

The Office for Undergraduate Research welcomes you to the third annual Faculty Research Showcase!

What is The Faculty Research Showcase?

This annual exposition spotlights research and creative activity conducted by faculty members and graduate students at the University of Alabama. The purpose of this event is to introduce undergraduates to research faculty and their research. We hope to introduce students to the diversity of research conducted at UA and allow students to network with research faculty members.

What is OUR?

The Office for Undergraduate Research offers programs and resources that can enrich a student's undergraduate experience by offering a way to actively engage in learning outside of the classroom. Many undergraduate researchers work side-by-side with a faculty mentor who challenges them intellectually and can become a lifetime mentor. UA's Office for Undergraduate Research can provide students with the information and resources necessary to engage in original inquiry, scholarship, and creative work during their undergraduate years at the Capstone. Likewise, OUR can connect faculty members to eager, innovative young researchers.

What is ESP?

The Emerging Scholars Program is an exciting opportunity for students at The University of Alabama to get involved in research with a faculty mentor in their chosen field. These research opportunities allow a student to gain experience that deepens his or her understanding in a field of study, to develop the necessary professional skills, to interact with a diverse group of other students and faculty members, and learn appropriate methods and techniques for presenting professional research. ESP also benefits faculty by connecting them with students eager to learn and participate in research throughout their UA careers.

Colleges, Departments, and Offices

College of Arts and Sciences

- Anthropology
- Biological Sciences
- Chemistry and Biochemistry
- Geography
- Physics and Astronomy
- Psychology
- Religious Studies
- Music

College of Engineering

- Chemical and Biological
- Civil
- Electrical and Computer
- Metallurgical and Materials
- Mechanical
- Computer Science

College of Human Environmental Sciences

- Human Development and Family Studies
- Human Nutrition

College of Education

- Curriculum and Instruction
- Educational Leadership, Policy, and Technology
- Kinesiology

College of Communication and Information Sciences

- Communication Studies
- Journalism and Creative Media

College of Community Health Sciences

- Community Medicine and Population Health
- Bioscience and Medicine

Capstone College of Nursing

Remote Sensing Center

Belser-Parton Literacy Center

Alabama Analytical Research Center

Transportation Policy Research Center

School of Social Work

University Libraries

Office for Undergraduate Research

1. Dr. Kevin Kocot

Biological Science
Kocot Lab: Biodiversity and evolution of deep sea and polar invertebrate animals.

2. Dr. Ryan Earley

Biological Science
Earley Lab: Integrative Animal Behavior: From molecules and brains to behavior and mud, we investigate animal behavior from all sorts of different perspectives using the incredible mangrove rivulus fish as a model system.

3. Thomas Franzem

Biological Sciences
Ferguson Lab: Landscape Genetics of a Grassland Specialist Insect.

4. Dr. Stanislava Chtarbanova

Biological Sciences
Chtarbanova Lab: Aging, Immunity and Neurodegeneration Lab

5. Dr. Ravikumar Majeti

Bioscience and Medicine
The Kumar Lab: Rational Design of Drug Delivery Systems

6. Dr. Mercedes M. Morales-Aleman

College of Community Health Sciences
Behavioral Research Lab: The Virtual Promotoras Project

7. Dr. Pamela H. Foster

Community Medicine/Population Health and Institute for Rural Health Research
Community engagement in order to eliminate health disparities

8. Dr. Nathan Culmer & Dr. Todd Smith

College of Community Health Sciences, Capstone College of Nursing
TERM: Technology, Education, and Research in Medicine

9. Dr. Janet Brown

Capstone College of Nursing
Self-efficacy toward managing a chronic illness among individuals with cystic fibrosis

10. Dr. Sara Kaylor

Capstone College of Nursing
Uniontown Color Run

11. Dr. Subhadra Gupta

Metallurgical and Materials Engineering
Magnetic Materials and Devices Lab: Nanopatterned Media and Perpendicular Magnetic Tunnel Junctions

12. Dr. James Harris

Chemical and Biological Engineering
Harris Lab: Heterogeneous catalysis for a healthy planet

13. Dr. Amanda Koh

Chemical and Biological Eng.
Koh Lab: Engineering materials, material composites, and composite interfaces to develop new technology for soft robotics, stretchable electronics, smart infrastructure, novel prosthetics, and improved water quality.

14. Dr. Qiang Huang

Chemical and Biological Engineering
Electrochemical Engineering for Materials Lab: Novel chemical methods to make advanced electronic materials and devices.

15. Dr. Matthew Thompson

Chemistry and Biochemistry
Structure-Based Drug Design to Combat Fosfomycin Resistance and Spectroscopic Investigations into the Role of Electron Transfer in Human DNA Replication Enzymes

16. Dr. Shanlin Pan

Chemistry and Biochemistry
CO₂ Reduction, Water, Energy, and Solar Energy Technology

17. Dr. Mark A. Elliott

Civil Engineering
Elliott Water Research Group: Water, Wastewater, Treatment Technology, Microbiology, Infrastructure

18. Mr. Steven Polunsky

Transportation Policy Research Center

19. Dr. Nilesh Kumar

Metallurgical and Materials Engineering
Processing, microstructure, and mechanical properties correlation in metallic materials.

