

BULLETIN

CREATIVITY • INNOVATION • SERVICE

Hallmarks of excellence in higher education. Keys to success in life. Be a part of it. Ask how.

MTSU assistant professors achieve early success



Hannah Terletska, Department of Physics and Astronomy, was awarded \$135,000 from the National Science Foundation to support her research, "Collaborative Research: Element: Development of MuST, A Multiple Scattering Theory-based Computational

Software for First Principles Approach to Disordered Materials." Terletska was hired at MTSU in August 2017.



Donald Walker, Department of Biology, earned a new award of \$35,000 this summer for his research titled, "Analyze *Pseudogymnoascus destructans* isolates for the presence of endohypal symbiotic bacteria that may impact the pathogenicity of the fungus to mammals."

This is Walker's fifth research grant since joining MTSU in August 2018, for a cumulative award amount of \$471,954.

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UPCOMING FUNDING OPPORTUNITIES

National Science Foundation: Discovery Research PreK–12 (DRK–12)

Deadline: Nov. 13

[nsf.gov/pubs/2017/nsf17584/nsf17584.pdf](https://www.nsf.gov/pubs/2017/nsf17584/nsf17584.pdf)

The Discovery Research PreK–12 program (DRK–12) seeks to significantly enhance the learning and teaching of science, technology, engineering, mathematics, and computer science (STEM) by PreK–12 students and teachers, through research and development of STEM education innovations and approaches. Projects in the program build on fundamental research in STEM education and prior research and development efforts that provide theoretical and empirical justification for proposed projects. Projects should result in research-informed and field-tested outcomes and products that inform teaching and learning. Teachers and students who participate in DRK–12 studies are expected to enhance their understanding and use of STEM content, practices, and skills.

National Endowment for the Humanities (NEH): Collaborative Research

Deadline: Dec. 4

[neh.gov/grants/research/collaborative-research-grants](https://www.neh.gov/grants/research/collaborative-research-grants)

NEH Collaborative Research grants support groups of two or more scholars engaging in significant and sustained research in the humanities. The program seeks to encourage projects in a single field of study, as well as interdisciplinary work, both within the humanities and beyond. Projects that include partnerships with researchers from the natural and social sciences are encouraged, but they must remain firmly rooted in the humanities and must employ humanistic methods. Collaborators may be drawn from a single institution or several institutions across the United States; up to half of the collaborators may be based outside of the U.S. Partnerships among different sorts of institutions are welcome: For example, research universities might partner with teaching colleges, libraries, museums, or independent research institutions.

Eligible projects must propose tangible and sustainable outcomes such as co-authored or multi-authored books; born-digital publications; themed issues of peer-reviewed journals; and open-access digital resources. All project outcomes must be based on and must convey interpretive humanities research. All award recipients are expected to disseminate the results of their work to scholarly audiences and/or general audiences.

National Science Foundation: Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR)

Deadline: Varies depending on track (December; February 2020)

[nsf.gov/pubs/2019/nsf19601/nsf19601.htm](https://www.nsf.gov/pubs/2019/nsf19601/nsf19601.htm)

IUSE: EHR seeks to support projects that have high potential for broader societal impacts, including improved diversity of students and instructors participating in STEM education, professional development for instructors to ensure adoption of new and effective pedagogical techniques that meet the changing needs of students, and projects that promote institutional partnerships for collaborative research and development. IUSE: EHR especially welcomes proposals that will pair well with the efforts of NSF INCLUDES ([nsf.gov/news/special_reports/nsfincludes/index.jsp](https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp)) to develop STEM talent from all sectors and groups in our society.

HERE TO HELP!

For assistance with finding and preparing for funding opportunities, please contact your ORSP pre-award specialist:

Samantha Cantrell

samantha.cantrell@mtsu.edu

615-494-8751

Behavioral and Health Sciences, Liberal Arts, Media and Entertainment, Jones College of Business, Walker Library, University College, non-academic units

Jolene Gordon

jolene.gordon@mtsu.edu

615-898-5894

Basic and Applied Sciences, College of Education

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Elizabeth Dyer, Tennessee STEM Education Center (TSEC), received a new award of \$452,728 this summer for “Advancing Computational Grounded Theory for Audiovisual Data from STEM Classrooms.” This new funding to MTSU is a sub-award of National Science Foundation funding to the University of Illinois. Dyer arrived at TSEC in June.



