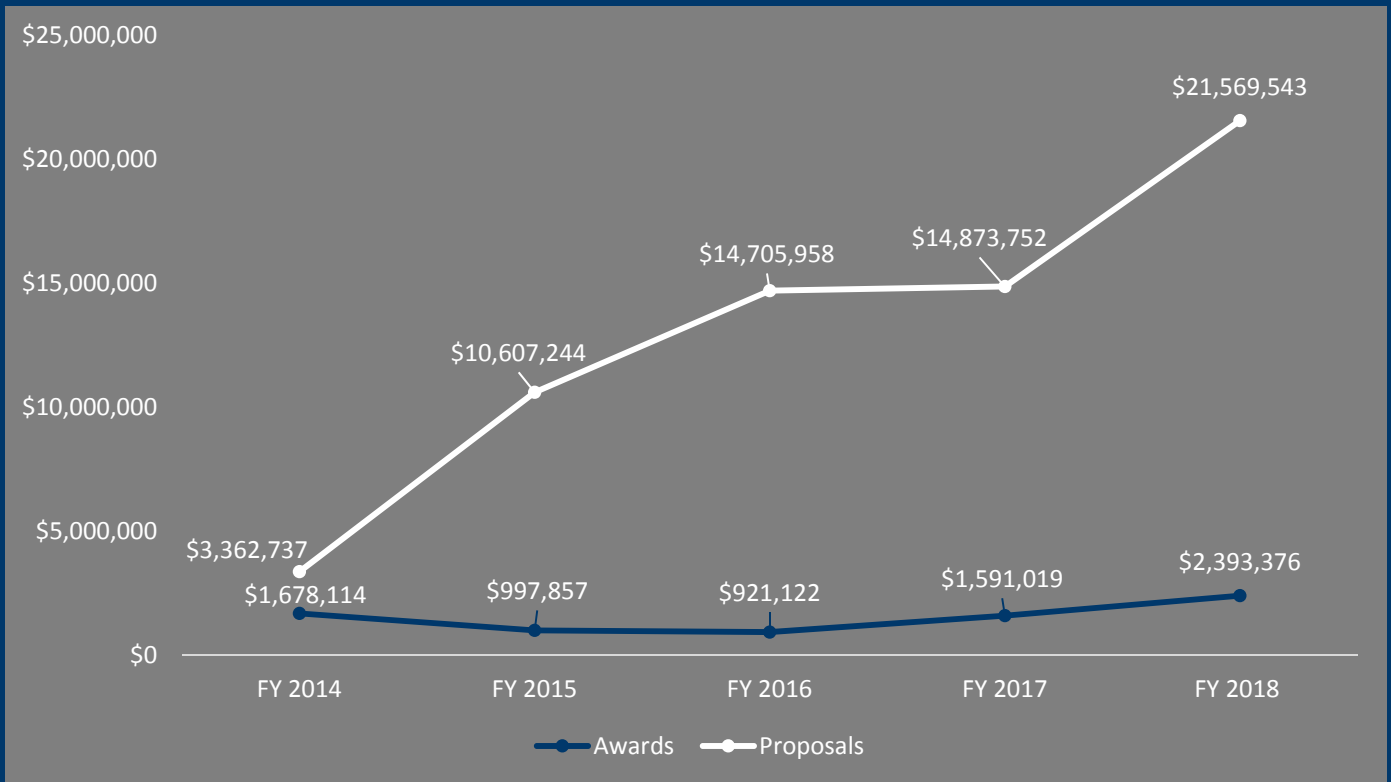
SCHOLARSHIP-FOCUSED FUNDING

Dr. Li Yang (Computer Science & Engineering) received **\$561,669** in funding from the National Science Foundation for her project entitled “Strengthening the National Cyber Security Workforce.”

Dr. Yang will sustain a Scholarship for Service program to support and develop professionals trained in cybersecurity, ensuring the security of our future computing systems and defending American cyberspace.



# CECS Five-Year Trends



Over the past 5 years, the average external funding for College of Engineering & Computer Science is **\$1,516,298**. Average proposal dollars requested is **\$13,013,056**. Proposal dollars requested has increased **541%** since 2014.

CECS faculty attracted 20% of UTC total funding

20%

51%

of SimCenter-sponsored activity was generated by CECS faculty totaling \$2,003,190

# CECS Spotlight: Undergraduate Research Support

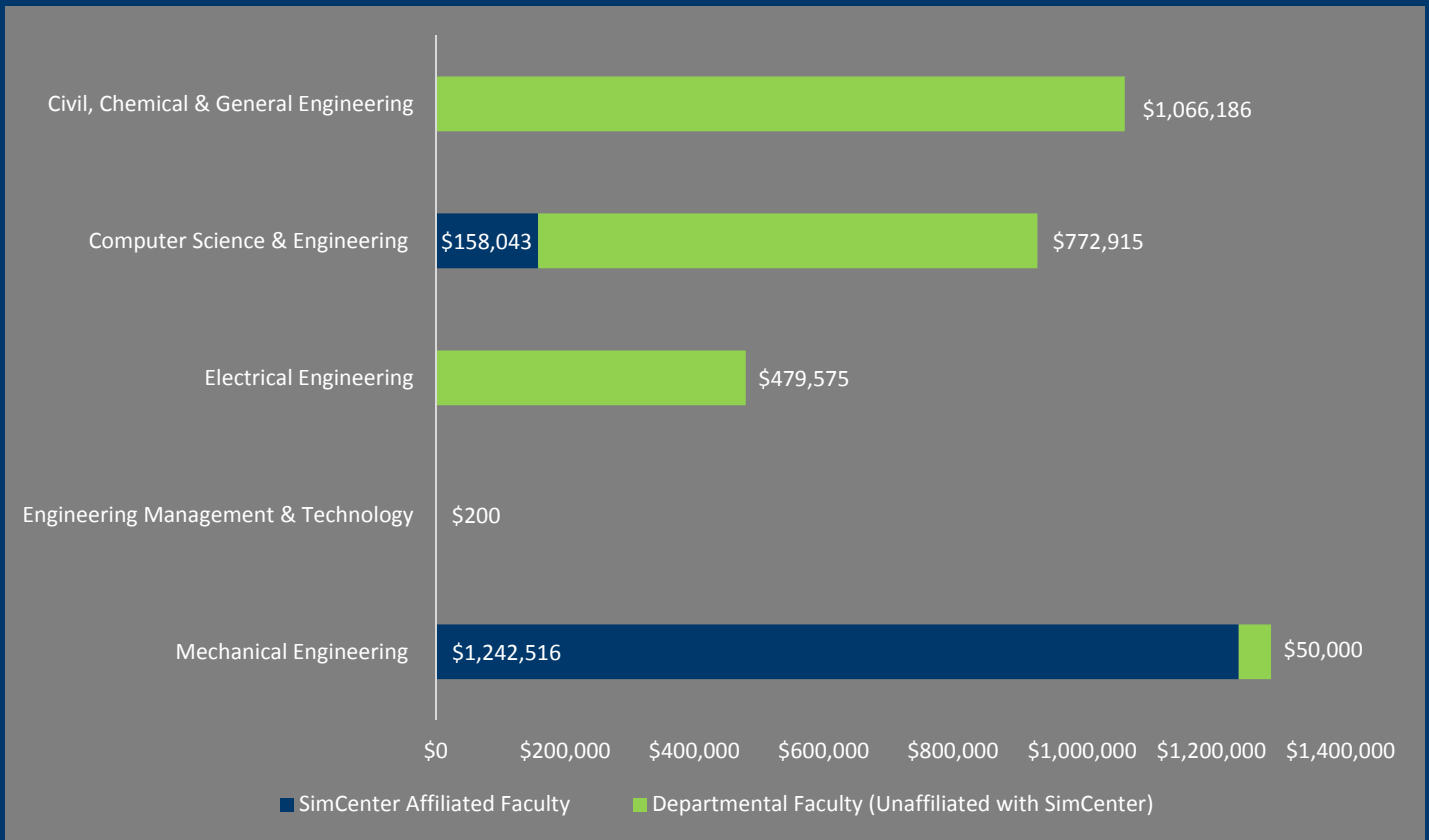
UTC faculty create research opportunities for undergraduate students through a variety of sponsored program mechanisms. Dr. Daniel Loveless received **\$359,783** in funding from the National Science Foundation to support up to 30 undergraduate students over a three-year period.

Students will be able to perform research related to Dr. Loveless' project "An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)." This gives students an amazing opportunity to perform research and will hopefully inspire them to conduct their own research.

