



VICE PRESIDENT FOR
RESEARCH AND PARTNERSHIPS
The UNIVERSITY *of* OKLAHOMA

RESEARCH AND CREATIVE ACTIVITY
AWARDS BANQUET
— 2023 —

Crossroads Research Fellow

The Crossroads Project, Henry Luce Foundation



James Howard Hill Jr.

Assistant Professor

Department of Religious Studies

College of Arts and Sciences



**2022 Scientific and Technological Activities
Commission's Outstanding Early Career Award**
American Meteorology Society



Joseph Ripberger
Associate Professor
Department of Political Science
College of Arts and Sciences



CAREER: An Altruistic Game Theoretic Framework to Characterize Environmental Responsiveness of Residential Electricity Consumption

National Science Foundation



Jie Cai

Assistant Professor

School of Aerospace and Mechanical Engineering

College of Engineering



**CAREER: UAV-Based Radar Suite for Bulk-Snow
Characterization and Risk Management**
National Science Foundation



Jay McDaniel

Assistant Professor

School of Electrical and Computer Engineering

College of Engineering



**CAREER: Untangling Chaotic Electromagnetic
Transient Phenomena in Power Systems Mixed with
Volatile Inverter-Based Renewable Energy Resources**
National Science Foundation



Paul Moses

Assistant Professor

School of Electrical and Computer Engineering

College of Engineering



CAREER: Decoding the Dynamics of Complex Fluids Near Surfaces and Interfaces

National Science Foundation



Sepideh Razavi

Assistant Professor

School of Chemical, Biological and Materials Engineering

College of Engineering



**CAREER: Intelligent Multi-Contrast Imaging
Platform for Needle-Based Interventions**
National Science Foundation



Qinggong Tang
Associate Professor
School of Biomedical Engineering
College of Engineering



CAREER: The Genetic and Developmental Basis of Body Size Evolution in Nematodes

National Science Foundation



Gavin Woodruff
Assistant Professor
Department of Biology
College of Arts and Sciences



**CAREER: Forecast-informed Flexible Reservoir
System Modeling Enabled by Artificial Intelligence
Algorithms Using Subseasonal-to-seasonal
Hydroclimatological Forecasts**

National Science Foundation



Tiantian Yang

Assistant Professor

School of Civil Engineering and Environmental Science

College of Engineering



**CAREER: Neuro-navigation Guided Non-invasive
Brain Stimulation for Individualized Precision
Rehabilitation in Stroke**

National Science Foundation



Yuan Yang

Assistant Professor

School of Biomedical Engineering

College of Engineering



Department of Commerce Build Back Better Regional Challenge Grant

\$35M from U.S. Department of Commerce, Economic Development Administration

Biotech Core Facility

\$7.1M from U.S. Department of Commerce, Economic Development Administration



Lead PI:
John Klier
Dean

College of Engineering

Co-PIs: Dimitrios Papavassiliou, Vassilios Sikavitsas, Zahed Siddique, Michele Galizia, Joyce Burch, Chongle Pan, Talayeh Razzaghi

Oklahoma Biotech Startup Programs

\$6.9M from U.S. Department of Commerce, Economic Development Administration



Lead PI:
Thomas Wavering
Instructor

*Division of Entrepreneurship and Economic Development
College of Business*

Co-PIs: David Kinsinger, Keith Brigham, John Hanak



COBRE Award: Oklahoma Center of Medical Imaging for Translational Cancer Research

**\$11.3M from U.S. Department of Health and Human Services,
National Institutes of Health**

Leadership Team:



Javier Jo

Professor

*School of Electrical and Computer
Engineering
College of Engineering*



Hong Liu

Professor

*School of Electrical and Computer
Engineering
College of Engineering*



Robert Mannel

Professor

*Department of Obstetrics and
Gynecology
College of Medicine*



Kathleen More

Professor

*Department of Obstetrics and
Gynecology
College of Medicine*



Hailstone

\$7.8M from U.S. Department of Defense, Air Force



Lead PI:

Mark Yeary

Professor

School of Electrical and Computer Engineering

College of Engineering

Co-PIs: Caleb Fulton, Nathan Goodman, Robert Palmer,
Jay McDaniel, Justin Metcalf



Oklahoma COBRE in Structural Biology (Phase 3)
\$5.7M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:

Ann West

Professor

*Department of Chemistry and Biochemistry
College of Arts and Sciences*



RII Track-2 FEC: Cost-effective Conversion of Natural Gas and Biomass to Hydrogen and Performance Carbons

\$4M from National Science Foundation



Lead PI:

Steven Crossley

Professor

School of Chemical, Biological and Materials Engineering

College of Engineering

Co-PIs: Daniel Resasco, Bin Wang, Ngoc Bui



Improving Outcomes in Endovascular Treatment of Intracranial Aneurysms: Combining Additive Manufacturing, In-silico Modeling, and Shape Memory Polymers

\$3.7M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:

Chung Hao Lee

Associate Professor

*School of Aerospace and Mechanical Engineering
College of Engineering*

Co-PI: Yingtao Liu



OU Child Care Access Means Parents in School Program

\$3.7M from U.S. Department of Education



Lead PI:

Kyong-Ah Kwon

Associate Professor

*Department of Instructional Leadership and Academic Curriculum
College of Education*

Co-PIs: Courtney Dewhirst, Brittany Hott, Rebecca Waggoner,
Diane Horm, Erin Casey



Potentiating a Systemic Antitumor Response by Interstitial Localized Ablative Immunotherapy to Synergize with Immune Checkpoint Therapy for Metastatic Pancreatic Tumors

\$3M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:
Wei Chen

Professor

*School of Biomedical Engineering
College of Engineering*



OU Elevate: Implementing Equitable Multi-Context Faculty Evaluations and Workload Distributions

\$3M from National Science Foundation



Lead PI:

Lori Snyder

Professor

Department of Psychology

College of Arts and Sciences

Co-PIs: Megan Elwood Madden, Amy Cerato, Keri Kornelson, Georgia Kosmopoulou, Sarah Ellis, Carol Silva, Mashhad Fahes, Natalie Youngbull



Integrating Socially Led Co-design Into Consent-based Siting of Interim Storage Facilities

\$2.9M from U.S. Department of Energy



Lead PI:

Kuhika Gupta

Associate Director for Energy and Nuclear Projects

Institute for Public Policy Research and Analysis

Vice President for Research and Partnerships

Co-PIs: Hank Jenkins-Smith, Joseph Ripberger, Carol Silva



Novel Electrically Small Wideband Time-varying Antennas

\$2.5M from Boeing Defense and Space Group



Lead PI:

Jessica Ruyle

Associate Professor

School of Electrical and Computer Engineering

College of Engineering

Co-PI: Hjalti Sigmarsson



Single Stage Surgical Intervention for Treatment of Severe Traumatic Brain Injury

\$2.4M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:

Michael Detamore

Professor

School of Biomedical Engineering

College of Engineering



Deciphering the Mechanism of Action of Carnitine, a Novel Treatment for Chronic Chagas Disease

\$2.4M from U.S. Department of Health and Human Services,
National Institutes of Health



Lead PI:

Laura-Isobel McCall

Assistant Professor

Department of Chemistry and Biochemistry

College of Arts and Sciences



The Horus Digital Polarimetric Phased Array Radar: Weather Observations and Further Enhancements

\$2.3M from U.S. Department of Commerce, National Oceanic and
Atmospheric Administration



Lead PI:

Robert Palmer

Professor

School of Meteorology

College of Atmospheric and Geographic Sciences

Co-PIs: David Bodine, Boon Leng Cheong, Caleb Fulton, Pierre Emmanuel Kirstetter, Hjalti Sigmarsson, Guifu Zhang, Tian-You Yu, Mark Yeary, David Schvartzman, Jorge Salazar-Cerreño



Intelligent Repurposing of Hydrocarbon Wells System to Harness the Geothermal Potential of Oklahoma Sedimentary Basin

\$2.1M from U.S. Department of Energy



Lead PI:

Saeed Salehi

Associate Professor

School of Petroleum and Geological Engineering

College of Earth and Energy

Co-PI: Runar Nygaard



Native American Youths Enjoy Science - YES Oklahoma

\$2M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:
Cecil Lewis

Professor

*Department of Anthropology
College of Arts and Sciences*

Co-PI: Cara Monroe





Happy Teacher Wellness Intervention: Creating a Culture of Head Start Staff Well-Being and Competence

\$1.9M from U.S. Department of Health and Human Services

Lead PI:

Kyong-Ah Kwon

Associate Professor

*Department of Instructional Leadership and Academic Curriculum
College of Education*

Co-PIs: Sherri Castle, Brenda Lloyd-Jones, Mia Kile, Timothy Ford,
Yong Ju Jung, Seulki Jang



Devices Suitable for Sectional Isolation

\$1.8M from Welltec Inc.



