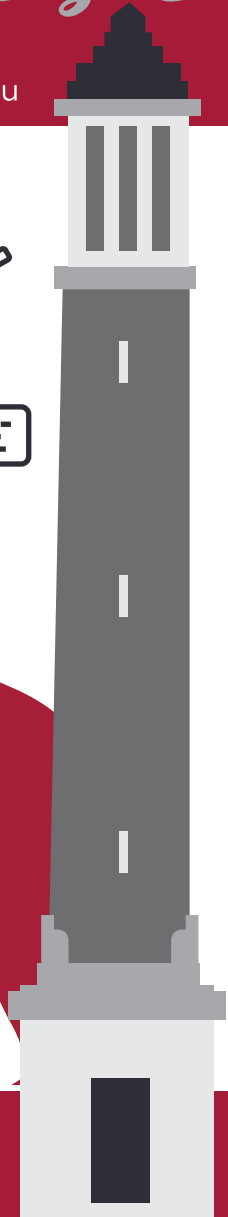


# Faculty Research *showcase*

10-25-2020 • Live at 5 pm  
[undergraduateresearch.ua.edu](http://undergraduateresearch.ua.edu)



 Office for Undergraduate Research

*hosted by*  
The Office for Undergraduate Research

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

## 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 to assist in their labs.

## 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 to 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

- American Studies
- Anthropology
- Art and Art History
- Biological Sciences
- Chemistry and Biochemistry
- English
- Modern Languages and Classics
- Physics and Astronomy
- Psychology
- Psychology and CYDI

## COLLEGE OF HUMAN ENVIRONMENTAL SCIENCES

- Clothing, Textiles, and Interior Design
- Human Nutrition
- Hospitality Management

## COLLEGE OF COMMUNICATION AND INFORMATION SCIENCES

- Journalism and Creative Media

## COLLEGE OF EDUCATION

- Curriculum and Instruction
- Special Education and Multiple Abilities
- Department of Educational Studies in Psychology, Research Methodology, and Counseling

## COLLEGE OF ENGINEERING

- Chemical and Biological Engineering
- Computer Science
- Electrical and Computer Engineering
- Mechanical Engineering
- Metallurgical and Materials Engineering
- Civil, Construction, and Environmental Engineering

## CAPSTONE COLLEGE OF NURSING

## ALABAMA TRANSPORTATION POLICY CENTER

## OFFICE FOR UNDERGRADUATE RESEARCH

### **1. DR. SHANLIN PAN**

College of Arts and Science:  
Chemistry and Biochemistry  
Shanlin Pan Lab

Developing functional low-dimension metallic and semiconductor electrode materials with synergistic functions for sunlight harvesting, conversion, and storage into chemical fuels.

span1@ua.edu

### **2. DR. RAJESH KANA**

College of Arts and Science:  
Psychology  
Cognition, Brain, and Autism  
Laboratory ([www.cbra.ua.edu](http://www.cbra.ua.edu))  
Neurobiology of Autism Spectrum  
Disorders.  
rkkana@ua.edu

### **3. DR. ALEXEY VOLKOV**

Engineering: Mechanical  
Engineering  
Computational Mechanics Group  
Computation mechanics for material  
processing  
avolkov1@ua.edu

### **4. DR. TRACEY S. HODGES**

College of Education:  
Curriculum and Instruction  
Writing Instruction in Elementa-  
ry and Middle Schools Grades:  
How we measures writing achievement,  
motivation, and instruction.  
thodges@ua.edu

### **5. DR. YUSUF AKAMOGLU**

College of Education: Special  
Education and Multiple  
Abilities

Telepractice Lab

Supporting Families with Children  
with Autism via Telepractice: Reaching  
Families Online.

yakamoglu@ua.edu

### **6. DR. PAUL ALLISON**

College of Engineering:  
Mechanical Engineering  
Manufacturing at the Point-of-  
Need (MaPN) Initiative  
Multidisciplinary basic and applied  
research programs necessary for a sus-  
tainable approach for advancement.  
pallison@eng.ua.edu

### **7. DR. YOROU WANG AND HALIM LEE**

Department of Educational  
Studies in Psychology,  
Research Methodology, and  
Counseling  
Micro-Facial Expression (MET)  
Lab

Understanding students' emotions when  
they are conducting different kinds of  
learning tasks with real time emotion  
reaction recognition.

yurou.wang@ua.edu

**8. DR. KELLY E. SHANNON-HENDERSON**

College of Arts and Sciences:  
Modern Languages and  
Classics  
Undergraduate Research Oppor-  
tunities in the Classics Program  
keshannon@ua.edu