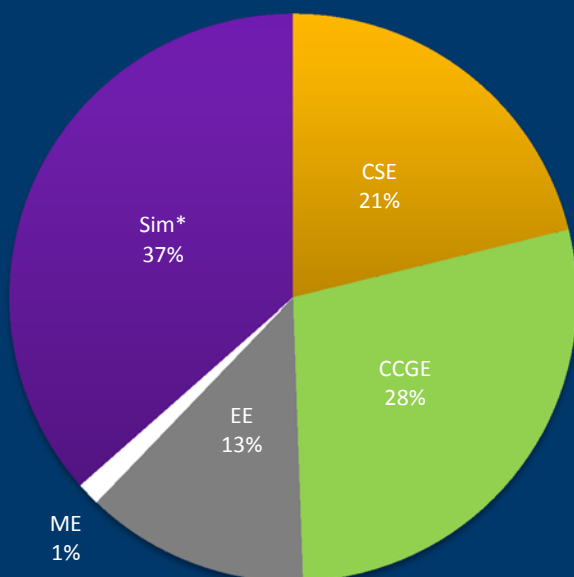




# CECS Departmental Trends



Several of CECS faculty collaborate with the Center of Excellence in Applied Computational Science and Engineering (SimCenter). Through their collaborations they have brought in **\$1,400,559** for a combined total of **\$3,769,435**. For more details on the SimCenter's accomplishments, please see pages 26-27.



SimCenter affiliated faculty attracted **37%** of CECS total funding for Fiscal Year 2018.



# COLLEGE OF HEALTH, EDUCATION & PROFESSIONAL STUDIES

# CHEPS Highlights

Drs. Jennifer Ellis, Kendra Duncan (School of Education), and Dr. DeAnna Beasley (Biology, Geology, and Environmental Science) received **\$1.4 million** over a five-year period from the National Science Foundation for their project entitled "Track 1: UTChattanooga STEM Education Noyce Scholarship Program."

This project will provide scholarship support to students pursuing STEM teaching roles in an effort to increase the number of qualified secondary teachers in math and science.



**32%**

of total UTC-sponsored activity was generated by CHEPS

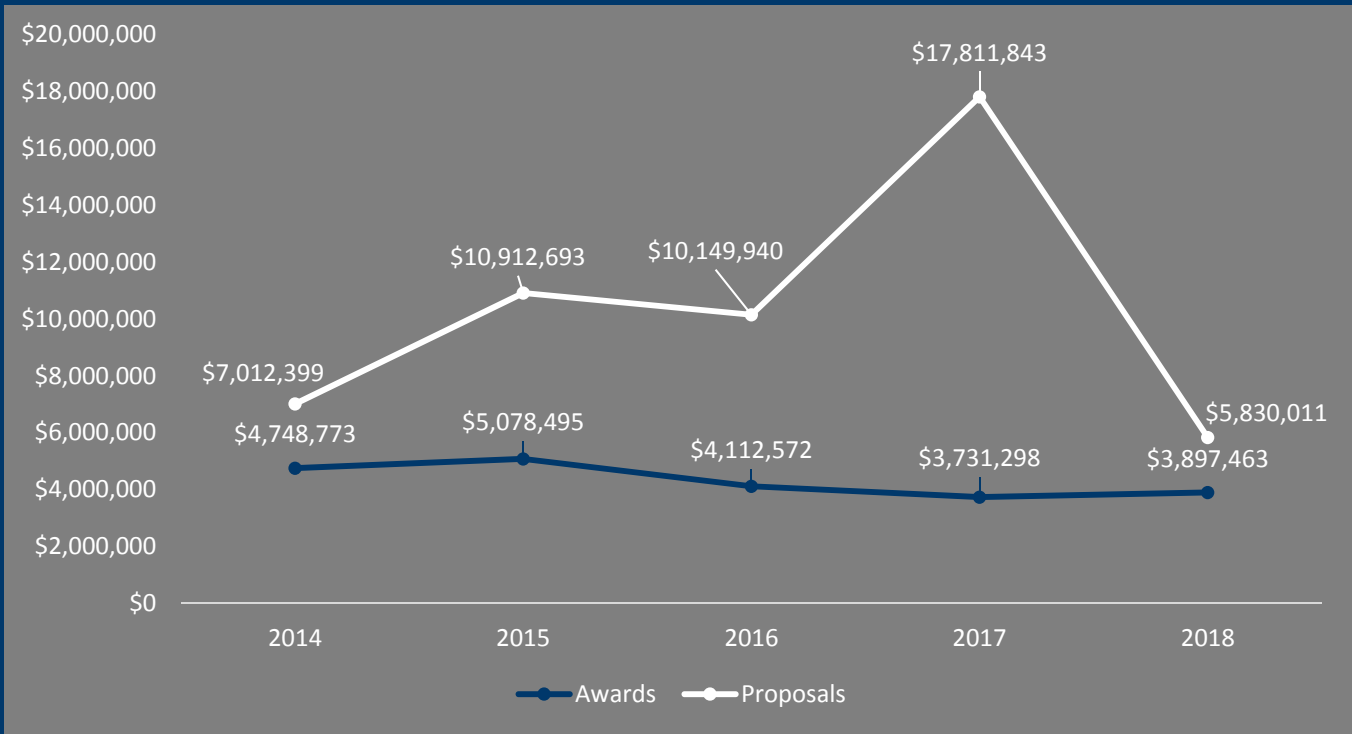
Award funding enhanced instruction by

**29%**

**25%**

of awarded funds were earmarked to enhance student learning

# CHEPS Five-Year Trends



CCCE

**\$9.3M**

supporting students and Hamilton County residents

Nursing

**\$8.4M**

supporting nursing education and healthcare for underrepresented groups

Teacher Education

**\$3.5M**

supporting teacher effectiveness and quality for K-12

# CHEPS Spotlight: Community Outreach

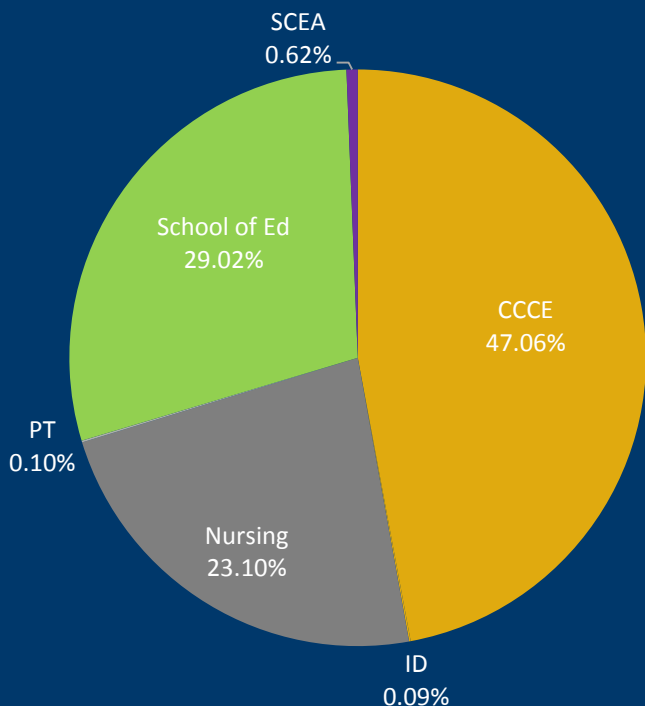
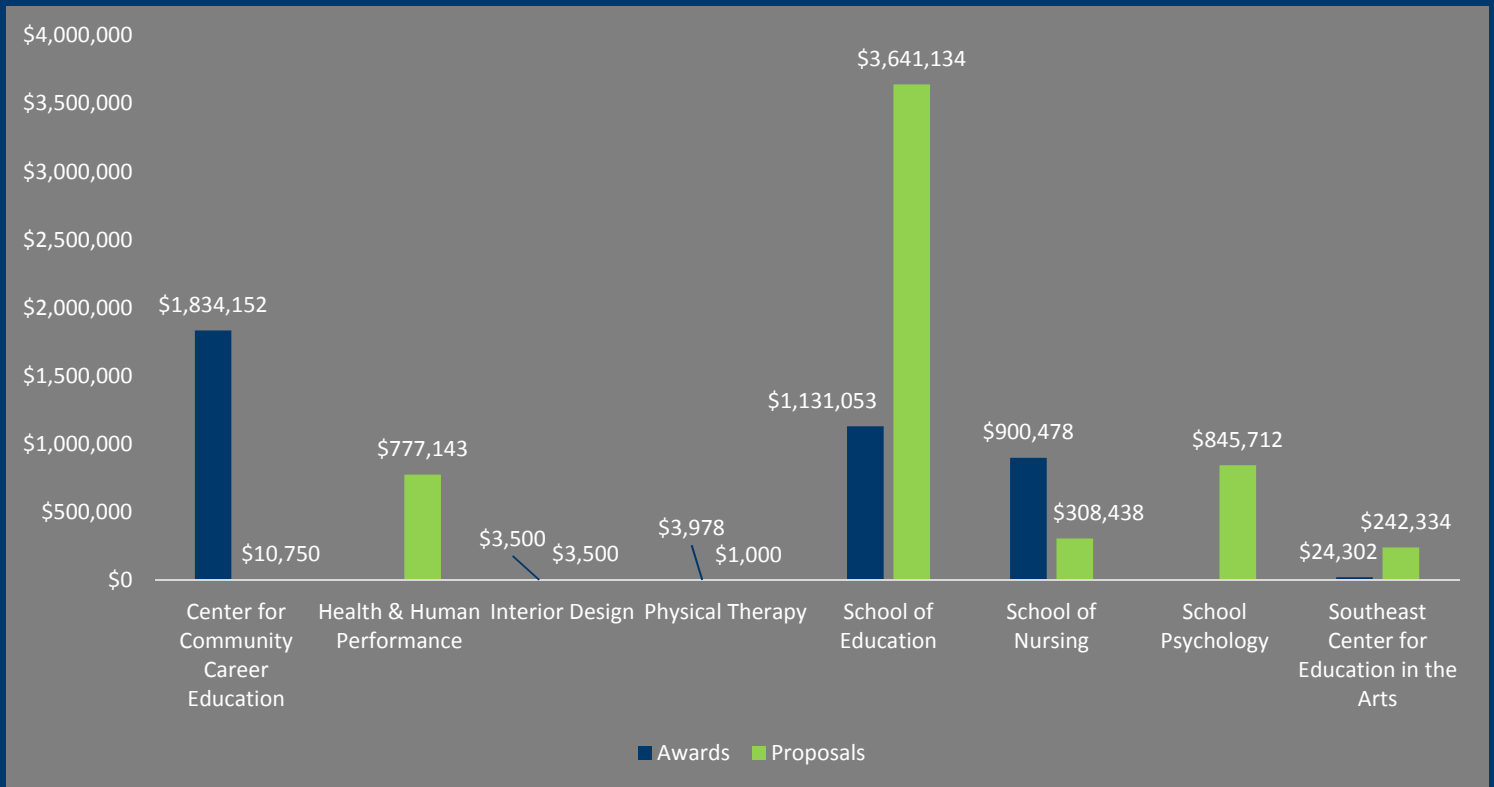