Lead PI:

Catalin Teodoriu

Professor

*School of Petroleum and Geological Engineering
College of Earth and Energy*

Co-PI: Ahmad Ghassemi



A Multi-level Mass Spectrometry Pipeline for the Analysis of Whole Proteoforms and Their Complexes

\$1.8M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:
Luca Fornelli
Assistant Professor
Department of Biology
College of Arts and Sciences



Wastewater-Based Epidemiology to Monitor Infectious Pathogens in the State of Oklahoma

\$1.6M from State of Oklahoma, Department of Health



Lead PI:

Jason Vogel

Professor

*School of Civil Engineering and Environmental Science
College of Engineering*

Co-PIs: Ralph Tanner, Keith Strevett, Kara De León



Shift from Unilateral to Bilateral Sensory-Motor Connectivity in Chronic Hemiparetic Stroke

\$1.6M from U.S. Department of Health and Human Services,
National Institutes of Health



Lead PI:

Yuan Yang

Assistant Professor

School of Biomedical Engineering

College of Engineering



A Chemoenzymatic Approach to Accessing Novel Isoprenoid Scaffolds

\$1.6M from U.S. Department of Health and Human Services, National Institutes of Health



Lead PI:

Shanteri Singh

Assistant Professor

Department of Chemistry and Biochemistry

College of Arts and Sciences



The Effect of Medicaid Expansion on Mortality Disparities and Poverty

**\$1.4M from U.S. Department of Health and Human Services,
National Institutes of Health**



Lead PI:

Joel Mueller

Research Assistant Professor

*Department of Geography and Environmental Sustainability
College of Atmospheric and Geographic Sciences*



An LCMS-guided Bioanalytical Approach for Rational Natural Product Library Design and Optimization

\$1.4M from U.S. Department of Health and Human Services,
National Institutes of Health



Lead PI:

Laura-Isobel McCall

Assistant Professor

Department of Chemistry and Biochemistry

College of Arts and Sciences

Co-PI: Robert Cichewicz



Establishing an Integrated Soil, Land use, Weather, Climate Monitoring Network in Peru

\$1.3M from Universidad National Agraria La Molina



Lead PI:

Bradley Illston

Adjunct Assistant Professor

School of Meteorology

College of Atmospheric and Geographic Sciences

Co-PIs: Kirsten de Beurs, Jennifer Koch, David Ebert, Timothy Filley



Geothermal Drilling Research of Super Hot Rocks Phase 1

\$1.2M from DeepPower Inc



Lead PI:

Saeed Salehi

Associate Professor

School of Petroleum and Geological Engineering

College of Earth and Energy



CAREER: Integrating Genomic, Paleoclimatic, and Morphological Approaches to Unravel the Evolutionary History of Fossil and Extant Marine Fishes over Time
\$1.2M from National Science Foundation



Lead PI:

Dahiana Arcila

Assistant Professor

Department of Biology

College of Arts and Sciences



Project SPIDER (OSEP 84.325D Doctoral Preparation Proposal)

\$1M from University of North Florida



Lead PI:

Brittany Hott

Associate Professor

Department of Educational Psychology

College of Education



Report on Homelessness in Oklahoma

\$1M from Oklahoma Housing Finance Authority



Lead PI:

Bryce Lowery

Associate Professor

Division of Regional and City Planning

College of Architecture

Co-PIs: Christina Miller, David McLeod, Kimberly Welch



Surveillance of Pathogens in Sewage in Oklahoma City in 2022

\$1M from City of Oklahoma City



Lead PI:

Jason Vogel

Professor

School of Civil Engineering and Environmental Science

College of Engineering

Co-PIs: Ralph Tanner, Keith Strevett, Bryce Lowery, Kara De León



Classical to Quantum Transition of Self-Organization

\$1M from W. M. Keck Foundation



Lead PI:

Doerte Blume

Professor

*Department of Physics and Astronomy
College of Arts and Sciences*

Co-PIs: Alberto Marino Valle, Grant Biedermann



Development of Compatibility Assessment Model for Existing Pipelines for Handling Hydrogen-Containing Natural Gas

\$1M from U.S. Department of Transportation



Lead PI:

Ramadan Ahmed

Professor

School of Petroleum and Geological Engineering

College of Earth and Energy

Co-PI: Catalin Teodoriu



PIPP Phase I: International Center for Avian Influenza Pandemic Prediction and Prevention

\$1M from National Science Foundation



Lead PI:

Xiangming Xiao

Professor

*Department of Microbiology and Plant Biology
College of Arts and Sciences*

Co-PIs: Jeffrey Basara, Rafal Jabrzemski, Henry Neeman, Yuanwei Qin, Andrea Contina



PIPP Phase I: Next Generation Surveillance Incorporating Public Health, One Health, and Data Science to Detect Emerging Pathogens of Pandemic Potential