Mengliang Zhang, Department of Chemistry, landed a new award this summer from the Federal Emergency Management Agency of \$224,997 to support his research entitled “Characterization of Toxicants in the PMs of Wildfire Smoke,” which he will undertake with co-principal investigator Ngee Chong. This is Zhang’s second award since joining the Chemistry faculty in August 2017.

Grant Writing Enhancement Program

The Grant Writing Enhancement Program (GEP) is a professional development experience of direct individual and group support for faculty and administrators, regardless of their level of grant writing experience.

The goals of the Grant Writing Enhancement Program include:

1. Prepare scholars to be leaders in their fields.
2. Strengthen a culture across campus of expectations, opportunity, and rewards for faculty engagement in sponsored programs.
3. Increase the number of faculty and administrators successfully engaged in grant writing at MTSU.
4. Increase the number and dollar value of externally funded projects, programs, and centers across the University.

To meet these goals, the Office of Research and Sponsored Programs (ORSP) has developed a three-year curriculum consisting of the following components: Professional Development (Year 1), Grant Writing (Year 2), and Award Management (Year 3).

If you are interested in learning more about GEP, please visit mtsu.edu/research/GEP/index.php.

UPCOMING EVENTS FOR GEP

ORSP Resources

Friday, Oct. 4
1:00–2:00 p.m.
Walker Library, Room 264A

This session will introduce you to the ORSP staff and expand upon the services we provide. It also will cover how to search for funding using GrantFoward and site-specific funding pages (National Science Foundation, Department of Education, National Institutes of Health, etc.).

Creating a Professional Development Plan

Friday, Nov. 1
Noon–1:00 p.m.
Ingram Building, MT Center

Graduate Studies Dean David Butler, who is also vice provost for research, and ORSP Director Jeff Porter will explain the importance of creating a professional development plan, offer advice and insight into do’s and don’ts, review sample plans, and outline next steps.

WORKSHOPS AND TRAINING

The ORSP is developing our campus training schedule for the 2019–20 academic year. Our tentative schedule includes these upcoming workshops:

October: Building Collaborations

November: Working with Federal Sponsors

January: Scholarship and Cybersecurity

February: Working with Tennessee Agencies

March: Entrepreneurship

April: Intellectual Property, Technology Transfer, and Commercialization

Summer 2020: Working with Foundations

MARK YOUR CALENDARS!

Building Collaborations

Friday, Oct. 18, 1:00–2:00 p.m.
Wiser-Patten Science, Room 102

Expert Panel:

Rick Moffett, Psychology

DeAnne Priddis, Communication Studies

Chandra Story, Health and Human Performance

[Register Here](#)

Working with Federal Sponsors: Department of Education, National Science Foundation, Department of Agriculture)

Friday, Nov. 15, 1:00–2:00 p.m.
Wiser-Patten Science, Room 102

Expert Panel:

Song Cui, Agriculture

Greg Rushton, Director, Tennessee STEM Education Center

[Register Here](#)

FROM THE DESK OF . . .



**Sharon Scott,
Grants Support
Analyst**

When making requests to hire graduate assistants, student workers, or temporary hourly workers for **grant-related** projects, please use the following template:

Student Name:

Student's M Number:

Student's Email Address:

Job Begin Date and Job End Date:

Grant Position Number:

Type of Position: (i.e., Student Worker, Graduate Assistant, Temp. Hourly)

Pay Rate: (Please note if the position includes a stipend and the amount of the stipend)

T-Org:

Grant Index Number:

Providing all of the above information in the initial request will significantly accelerate the hiring process.

If there are any questions, feel free to contact Sharon Scott in the Office of Research and Sponsored Programs at sharon.scott@mtsu.edu or 615-494-8720.