UTC strives to fund projects that will help the Southeastern region of Tennessee, particularly areas in need.

Drs. Amber Roache, Christine Smith, Joanie Jackson, Jenny Holcombe, and Ms. Farron Kilburn received **\$1.5 million** in funding over a three-year period from Health Resources and Services Administration for their project entitled “FNP Clinical-Academic Network for Developing Leaders (CANDL).”

Through this project, they will partner with Ocoee Regional Health Corporation and Erlanger Health System to establish rural academic-practice sites in Bledsoe, Grundy, Meigs, Polk, and Rhea, Bradley County, and Highland Park. They will also expand sites in Chattanooga’s Southside and Dodson Avenue neighborhoods. This addresses these communities’ critical need for experienced and culturally-inclusive healthcare professionals while training and preparing Family Nurse Practitioners.

# CHEPS Departmental Trends



School of Education requested **\$3.6** million in proposals and School Psychology requested **\$845,712** in proposals.

Center for Community Career Education contributed **47%** of College of Health, Education, and Professional Studies' funding for 2018.



# ACADEMIC ADMINISTRATION

# Administration Highlights



Mr. Takeo Suzuki (International Education) received **\$163,167** from the FHI 360 nonprofit. This is Mr. Suzuki's 3<sup>rd</sup> year in receiving funds for his project entitled "Study of the U.S. Institutes for Student Leaders from Europe (SUSI)." This project gives international students the opportunity to learn about social entrepreneurship in the context of American culture and society.

**68%**

of projects funded focused on research

**4.6M**

In total award dollars

**53**

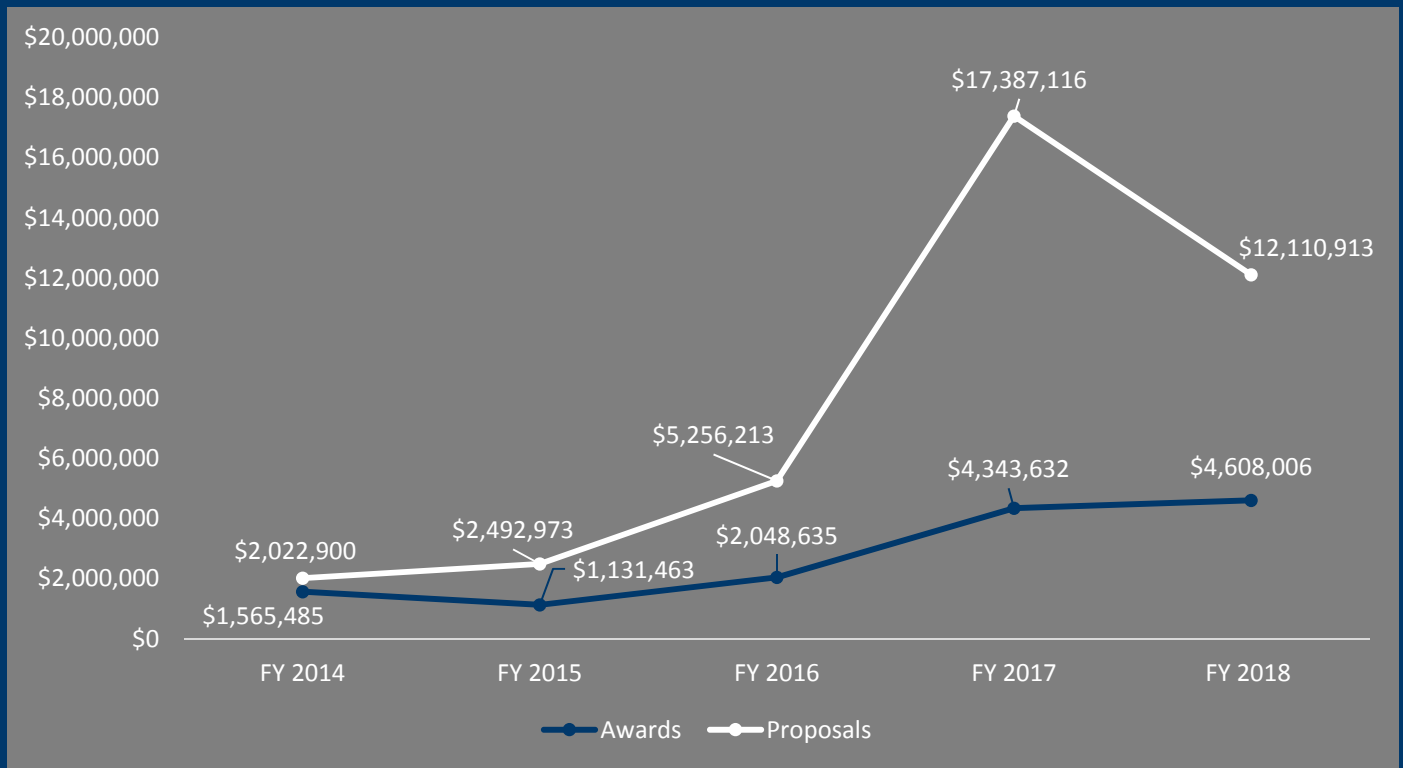
proposals submitted for future funding

**37**

awards funded



# Administration Five-Year Trends



Funding increased by **194%** from 2014

Dollars requested increased by **499%** from 2014

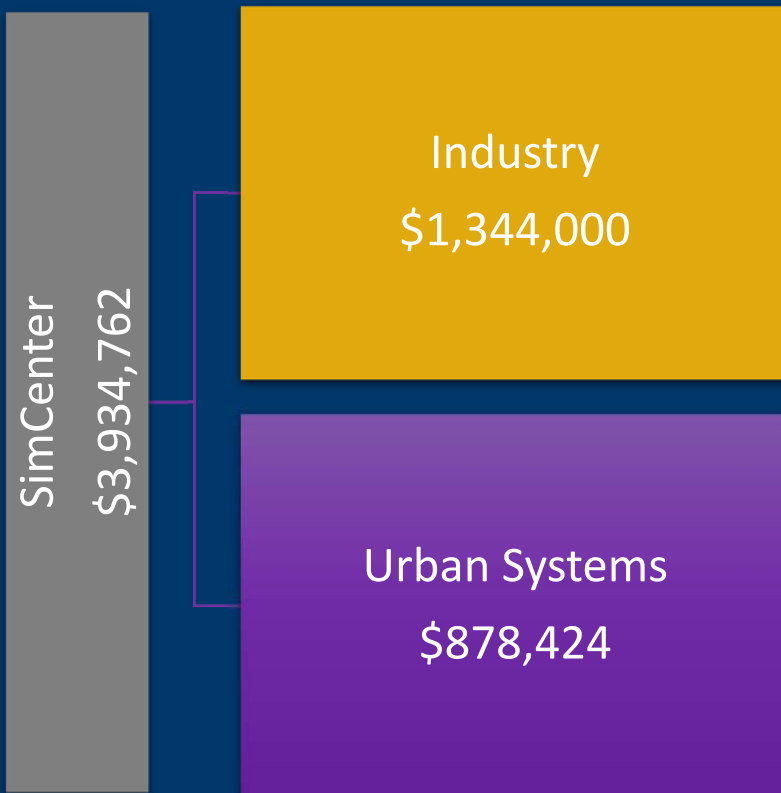


# SimCenter Spotlight

One of the SimCenter's key research focus areas is aerospace and defense simulation.