\$1M from National Science Foundation



Lead PI:

David Ebert

Professor

School of Electrical and Computer Engineering

College of Engineering

Co-PIs: Dean Hougen, Hank Jenkins-Smith, Bradley Stevenson,
Charles Nicholson, Jason Vogel, Michael Wimberly, Talayeh Razzaghi,
Chao Lan, Thirumalai Venkatesan, Anni Yang



Patent Awards

Amy Cerato

Professor

*School of Civil Engineering and
Environmental Science*

Roger Harrison

Professor

*School of Chemical, Biological and
Materials Engineering*

Robert Palmer

Professor

School of Meteorology

Hamidreza Shabgard

Associate Professor

*School of Aerospace and Mechanical
Engineering*

Rui Q Yang

Professor

*School of Electrical and Computer
Engineering*

Boon Leng Cheong

Assistant Professor

Advanced Radar Research Center

Jeffrey Harwell

Professor

*School of Chemical, Biological and
Materials Engineering*

Andres Cavieres Pinilla

Associate Professor

Division of Architecture

Bor Jier (Ben) Shiau

Professor

*School of Petroleum and Geological
Engineering*

Bayrammurad Saparov

Associate Professor

Department of Chemistry and Biochemistry

Lee Fithian

Associate Professor

Division of Architecture

Jay McDaniel

Assistant Professor

*School of Electrical and Computer
Engineering*

Rakhi Rajan

Associate Professor

Department of Chemistry and Biochemistry

Hjalti Sigmarsson

Associate Professor

Advanced Radar Research Center

Mark Yeary

Presidential Professor

*School of Electrical and Computer
Engineering*



Award for Excellence in Research in Engineering and Applied Science



Steven Crossley

Professor

School of Chemical, Biological and Materials Engineering

College of Engineering



Neal Lane Award for Excellence in Research in the Natural Sciences



Si Wu

Associate Professor

Department of Chemistry and Biochemistry

College of Arts and Sciences



Award for Excellence in Research, Design, and Creative Expression in the Humanities and the Fine Arts



Hans Butzer
Dean
College of Architecture



Award for Excellence in Research, Design, and Creative Expression in the Humanities and the Fine Arts



Rilla Askew
Associate Professor
Department of English
College of Arts and Sciences



Award for Excellence in Research, Design, and Creative Expression in the Humanities and the Fine Arts



Rilla Askew
Associate Professor
Department of English
College of Arts and Sciences



Hans Butzer
Dean
College of Architecture



Award for Excellence in Research in the Social Sciences



Joseph Ripberger
Associate Professor
Department of Political Science
College of Arts and Sciences



Award for Excellence in Transdisciplinary, Convergent Research

Happy Teacher Project

Kyong-Ah Kwon

Associate Professor

*Instructional Leadership and Academic Curriculum
College of Education*

Carolyn Cheema

Assistant Professor

*Rehabilitation Sciences
College of Allied Health*

Seulki Jang

Assistant Professor

*Psychology
College of Arts and Sciences*

Mia Kile

Associate Professor

*Interior Design
College of Architecture*

Corey Peltier

Assistant Professor

*Educational Psychology
College of Education*

Jessica Tsotsoros

Associate Professor

*Occupational Therapy
College of Allied Health*

Michael Baxter, DO

Assistant Professor

*Pediatrics
School of Community Medicine*

Tim Ford

Associate Professor

*Educational Leadership and Policy Studies
College of Education*

Wonkyung Jang

Assistant Professor

*Instructional Leadership and Academic Curriculum
College of Education*

Brenda Lloyd-Jones

Associate Professor

*Human Relations
College of Arts and Sciences*

Ken Randall

Professor

*College of Allied Health
Co-Director of Office of Community Engagement at OU-Tulsa*

Le Wang

Professor

*Economics
College of Arts and Sciences*

Sherri Castle

Assistant Director of Research

*Early Childhood Education Institute
College of Education*

Diane Horm

Director

*Early Childhood Education Institute
College of Education*

Yong Ju Jung

Assistant Professor

*School of Library and Informational Studies
College of Arts and Sciences*

Julie Miller-Cribbs

Associate Professor

*School of Social Work
College of Arts and Sciences*

Susan Sisson

Assistant Professor

*Nutritional Sciences
College of Allied Health*



Award for Excellence in Research Service and Administration



Gayle Parker
Senior Award Administrator
Office of Research Services



IN MEMORIAM _____
**Award for Excellence in Research
Service and Administration**



Susan Cates
Senior Award Administrator
Office of Research Services