FULBRIGHT SCHOLAR-IN-RESIDENCE PROGRAM

DEADLINE: NOV. 1

The Fulbright Program is now accepting applications for the 2020–21 academic year for the **Fulbright Scholar-in-Residence (S-I-R) Program**.

The Fulbright Scholar-in-Residence Program is a wonderful opportunity for U.S. institutions to host a visiting scholar on their campus for a semester or a full academic year to teach undergraduate courses, assist with internationalizing curriculum, and engage with the community. Applications are due on **Friday, Nov. 1**.

For more info, register for the last webinar:

- **S-I-R Last Call (Round 2)**, Thursday, Oct. 17, 1:00 p.m.–2:00 p.m. CDT

Visit the Fulbright **website** to listen to recordings of our other webinars and download a copy of the **S-I-R Application Guidelines**. If you have any questions, email sir@iie.org.

FULBRIGHT INTERNATIONAL EDUCATION ADMINISTRATORS (IEA) SEMINARS

The **Fulbright International Education Administrators (IEA) Seminars** are two weeks in length and are designed specifically for U.S. higher education professionals. These seminars demystify higher education in the destination country and include campus visits with a cross-section of universities and colleges; briefings with faculty and administrators, government officials, and leading educational experts; and tours of historical and cultural sites.

To listen to the recent webinar that discusses an overview of all of the IEA awards or register for upcoming country webinars, visit the Fulbright **website**.

Upcoming deadlines include:

- **Japan**—Deadline: Nov. 1
- **France**—Deadline: Feb. 3, 2020
- **Germany**—Deadline: Feb. 3, 2020

Grants generally include round-trip airfare, travel within the host country, lodging, and a lump sum supplement for incidentals.

Applicants must be U.S. citizens. Please also review the complete eligibility criteria, application guidelines, and review criteria on the Fulbright **website** or email IEA@iie.org for more details.

Student researchers can SOAR with new group

The Undergraduate Research Center is pleased to announce the formation of a new student organization comprised of undergraduate researchers who are committed to developing and sustaining an active and successful undergraduate research environment at MTSU. The organization is focused on enhancing a student's research capacity through increased awareness, collaboration, and skill-building.

The **Student Organization for the Advancement of Research**, referred to as **SOAR**, was approved and recognized as an official organization on Sept. 23.

Why should students join?

- SOAR will enhance a student's research capacity by offering workshops and trainings.
- SOAR will assist students in the preparation of poster presentations and development of abstracts to increase conference presence on a national level, encourage students to attend the National Conference on Undergraduate Research, and facilitate travel preparations.
- SOAR will provide peer mentoring to students new to undergraduate research.

If you have a student interested in joining, please contact Jamie Burriss at jamie.burriss@mtsu.edu.

FALL URECA RECIPIENTS NAMED

To support its vision of nurturing a culture of research and creative activity at MTSU through support for undergraduate students and their faculty mentors, the Undergraduate Research Center (URC) offers Undergraduate Research Experience and Creative Activity (URECA) grants to students three times a year.

The URC's commitment to excellence in research, scholarship, and creative projects is exemplified through the URECA program, which presents an opportunity for undergraduate students to work alongside distinguished faculty mentors through a structured mentored program. The application process is competitive, but the benefits are rewarding.

Congratulations to our Fall 2019 URECA recipients!