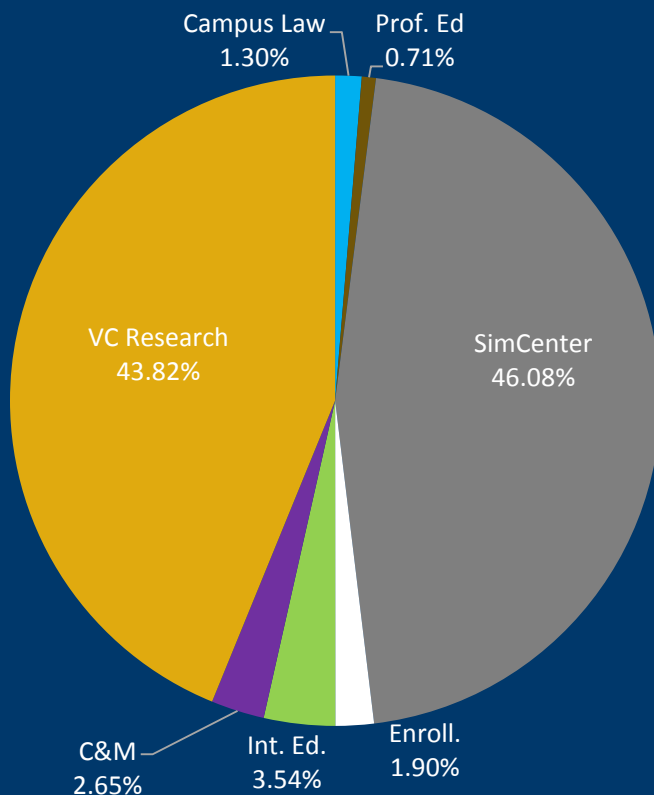
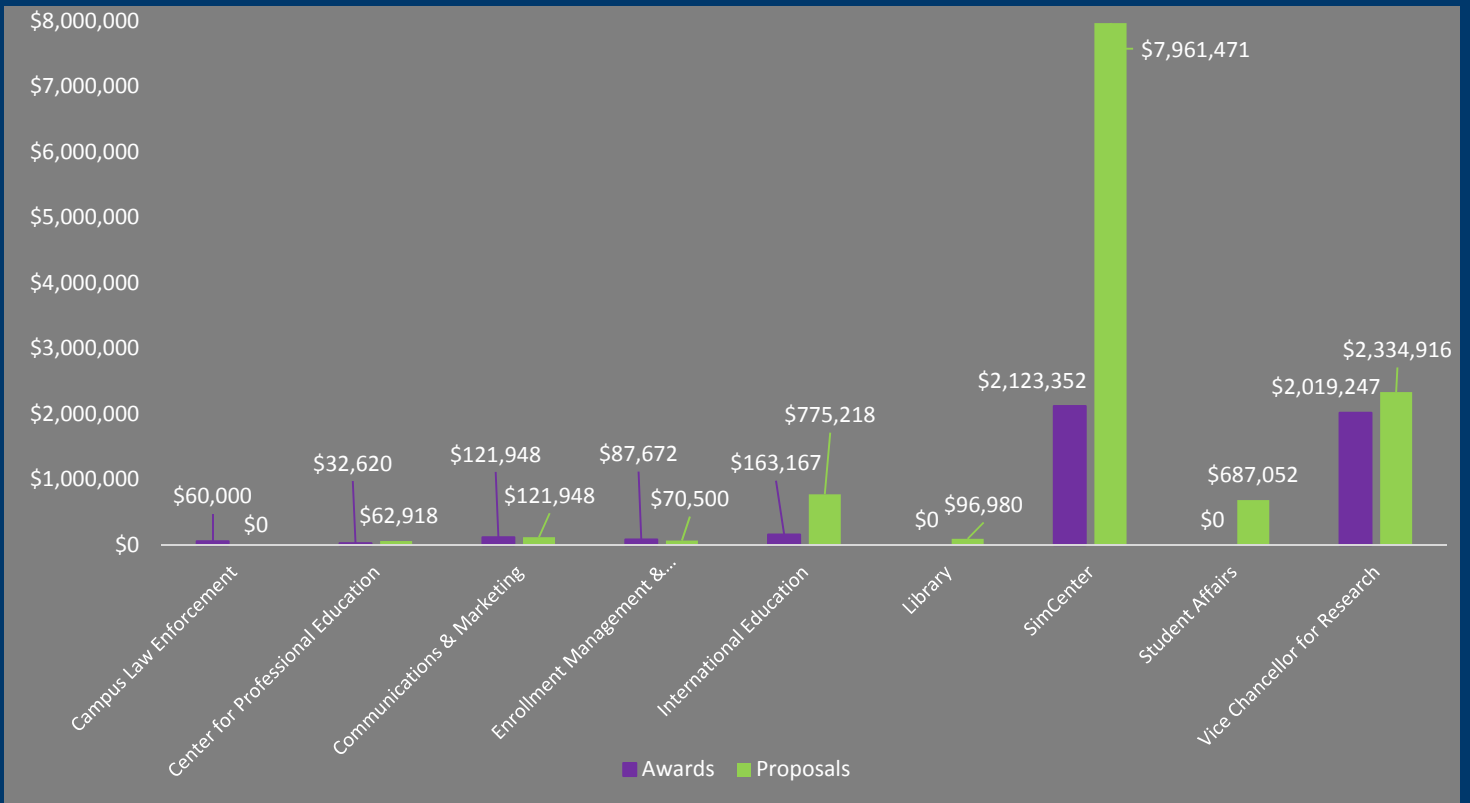
Dr. James C. Newman III (Mechanical Engineering) received **\$893,239** in funding from the University of Dayton Research Institute to research technology for reusable hypersonic structures through his project entitled "Reusable Hypersonic Vehicle Structures."

Dr. Newman's project will further the field of hypersonic structures that the Air Force Research Laboratory sees as a leading technology and leading area of research.



In the last 5 years, the SimCenter has attracted nearly **\$4M** in funds to support cross disciplinary research on technical matters of global, national, and regional importance. In partnership with the College of Engineering and Computer Science, over **\$1.3M** in funding has been earmarked for work with private industry partners and **\$878,000** of funding is related to urban systems and planning projects.

# Administration Departmental Trends



Vice Chancellor for Research brought in **\$2,019,247** for Fiscal Year 2018. This includes funding for academic initiatives throughout campus, geospatial research, and infectious disease control research.

# Contact ORSP



Visit us at **Race Hall**  
or visit **[www.utc.edu/orsp](http://www.utc.edu/orsp)**  
to learn how we can help in the grant  
process!