20. Dr. Bhupendra Khandelwal

Mechanical Engineering
Engines and Combustion Lab:- Gas Turbines Section: How fuels and engines interact with each other for lower emissions and future propulsion/power systems

21. Dr. Michael Goodwin

Mechanical Engineering
Representing Dr. Uddi and his graduate students

22. Dr. Sean Amini

Mechanical Engineering
Decarbonization lab

23. Dr. Xiangrong Shen

Mechanical Engineering
Human-centered Bio-Robotics Lab: Research on assistive and rehabilitation robots

24. Dr. Scott Spear

Remote Sensing Center

Multi-disciplinary research center" focused on the design and development of miniaturized microwave sensors for integration on" manned and unmanned aircraft" and satellites.

25. Dr. Jiaqi Gong

Computer Science

SAIL Lab: The convergence of human and artificial intelligence

26. Dr. Darrin Griffin

Communication Studies

Human Communication Research Lab: Specializing in Topics Related to Interpersonal, Deceptive and Nonverbal Communication

27. Dr. George Daniels

Journalism and Creative Media

Researching race and diversity in community newspapers

28. Dr. Carol Donovan

Belser-Parton Literacy Center

Reading and writing development and instruction

29. Dr. Sheunghyun Yeo

Curriculum and Instruction

Yeo Lab: Educational Chatbot for Preservice Teacher Education

30. Dr. Jewoong Moon

Department of Educational

Leadership, Policy and Technologies

ADiE Lab: Adaptive Design of Immersive e-Learning Lab: Inclusive and Immersive E-Learning Design for Learners with Disabilities

31. Dr. Stephen Katsinas

Department of Educational

Leadership, Policy and Technologies

Education Policy Center

32. Dr. Jonathan Wingo

Kinesiology

Exercise Physiology Laboratory: Physical Activity Measurement, Exercise Immunology, Athlete Monitoring & Performance, Cardiovascular Health, Body Composition, Thermoregulation, Occupational Health, Physical Activity & Health Outcomes, Muscle Assessment and Performance

33. Dr. Nicholas Magliocca

Department of Geography

Laboratory for Human-Environment Interactions Modeling and Analysis: Community engagement and sustainable agriculture in Alabama, and mapping illicit supply networks globally

34. Dr. Holly L. Horan
Anthropology
Biocultural and Community-Engaged Anthropological Research on Perinatal Stress and Birth Outcomes

35. Dr. Tricia Witte
Human Development and Family Studies
Prevention of Violence and Substance Abuse Research Lab: using research to improve violence and substance abuse prevention programs

36. Dr. Jason Scofield
Human Development and Family Studies
Research Labs in the Department of Human Development and Family Studies

37. Dr. Lingyan Kong
Human Nutrition
Food Biomacromolecules Lab

38. Dr. Libo Tan
Human Nutrition
Tan Lab: Metabolism and Bioavailability of Vitamins and Phytochemicals Critical For Neonatal Development

39. Dr. Diane Boyd Schultz
Music
The Vuorovesi Trio: Repertoire for flute, oboe, and clarinet

40. Dr. Russell McCutcheon
Religious Studies
Department of Religious Studies
Digital Lab: Computational Analysis Applied in the Humanities

41. Dr. Hee Lee
School of Social Work
Health Disparity Lab: Investigate health disparities in rural areas using the social determinants of health framework

42. University Libraries
Vincent Scalfani- Chemical Information Interoperability: Benchmarking line notations and atomic weights.
Karleigh Riesen and Sara Whitver- Reflective Pedagogy in the Library Instruction Classroom

43. The Office for Undergraduate Research
Dr. Kimberly Bissell and Jackie Harrison

44. Dr. Krishna Shah
Mechanical Engineering
Sustainable Energy Systems Lab:
Experimental study on the effect thermal environment on battery performance and life for electrical vehicle (EV) application

Thank You

for attending the Faculty Research Showcase!

On behalf of the Office for Undergraduate Research, thank you for helping make the third Faculty Research Showcase a success! This event would not be possible without faculty participants and student support. OUR is active throughout the year as we assist undergraduates in finding research opportunities across campus. Your participation helps connect students to life-changing experiences.

Follow us on social media to keep up with the rest of OUR's activities throughout the year!

Facebook: [Facebook.com/UAOUR](https://www.facebook.com/UAOUR)

Twitter: @UA_OUR

Instagram: @UAOUR

TikTok: @UAOUR

For more information about ESP or any of OUR's programs, visit undergraduateresearch.ua.edu or contact Jackie Harrison at jharrison@ua.edu.