See page 7 for recipient list

FALL 2019 URECA RECIPIENTS

NAME	PROJECT TITLE	MENTOR(S)	PROGRAMS
Omar Aly	Morphological Identification of Forensically Important Flies from East Tennessee to Build an Artificial Intelligence (AI)-Based Fly ID System	Yanseung Jeong	Biology
Kaitlyn Berry	Examining the Automaticity of Vowel Letter Speech-Sound Integration Using Mismatch Negativity	Timothy Odegard	Psychology
Timothy Bodey	Satanism Confronted Part 2	Jenna Gray-Hildenbrand	Religious Studies
Davishea Carter	Evidence-Based Genome Annotation for Degradative Enzymes in Fungal Pathogen, <i>Cryptococcus neoformans</i>	Rebecca Seipelt	Psychology
Jared Frazier	Novel method for the detection and quantitation of organic ligands bonded to CdSe quantum dots using direct analysis in real time mass spectrometry	Mengliang Zhang	Chemistry
Lucas Griggs	Sample Preparations and XRD Preferences of K-bentonites	Clay Harris	Geosciences
Joseph Gulizia	Color of feed effects on broiler performance of high growth rate and high meat-yielding broilers	Kevin Downs	Animal Science
Nikolas Hllervik	Synthesis of Amino Aurones: An Exploration into Nitrogenous Functional Groups and Organometallic Catalysts	Scott Handy	Chemistry
Koda Hengstenberg	Exploration of Aza-aurone, Thioaurone and Triazole Systems for Florescence in Bio-imaging	Scott Handy	Chemistry
Steffany Jenkins	Engineering tetO system to test cell wall proteins contribution to cell's strength	James Robertson	Biology
Randall Jones	Automated identification of natural and cultivated vegetation based on LiDAR-derived image texture	Henrique Momm	Geosciences
Nibraas Khan	Dynamic Threshold for the Partially-Observable and Non-Observable Working Memory Toolkit	Joshua Phillips	Computer Science
Jewel Larkins	Investigating the Effects of Bacillus Endophytes on Plant Growth	Stephen Wright	Biology
Jasmin Laurel	Effect of polarization change in a laser trap for single ionization of human red blood cells (RBCs)	Daniel Erenso	Physics and Astronomy
Savannah Lawwell	Producing Pollen, Pollination, and Assessment of Seed Yields in the Varieties of Feminized Industrial Hemp (<i>Cannabis sativa</i>)	John DuBois	Biology
Dirhat Mohammed	Graduate Teaching Cognition Related to Teaching: a Comparison of STEM and Non-STEM Groups	Grant Gardner	Biology
Gabrielle Mould	The relationship between somatic cell count, bacterial cultures, and hygiene on milk production measures of cows housed in a compost-bedded pack barn	Jessica Carter	Agriculture
Emma Nelson	Gelatin and vitamin C intervention in college football athletes: Retrospective case studies	Tiffany Harrison	Human Sciences
Laurel Oneill	From Script to Stage: The Development of a New Play	Claudia Barnett	English
Lucas Remedios	N-task Learning on Partially Observable Image-Processing Tasks	Joshua Phillips	Computer Science
Zachary Sanchez	Eldercare Workforce Crisis	Shelley Moore	Nursing
Robyn Sessler	An EEG Investigation of Cognitive Resilience Factors in College Students	Timothy Odegard	Psychology
Kayley Stallings	Determining if steeping method and concentration affect the microbial makeup of kombucha	Keely O'Brien	Agriculture
Sosina Tolossa	Agent/Individual-Based Modeling and Control for Wildfires	Wandi Ding	Mathematical Science
Autumn Trail	Body Forms: Augmented/Virtual Reality and AutoEthnography	Rick Cottle and Mary Beth Asbury	Apparel Design
Luis Zungia	Investigating vertical transmission of microbial symbionts in marine sponges	Cole Easson	Biology

Fall Undergraduate Research Open House— **DATE CHANGE!**

The Office of Research and Sponsored Programs and the Undergraduate Research Center are hosting an open house for incoming freshmen and transfer students and would love for you to join us.

Friday, Nov. 15, 2019, 11:00 a.m.–1:00 p.m.

Science Building, 2nd-floor atrium

What's in it for students?

First of all, **free lunch!** But more importantly, attendees will have an opportunity to talk one-on-one with student researchers and learn about their experiences in mentored research. Students can check out research posters and ask student researchers questions about how they designed their research, selected a faculty mentor, and balanced coursework, extracurriculars, and research.

We hope to see you there!

Mentoring a student who is interested in presenting?

Signups at mtsu.edu/urc/open_house.php

Deadline to register: Nov. 1 by 4:30 p.m.

Questions? Please contact Program Manager Jamie Burriss, jamie.burriss@mtsu.edu