## Identifying Funding Opportunities

- Locate the right funding agency and program
- Learn how to use PIVOT

## Supporting Proposal & Research Development

- Provide previously funded proposals
- Participate in grant-writing workshops
- Review all proposal components

## Coordinating Submission and Award

- Help submit the proposal
- Manage the award process

## Enabling & Celebrating Research Success

- Coordinate internal grant opportunities
- Recognize faculty efforts

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# Appendix

## Awards

COLLEGE OF ARTS & SCIENCES			
BIOLOGY, GEOLOGY, & ENVIRONMENTAL SCIENCE			
LEAD PI	FUNDER	TITLE	AMOUNT
Boyd, Jennifer	National Science Foundation	RUI: Collaborative Research: Reasons for Rarity? Exploring Acclimatory and Adaptive Constraints to Commonness	\$519,385
Craddock, Hill	The American Chestnut Fund	Conservation and Collection of <i>Castanea dentata</i> Germplasm in the South	\$3,515
Schorr, Mark	Limestone Valley Resource Conservation and Development Council	Assessment of Nonpoint Source Water Pollution in North Georgia Streams	\$4,505
Spratt, Henry	Cumberland Trail Conference	Cumberland Trail Conference Connector Program	\$40,040
	Plastic Surgery Group	Triple Antibiotic Wash: Fact or Fetish? The Efficacy of Antibacterial Solution Wash During Placement of Breast Prosthesis in Bacterial Load Reduction	\$1,410
	HealthySole DETECTO	Does Ultraviolet Radiation (UV-C) Applied to the Soles of Shoes in Pediatric Intensive Care Units Decrease Bacterial Load and Healthcare Associated Infections?	\$16,074
ENGLISH			
Noe, Marcia	Society for the Study of Midwestern Literature	Society for the Study of Midwestern Literature Journal Editing	\$6,000
MATHEMATICS			
Bao, Feng	National Science Foundation	RUI: Efficient Adaptive Backward SDE Methods for Nonlinear Filtering Problems	\$41,111
	Oak Ridge National Laboratory	ORNL_SciDAC	\$54,862
Wang, Jin	Old Dominion Research Foundation	Mathematical Modeling Of Cholera Dynamics	\$30,157
PSYCHOLOGY			
Black, Kristen	Miller Industries	Miller Industries Employee Survey	\$9,935
Hood, Ralph	<i>Confidential</i>		\$323,533
SOCIOLOGY, ANTHROPOLOGY, AND GEOGRAPHY			
Bumphus, Victor	International Association of Chiefs of Police	Service, Support & Justice: A Strategy to Enhance Law Enforcement Response to Victims Technical Assistance	\$23,420
Guo, Zibin	US Department of Veteran's Affairs	Wheelchair Tai Chi Program Expansion	\$58,000
Honerkamp, Nicholas	St. Simons Land Trust	Proposed Archaeological Bounding of a Historic Component at Indian Field, Cannon's Point Preserve, St. Simons Island, Georgia	\$2,149
	Georgia Department of Natural Resources	Fort Frederica Project	\$5,000

Policastro, Christina	Tennessee Coalition to End Domestic and Sexual Violence	2018 Victim Assistance Academy	\$37,725
<b>COLLEGE OF ENGINEERING AND COMPUTER SCIENCE</b>			
<b>CIVIL, CHEMICAL &amp; GENERAL ENGINEERING</b>			
Fomunung, Ignatius	National Science Foundation	UTC-ASSETS: Academic Intervention Social Supports, and Scholarships for Engineering Transfer Students	\$992,996
Owino, Joseph	Precast/Prestressed Concrete Institute	Efficient Modular Wall Systems for New Construction and Retrofit	\$45,000
Wu, Weidong	Tennessee Board of Architectural and Engineering Examiners	TBAEE Laboratory Equipment Grant for Civil Engineering	\$28,190
<b>COMPUTER SCIENCE &amp; ENGINEERING</b>			
Sartipi, Mina	<i>Confidential</i>		\$24,500
Yang, Li	Prairie View A&M University	Capacity Building on Privacy Education through Curriculum Development	\$39,750
		Developing Innovative Privacy Learning Modules to Engage Students in Cybersecurity Education	\$21,598
	National Science Foundation	Collaborative Research: SFS Program: Strengthening the National Cyber Security Workforce	\$561,669
	National Security Agency/Central Security Service	Developing Web Security Modules with Visualization and Hands-on Labs	\$149,898
<b>ELECTRICAL ENGINEERING</b>			
Eltom, Ahmed	Tennessee Valley Public Power Association	2017 Lab Demonstrations for Tennessee Valley Public Power Association	\$712
Loveless, Thomas	Nu-Trek, Inc.	(1) Authorization to Proceed and (2) Period of Performance Extension for Radiation Hardened, Low Power, Variable Bandwidth/Resolution Sigma Delta Converters	\$55,000
	Vanderbilt University	Fundamental Research into Radiation Resiliency of Emerging Circuit Technologies Appropriate to the CWMD Mission	\$35,426
	National Science Foundation	REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)	\$359,783
Karrar, Abdelrahman	<i>Confidential</i>		\$24,554
Pack, Daniel	<i>Confidential</i>		\$4,100
<b>ENGINEERING MANAGEMENT &amp; TECHNOLOGY</b>			
Wang, Endong	Oak Ridge Associated Universities	Travel Funds for Collaborative Research	\$200
<b>MECHANICAL ENGINEERING</b>			
Elliott, Trevor	Denso North America Foundation	Investigation and Implementation of Industrial Internet of Things (IIoT) Equipment and Software for Baja SAE Capstone Project	\$50,000
<b>COLLEGE OF HEALTH, EDUCATION, &amp; PROFESSIONAL STUDIES</b>			
<b>CENTER FOR COMMUNITY CAREER EDUCATION</b>			
Boykin, Twyler	US Department of Education	Upward Bound Math & Science	\$263,938
Brownlee, Belinda	US Department of Education	UTC Upward Bound Program	\$319,122

Cole, Sandra	Tennessee Higher Education Commission	Each One Reach One	\$99,984
	City of Chattanooga	CK, Now! Scholarships and Programming	\$10,750
Gholston, Shirl	US Department of Education	Student Support Services FY16-FY21	\$300,620
Huckabay, Hunter	US Department of Education	GEAR UP in Hamilton County, TN 2011-2018	\$308,244
Lee, Belinda	US Department of Education	UTC Upward Bound Program	\$7,783
Long, Cynthia	US Department of Education	Southern Appalachian Educational Opportunity Center	\$277,711
Vann, Karen	US Department of Education	Talent Search	\$246,000
<b>INTERIOR DESIGN</b>			
Kendall, Catherine	Tennessee Board of Architectural and Engineering Examiners	Professional Student Exam Fees and Computer Grant F2017	\$3,500
<b>NURSING</b>			
Hill, Linda	Health Resources and Services Administration	Nurse Anesthesia Traineeship Grant	\$21,067
Smith, Christine	Erlanger Health System	RN to BSN Gateway Program	\$190,394
Smith, Christine & Roache, Amber	Health Resources and Services Administration	FNP CANDL: Clinical-Academic Network for Developing Leaders	\$689,017
<b>PHYSICAL THERAPY</b>			
Hanks, June	Tennessee Physical Therapy Association	Cross-Cultural Adaptability Study (US-DPT and Haitian PT students)	\$1,000
Levine, David	Goodhew	Effectiveness of Sockwell Compression Socks: A White Paper on Vascular Effects	\$2,978
<b>SCHOOL OF EDUCATION</b>			
Ellington, Lucien	Charles Koch Foundation	2017-2018 Center for Reflective Citizenship Programs	\$75,214
	Freeman Foundation	Freeman Foundation Teacher Professional Development Programs 2018-2019	\$17,996
	Association for Asian Studies, Inc.	Education About Asia Journal 2018	\$81,192
Ellis, Jennifer	National Science Foundation	Track 1: UTChattanooga STEM Education Noyce Scholarship Program	\$860,319
McAllister, Deborah	National Aeronautics and Space Administration	GLOBE Aerosols for Elementary Pre-service Teachers	\$1,900
	Vanderbilt University	NASA Mathematics Resources and Super Source Activities for Elementary Grades Preservice Teachers	\$33,861
Murley, Renee	Tennessee Department of Education	Governor's School 2017-18	\$60,571
<b>SOUTHEAST CENTER FOR EDUCATION</b>			
Melnik, Laurie	Tennessee Arts Commission	Arts Learning Lab	\$8,000
	Hunter Museum of American Art	Art of Balance and Diagnosis	\$11,000
	Shelby County Schools	Arts Integration Workshops at Sherwood Elementary School, Memphis TN	\$5,302

**ACADEMIC ADMINISTRATION**

**CAMPUS LAW ENFORCEMENT**

Hamilton, Craig	Tennessee Office of Criminal Justice Programs	Making our Campus Safer (MOCS)	\$60,000
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**CENTER FOR PROFESSIONAL EDUCATION**

Freeze, John	University of Tennessee - Institute of Public Service	Southeastern Command and Leadership Academy (SECLA)	\$32,620
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**COMMUNICATIONS & MARKETING**

Heddleston, George	Corporation for Public Broadcasting	FY 2018 Radio Community Service Grant	\$121,948
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**ENROLLMENT MANAGEMENT & STUDENT SUCCESS**

Freeman, Yancy	Tennessee Higher Education Commission	UTC Veteran Reconnect	\$19,018
		UTC Summer Bridge Experience	\$68,654

**INTERNATIONAL EDUCATION**

Suzuki, Takeo	FHI 360	Social Entrepreneurship SUSI Institute	\$163,167
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**SIMCENTER**

Newman, James	The National Institute of Aerospace Associates	Revolutionary Computational Aerosciences (RCA) Institute Support: Visitors and Faculty Engagement	\$14,948
	Pointwise Inc.	High Fidelity Mesh and Geometry Tools	\$24,976
	University of Dayton Research Institute	Reusable Hypersonic Vehicle Structures	\$893,239
Qin, Hong	National Science Foundation	CAREER: A Probabilistic Gene Network Model of Cellular Aging and Its Application on the Conserved Lifespan Extension Mechanisms of Dietary Restriction	\$133,543
Skjellum, Anthony	National Science Foundation	SHF: Small: Collaborative Research: Coupling Computation and Communication in FPGA-Enhanced Clouds and Clusters	\$186,192
		REU Supplement for CICI Grant –SeSecure	\$16,000
		CICI: Data Provenance: Collaborative Research: Provenance Assurance Using Currency Primitives	\$211,388
		SHF: Medium: Collaborative Research: Next-Generation Message Passing for Parallel Programming: Resiliency, Time-to-Solution, Performance-Portability, Scalability, and QoS	\$196,860
		SHF: Medium: Collaborative Research: Next-Generation Message Passing for Parallel Programming: Resiliency, Time-to-Solution, Performance-Portability, Scalability, and QoS	\$16,000
		Collaborative Research: CICI: Regional: SouthEast Scientific Cybersecurity for University Research (SouthEast SECURE)	\$60,949
		Department of Energy	Fast Failure Recovery Methods MPI Applications
Sreenivas, Kidambi	Pointwise, Inc.	Mesh Curving for Higher Order Applications	\$99,982
Webster, Robert	Engility Corporation	Collaborative Research: CICI: Regional: SouthEast Scientific Cybersecurity for University Research (SouthEast SECURE)	\$52,342
		Heterogeneous HPC for High-order Stabilized Finite-elements on Moving and Deforming Domains	\$157,029



## VICE CHANCELLOR FOR RESEARCH

Heath, Gregory	Oak Ridge Associated Universities	Tennessee University-Business Showcase	\$4,000
	National Institute of Health	NIH BRAD - CREATE	\$87,560
Mix, Charles	Enterprise Center	East Lake Walk Sheds	\$250
		Spatial Analysis and Mapping of Historic Tax Data for Chattanooga, Tennessee	\$1,438
	Land Between The Lakes Association Inc.	TN Valley Water Trails Data Update	\$1,799
	Mainspring Conservation Trust	Mainspring Conservation Trust – Application Development	\$22,214
Romagni, Joanne	Lyndhurst Foundation	GreenSpaces Mapping Support	\$10,000
	Tennessee Higher Education Commission	Center for Excellence in Applied Computational Science & Engineering	\$1,171,986
	UC Foundation	Academic Initiatives and Educational Excellence Projects	\$720,000
<b>Total Funding</b>			<b>\$12,075,666</b>

# Proposals

## COLLEGE OF ARTS & SCIENCES

### BIOLOGY, GEOLOGY, & ENVIRONMENTAL SCIENCE

LEAD PI	FUNDER	TITLE	AMOUNT
Craddock, Hill	The American Chestnut Foundation	Conservation and Collection of <i>Castanea dentata</i> Germplasm in the South	\$3,515
Hayes, Loren	National Science Foundation	IRES Track I: Stronger Together: Exploring How Communal Care Reduces Individual Costs During Challenging Years	\$0
	University of Strasbourg Institute for Advanced Study	Understanding Intraspecific Variation in Social Organization of Mammals	\$206,435
Hossain, Azad	University of Mississippi	GRACE Water Storage Study	\$46,171
	US Geological Survey TN Water Research Center	Preliminary Proposal - Remote Sensing of Water Quality	\$0
Schorr, Mark	Limestone Valley Resource Conservation and Development Council	Assessment of Nonpoint Source Water Pollution in North Georgia Streams	\$4,505
Shaw, Joey	National Science Foundation	Repair, Digitization, and Integration of the Southern Adventist University Herbarium into the University of Tennessee at Chattanooga Herbarium	\$34,725
Spratt, Henry	Cumberland Trail Conference	Year 2: Cumberland Trail Conference Connector Program	\$40,040
	Plastic Surgery Group	Surgical Irrigation Solutions for Breast Augmentation Surgery	\$1,410
	HealthySole DETECTO	Does Ultraviolet Radiation (UV-C) Applied to the Soles of Shoes in Pediatric Intensive Care Units Decrease Bacterial Load and Healthcare Associated Infections?	\$16,074
CHEMISTRY & PHYSICS			
Kim, Jisook	National Science Foundation	Acquisition of a High Resolution Accurate Mass QTOF LC-Mass Spectrometer	\$392,532

Park, Han Jung	Society for Analytic Chemists of Pittsburgh	Study of the Photoacoustic Effect	\$8,900
	National Science Foundation	UTC Spain REU	\$398,853
Symes, Steven	National Science Foundation	MRI: Acquisition of ICP-MS for Use in Environmental, Geochemical, and Human Health Research at UTC	\$240,000
<b>ENGLISH</b>			
Noe, Marcia	Society for the Study of Midwestern Literature	Society for the Study of Midwestern Literature Journal Editing	\$6,000
<b>MATHEMATICS</b>			
Bao, Feng	Oak Ridge National Laboratory	ORNL_SciDAC	\$208,706
Kong, Lingju	National Science Foundation	Degenerate Elliptic Problems with Variable Exponents	\$415,522
Ledean, Andrew	National Science Foundation	REU Site: Number Theory, Dynamical Systems and Applications	\$283,831
Wang, Jin	Old Dominion University	Mathematical Modeling of Cholera Dynamics	\$40,480
	National Science Foundation	Mathematical Modeling of Waterborne Infections	\$298,018
	National Institute of Health	Cholera Modeling and Simulation	\$321,103
<b>PERFORMING ARTS</b>			
Tejero, Nikolasa	Tennessee Arts Commission	Celebrating African American History Month Through Music and Literature: An Interdisciplinary Concert	\$2,500
<b>PSYCHOLOGY</b>			
Black, Kristen	Miller Industries	Miller Industries Employee Survey	\$30,008
Ferrier, David	Foundation for Child Development	In Loco Parentis: The Impact of Teachers and School Contexts in Socializing Social-Emotional Competence and Self-Regulatory Abilities in Early Childhood	\$224,811
<b>SOCIAL, CULTURAL AND JUSTICE STUDIES</b>			
Bumphus, Victor	International Association of Chiefs of Police	Service, Support & Justice: A Strategy to Enhance Law Enforcement Response to Victims Technical Assistance	\$23,420
Guo, Zibin	Department of Veteran's Affairs	Wheelchair Tai Chi Chuan as an Adaptive Sport for Veterans with Ambulatory Disability - Further Program Expansion and Promotion	\$114,148
Honerkamp, Nicholas	Plantation Point Homeowners Association	Archaeology at Hampton Point Plantation	\$27,756
	Georgia Department of Natural Resources	Fort Frederica Project	\$5,000
	St. Simons Land Trust	Proposed Archaeological Bounding of a Historic Component at Indian Field, Cannon's Point Preserve, St. Simons Island, Georgia	\$2,149
Policastro, Christina	Tennessee Coalition to End Domestic and Sexual Violence	2018 Victim Assistance Academy	\$37,725
<b>COLLEGE OF ENGINEERING AND COMPUTER SCIENCE</b>			
<b>CIVIL, CHEMICAL &amp; GENERAL ENGINEERING</b>			
Bathi, Jejal Reddy	University of Tennessee Knoxville	Three-Dimensional Modeling of River Flows Under Extreme Weather Scenarios	\$19,998
Fomunung, Ignatius	Tennessee Highway Safety Office	Effectiveness of HOV Lanes as a Congestion Relief and Air Quality Reduction Tool	\$199,939

Harris, Bradley	National Institutes of Health	The Impact of the Marine-to-host Environmental Transition on Fatty Acid-induced Changes in Persistence and Pathogenicity in <i>Vibrio cholerae</i>	\$136,000
Onyango, Mbakisya	Tennessee Department of Transportation	Friction Course Pavements – RNS (27)	\$99,997
		Concrete Bridge Deck Deterioration Assessment Using Ground Penetrating Radar	\$150,000
		Development of a Balanced Mix Design (BMD) Procedure for Tennessee Mixtures	\$180,000
		100% Recycled Mixtures Using Cold In-place Recycling (CIR), Hot In-place Recycling (HIR) and Cold Central Plant Recycling (CCPR) –RNS (3)	\$180,000
Owino, Joseph	Precast/Prestressed Concrete Institute	Next Generation of Precast Insulated Walls	\$45,000
Palchoudhury, Soubantika	Oak Ridge Associated Universities	A New Class of Penternary Chalcogenide Nanocrystals and Thin Films for Solar Energy Conversion Applications	\$5,000
Wu, Weidong	Tennessee Board of Architectural and Engineering Examiners	TBAEE Laboratory Equipment Grant for Civil Engineering	\$28,863
	Structural Engineers Foundation	Developing Matlab Apps for Interactively Teaching and Learning Design of Reinforced Concrete Structure	\$2,500
	Tennessee Department of Transportation	TDOT Bicycle & Pedestrian Counting: Best Methodologies Assessment – RNS (15)	\$147,999
		Work Zone Alert Systems – RNS (1)	\$174,938
Yang, Sungwoo	Oak Ridge Associated Universities	Water Harvesting from Air Powered by Natural Sunlight	\$5,000
<b>COMPUTER SCIENCE &amp; ENGINEERING</b>			
Kandah, Farah	National Science Foundation	SaTC: CORE: Small: RUI: vMAP: Mapping Autonomous Vehicle Authentication/Trust Building in Real-time over a Dynamic Adaptive Network	\$491,866
Kizza, Joseph	National Science Foundation	RET Site in Computer Science and Engineering: Cybersecurity Education for All - Developing a Broad-based Cyber Defense Workforce for the 21st Century	\$595,267
		CyberTraining - CIU: Enhancing Cybersecurity and Data Science Skills in Multidisciplinary Research and Workforce Development	\$496,162
Liang, Yu	National Science Foundation	SCH: INT: RUI: Collaborative Research: ACTIVE - Aging and Chronic Disease Management with Tai-Chi in an Individualized Virtual Environment	\$903,276
		SCC: Smart Neighborhood Watch	\$398,700
	Tennessee Department of Transportation	Deep Learning-Enabled Evaluation of Bridge Deck Using GPR – RNS (19)	\$126,767
McCullough, Claire	National Science Foundation	STEM Inspire, Communicate, Educate (ICE)	\$356,567
Qin, Hong	National Science Foundation	REU Site: ICompBio - Engaging Undergraduates in Interdisciplinary Computing for Biological Research	\$359,484
	Norfolk State University	Stress and Filamentous Yeast	\$92,604
Sartipi, Mina	Sony USA Foundation Inc.	Millimeter Wave Communications for Enhanced Vehicle Connectivity	\$145,155
	National Science Foundation	Planning Grant: Engineering Research Center for Enhancing Livability in Urban Communities for the 21st Century (LUC21)	\$22,713
		SCC: Collaborative: Health-Centric Urban Mobility	\$2,749,675

		NRT-HDR: Data in GigCity: A Unified and Comprehensive Platform for Education and Research on Data Science and Engineering to Improve Accessibility in an Urban Environment	\$2,791,695
	Tennessee Valley Authority	Phase 2 TVA Power Billing Dashboard for Error Detection and Correction Project	\$49,995
	University of Tennessee Knoxville	Research on Connected and Automated Vehicles Investment and Smart Infrastructure in Tennessee	\$60,000
	Tennessee Department of Transportation	TDot - Waze	\$150,000
Wu, Dalei	University of Vermont	Self-Cleaning City Infrastructure for Prosperity and Health	\$490,568
Yang, Li	National Security Agency Central Security Service	Developing Web Security Modules with Visualization and Hands-on Labs	\$149,898
	University of Vermont	A Fast, Reliable and Secure User Interface to Train and Equip Firefighters with Augmented Reality	\$526,260
	Hamilton County Government	FUSE-data	\$480,898
	Department of Defense	Developing Advanced Data science curriculum in cybersecurity	\$246,885
		DoD IASP	\$122,188
<b>ELECTRICAL ENGINEERING</b>			
Ahmed, Raga	Department of Energy	Preliminary Proposal - Standardization Testbed for Additively-Manufactured Energy-Infrastructure Devices and Component Parts: Mapping Material Composition, Printer Technology and Control Settings into Electromechanical Energy Conversion Parameters and Figures of Merit	\$0
Eltom, Ahmed	Tennessee Valley Public Power Association	2017 Lab Demonstrations for Tennessee Valley Public Power Association	\$711
Karrar, Abderrahman	National Science Foundation	Improving the Performance and Implementation of the P-Index voltage Stability Indicator	\$302,984
	Tennessee Valley Authority	Validation of Transmission System Model for Local Oscillations and PSS Design	\$24,554
Loveless, Thomas	National Science Foundation	CAREER: Maximizing Performance and Reliability of Advanced Electronics Technologies through Stochastic Modeling	\$500,000
	National Science Foundation	REU Site: An Interdisciplinary CubeSat Research and STEM Education Platform at the University of Tennessee at Chattanooga (UTChattSat)	\$359,783
	Vanderbilt University	Amend. No. 1 to Fundamental Research into Radiation Resiliency of Emerging Circuit Technologies Appropriate to CWMD Mission	\$35,426
Pack, Daniel		<i>Confidential</i>	\$4,100
Rasouli Disfani, Vahid	Department of Energy	Preliminary Proposal: Grid Integration of Solar Photovoltaic Systems through Modular Multilevel Converters with Cell Level Power Electronics Submodules	\$0
		High-Efficiency, High-Reliability Grid Integration of Solar Photovoltaic Systems via Bidirectional Modular Multilevel Converters with Simultaneous Maximum Power Point Tracking and Power Flow Control Capabilities	\$1,681,637
Reising, Donald	Defense Advanced Research Project Agency	Radio Identification from Unbiased Deep Learning Models (RIFUDLM)	\$2,762,747

	Southeastern Center for Electrical Engineering Education	RF-DNA Fingerprinting: Assessing the Impact of Extrinsic Sources on Waveform Coloration	\$24,883
	Department of Energy	Preliminary Proposal: Smart Building through Smarter Models	\$0
		Preliminary Proposal: Making the Smart Grid Smarter through Electrical Disturbance Identification	\$0
<b>ENGINEERING MANAGEMENT &amp; TECHNOLOGY</b>			
Abrha, Wolday	Tennessee Department of Transportation	Best Strategies for Hiring, Retaining, and Utilizing Minorities and Women	\$69,605
Alp, Neslihan	National Science Foundation	Real-world Additive Manufacturing Projects for Underrepresented Participants (RAMP UP)	\$1,005,619
		2+2 MET: Developing an Industry-Responsive Mechatronics AAS to BAS Pipeline for Engineering Technicians	\$586,997
McLean, Aldo	Tennessee Department of Transportation	Autonomous Truck Mounted Attenuator (TMA) Pilot – RNS (17)	\$109,146
		Truck Parking Needs in TN – RNS (18)	\$134,215
Sokolov, Alexandr	Tennessee Department of Transportation	Roadside Pollinator Habitat – RNS (9)	\$148,084
Wang, Endong	Oak Ridge Associated Universities	Travel Funds for Collaborative Research	\$200
	National Association of Home Builders	Preliminary Proposal: Homebuilding Education Leadership Program	\$99,373
	Tennessee Department of Transportation	Rating and Inventory of TDOT Retaining Walls	\$149,857
	National Science Foundation	A Novel Core-factor-structure Based Object-oriented Hierarchical Benchmarking Method for Deep Commercial Building Energy Retrofitting	\$282,560
<b>MECHANICAL ENGINEERING</b>			
Elliott, Trevor	Denso North America Foundation	Investigation and Implementation of Industrial Internet of Things (IIoT) Equipment and Software for Baja SAE Capstone Project	\$100,000
Sreenivas, Kidambi	SmartTruck Systems, LLC	CFD Study of the Impact of 2016 Truck/Trailer Combination on Drag Reduction Devices	\$5,205
<b>COLLEGE OF HEALTH, EDUCATION, &amp; PROFESSIONAL STUDIES</b>			
<b>CENTER FOR COMMUNITY CAREER EDUCATION</b>			
Cole, Sandra	City of Chattanooga	CK, Now! Scholarships and Programming	\$10,750
<b>HEALTH AND HUMAN PERFORMANCE</b>			
Howard-Baptiste, Shewanee	Tennessee Department of Health	Preliminary Proposal - D.A.N.C.E.	\$79,111
Wilkerson, Gary	National Institutes of Health	A New Paradigm for Sport Injury Prevention and Reduction of Risk for Disability	\$417,798
	Department of Defense	Preliminary Proposal: Optimization of Neuromechanical Responsiveness	\$0
	International Olympic Committee Medical and Scientific Commission	Neuromechanical Responsiveness Testing and Training	\$99,546
	University of Arizona	Head Trauma: Measuring the Relation Between Cognitive Processes and Neuromechanical Function after Sports-Related Concussion	\$180,688

INTERIOR DESIGN			
Kendall, Catherine	Tennessee Board of Architectural and Engineering Examiners	Professional Student Exam Fees and Computer Grant F2017	\$3,500
NURSING			
Hill, Linda	Health Resources and Services Administration	UTC 2018 NAT	\$0
Kemplin, Katharine	Department of Defense	Dramatic Subcutaneous Impedance Reduction: Ultra-Miniature External Defibrillator (UMED)	\$118,044
Smith, Christine	Erlanger Health System	Increasing the RN to BSN Enrollment in the Gateway Program 2017-19	\$190,394
PHYSICAL THERAPY			
Hanks, June	Tennessee Physical Therapy Association	Cross-Cultural Adaptability Study (US-DPT and Haitian PT students)	\$1,000
SCHOOL OF EDUCATION			
Cowan, Kay	Tennessee Higher Education Commission	American and World History: Critical Turning Points	\$74,994
Ellington, Lucien	Freeman Foundation	Freeman Foundation Teacher Professional Development Programs 2018-2019	\$17,996
	Association for Asian Studies, Inc.	Education About Asia Journal 2018	\$81,192
Ellis, Jennifer	National Science Foundation	Track 1: UTChattanooga STEM Education Noyce Scholarship Program	\$1,447,293
		Gig City CS4All: Creating an Inclusive 21st Century Gig-Enabled Teaching and Learning Community	\$281,003
		STEM-powering State of Tennessee Education Majors (STEM2) Open Collaboratory	\$49,855
Kamrath, Barry	Hilda and Preston Davis Foundation	Bullying and Female Adolescent Eating Disorders: Attitudes and Perceptions	\$98,789
McAllister, Deborah	Vanderbilt University	Elementary and Middle Grades STEM	\$33,861
	Tennessee Higher Education Commission	Using Technology to Support Geography Content and Social Studies Practices	\$74,994
Murley, Renee	Tennessee Department of Education	Tennessee Innovation in Preparation Grant Governor's School 2017-18	\$47,214
	Community Foundation of Greater Chattanooga Incorporated	Chattanooga Teaching Fellows Program	\$615,000
	Lyndhurst Foundation	Residency Model	\$150,000
Pratt, Allen	Mississippi State University	National Research and Development Center - Improving Rural Education in the Deep South, Appalachia, and the Montana Frontier	\$608,372
SCHOOL PSYCHOLOGY			
Guess, Pamela	Tennessee Department of Education	School Psychology Intern Program	\$845,712
SOUTHEAST CENTER FOR EDUCATION			
Melnik, Laurie	Shelby County Schools	2017 Arts Integration Workshops at Sherwood Elementary School, Memphis TN	\$5,302
	Hunter Museum of American Art	Art of Balance and Diagnosis	\$11,000
	Tennessee Arts Commission	Arts Learning Lab	\$10,000

	Caplan Foundation for Early Childhood	Preliminary Proposal - MOCS BLOCS	\$99,614
	Marion County	Literacy and the Arts: Increasing Access Across the Classroom, Curriculum and Community	\$26,594
	Lyndhurst Foundation	Arts Pathways Plan	\$89,824
<b>ACADEMIC ADMINISTRATION</b>			
<b>CENTER FOR PROFESSIONAL EDUCATION</b>			
Freeze, John	Tennessee Office of Criminal Justice Programs	Crucial Conversations in a Law Enforcement setting with a Domestic Violence focus	\$62,918
<b>COMMUNICATIONS &amp; MARKETING</b>			
Heddleston, George	Corporation for Public Broadcasting	FY 2018 Radio Community Service Grant	\$121,948
<b>ENROLLMENT SERVICES</b>			
Freeman, Yancy	Tennessee Higher Education Commission	UTC Summer Bridge Experience	\$70,500
<b>INTERNATIONAL EDUCATION</b>			
Suzuki, Takeo	FHI 360	Social Entrepreneurship SUSI Institute	\$195,399
		2018 Study of the U.S. Institutes for Student Leaders on Women's Leadership	\$199,858
	Arizona State University	2018 Young Southeast Asian Leaders Initiative (YSEALI) Academic Fellowship	\$379,961
<b>LIBRARY</b>			
Runyon, Carolyn	National Historical Publications and Records Commission	Opening Access: Building Finding Aids for the Chattanooga History Collections	\$96,890
<b>SIMCENTER</b>			
Qin, Hong	National Science Foundation	Spokes: MEDIUM: SOUTH: Collaborative: Integrating Biological Big Data Research into Student Training and Education	\$549,885
Sartipi, Mina	National Science Foundation	CI-New: Collaborative Research: A Sandbox for Fostering Smart City Development	\$1,839,569
Skjellum, Anthony	National Science Foundation	SHF: Small: Collaborative Research: Coupling Computation and Communication in FPGA-Enhanced Clouds and Clusters	\$186,192
		REU Supplement for SHF: Small: Collaborative Research: Coupling Computation and Communication in FPGA-Enhanced Clouds and Cluster	\$16,000
		Collaborative Research: CICI: Regional: SouthEast Scientific Cybersecurity for University Research (SouthEast SECURE)	\$60,949
		SHF-Small: Collaborative Research: In-Situ Analytics for Petascale and Exascale Applications	\$227,432
		CICI: Data Provenance: Collaborative Research: Provenance Assurance Using Currency Primitives	\$195,388
		Supplement for CICI: Data Provenance: Collaborative Research: Provenance Assurance Using Currency Primitives	\$39,078
		SHF-Small: Collaborative Research: Transforming MPI Applications for Scalability and Fault-Tolerance	\$235,432
		SaTC: CORE: Small: Collaborative: Compiler-Assisted Secure Sensor Networks	\$173,966
		REU Supplement for CICI Grant –SeSecure	\$16,000

		Practical Community Prototyping for MPI-Next: Functionality and Performance, Best Practices and Rapid Adoption	\$1,910,712
		CPS: Medium: Collaborative Research: RUI: Identity, Trust, and Resilient Architecture for IoT/CPS at Scale	\$489,663
		CPS: Medium: Collaborative Research: Power-Consumption-based Detection & Analysis of Sabotage Attacks in Additive Manufacturing (PowerDetect)	\$328,534
		CRI Preliminary: CI-P: Building a Federated IBM Power-based Cloud and Community for Heterogeneous HPC and Data Science	\$1
		SHF: Medium: Collaborative Research: Next-Generation Message Passing for Parallel Programming: Resiliency, Time-to-Solution, Performance-Portability, Scalability, and QoS	\$539,740
		REU Supplement for CICI Grant –Blockchain	\$16,000
		SaTC: CORE: Small: Collaborative: An Holistic Framework for Securing CPS/IoT Infrastructure	\$186,662
	Lawrence Livermore National Laboratory	Fast Failure Recovery Methods MPI Applications	\$59,816
	Clemson University	CICI: RDP: Collaborative Research: Contracts and Distributed Data Ledgers to Enforce Science Data Conformance	\$479,803
Sreenivas, Kidambi	Pointwise, Inc.	Mesh curving for higher order applications	\$99,982
	Auburn University	Robust Scale Resolving Turbulence Models for Higher-Order Streamlined Upwind Petrov-Galerkin Finite-Element Methods	\$310,667
<b>STUDENT AFFAIRS</b>			
Henderson, Tricia	HHS Substance Abuse and Mental Health Services	UTC GLS Suicide Prevention Project	\$301,625
		Chattanooga Mental Health Partnership Project	\$373,427
Oglesby, Carol	American Cancer Society	SmokeFree UTC	\$12,000
<b>VICE CHANCELLOR FOR RESEARCH</b>			
Carroll, Andrew	Mainspring Conservation Trust	Mainspring Conservation Trust - Application Development	\$22,214
	Lyndhurst Foundation	GreenSpaces Mapping Support	\$10,000
Heath, Gregory	University of California, San Diego	Learning from the Lancet - ODV+	\$0
	Oak Ridge Associated Universities	Tennessee University-Business Showcase	\$4,000
Mix, Charles	Enterprise Center	East Lake Walk Sheds	\$250
		Spatial Analysis and Mapping of Historic Tax Data for Chattanooga, Tennessee	\$1,438
	Land Between The Lakes Association Inc.	TN Valley Water Trails Data Update	\$1,799
	American Rivers	Tuckasegee River Trail Map Design	\$3,229
Romagni, Joanne	Tennessee Higher Education Commission	Center for Excellence in Applied Computational Science & Engineering	\$1,171,986
	UC Foundation	Academic Initiatives and Educational Excellence Projects	\$1,120,000
<b>Total Proposed Funding</b>			<b>\$42,944,804</b>



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