**9. DR. EDWARD SAZONOV**

College of Engineering:  
Electrical and Computer  
Engineering  
Computer Laboratory of  
Ambient and Wearable Systems  
esazonov@eng.ua.edu

**10. DR. LAUREN KOIS**

College of Arts and Sciences:  
Psychology  
Collaborative Law and Social  
Sciences (CLASS) Laboratory  
Forensic psychology research.  
lekois@ua.edu

**11. DR. LINGYAN KONG**

College of Human  
Environmental Sciences:  
Human Nutrition  
Food biomacromolecules in  
nutrition and nanotechnology.  
lkong@ches.ua.edu

**12. DR. ELLIOT PANEK**

College of Communication and  
Information Sciences:  
Journalism and Creative Media  
Alabama Reddit Research Group  
We study the social dynamics of the  
social news platform Reddit.  
www.arrg.ua.edu epanek@ua.edu

**13. DR. LIBO TAN**

College of Human  
Environmental Sciences:  
Human Nutrition and  
Hospitality Management  
Tan Lab  
Bioavailability, Pharmacokinetics, and  
Biological Activities of Micronutrients  
and Phytochemicals.  
ltan@ches.ua.edu

**14. DR. JIAQI GONG**

College of Engineering:  
Computer Science  
Brain Research Across  
The Sensor-Accelerated  
Intelligent Learning (SAIL) Lab  
The convergence of human and artificial  
intelligence.  
jiaqi.gong@ua.edu

**15. DR. MACARENA SUÁREZ PELLICIONI**

College of Education:  
Educational Studies in  
Psychology  
Brain Learning, and Education  
Lab  
Educational Neuroscience.  
mspellicioni@ua.edu

**16. DR. SHEUNGHYUN YEO**

College of Education:  
Curriculum and instruction  
Dynamic Math Lab  
Dynamic digital tools for elementary  
mathematics.  
syeo@ua.edu

**17. MARCOS SANTANDER**

College of Arts and Sciences:  
Physics and Astronomy  
Multimessenger Astrophysics Lab  
Multimessenger studies of high-energy  
astrophysical sources, astrophysics  
instrumentation development.  
jmsantander@ua.edu

**18. DR. CAITLIN HUDAC**

College of Arts and Sciences:  
Psychology  
Brain Research Across  
Development (B-RAD) Lab  
Studies brain development in infants,  
children, and adults with and without  
neurodevelopmental disorders (e.g.  
autism, intellectual disability).  
cmhudac@ua.edu

**19. DR. NILESH KUMAR**

College of Engineering:  
Metallurgical and Materials  
Engineering  
Mechanical Properties of  
Materials Lab  
Establishing correlation among process-  
ing, microstructure, and mechanical  
properties of metallic materials for  
transportation and power generation  
industries.  
nkumar@eng.ua.edu

**20. DR. MARCO BONIZZONI**

College of Arts and Science:  
Chemistry and Biochemistry  
The Bonizzoni Lab  
Analytical applications of non-covalent  
interactions.  
marco.bonizzoni@ua.edu

**21. DR. ELIZABETH NARANJO HAYES**

College of Arts and Science:  
Modern Languages and  
Classics  
The sociophonetics of 3 Hot Latin  
Music  
Artists from Medellín, Colombia: J  
Balvin, Karol G, and Maluma.  
enhayes@crimson.ua.edu

**22. DR. HOLLY HORAN**

College of Arts and Sciences:  
Anthropology  
Maternal and Infant Health  
Research;  
Improving perinatal/maternity care in  
Alabama and Puerto Rico.  
hhoran@ua.edu

**23. DR. JAMES W. HARRIS**

College of Engineering:  
Chemical and Biological  
Engineering  
Harris Laboratory for Heteroge-  
neous Catalysis Research.  
james.harris@eng.ua.edu

**24. DR. SHAMEKA L. CODY**

Capstone College of  
Nursing  
Insomnia and substance use  
in people living with HIV.  
slcody@ua.edu

**25. DR. JUN LIU**

College of Engineering:  
Civil, Construction and  
Environmental Engineering  
NextGen Transportation Lab  
Modeling future transportation systems  
with electric vehicles, autonomous vehi-  
cles and personal air vehicles.  
jliu@eng.ua.edu

**26. DR. GEORGE DANIELS**

College of Communication and  
Information Sciences:  
Journalism and Creative Media  
Black Newspapers, Black Males  
and Media  
gdaniels@ua.edu

**27. DR. MARCY L. KOONTZ**

College of Human  
Environmental Sciences:  
Clothing, Textiles, and Interior  
Design  
The Fashion Archive Lab  
Interdisciplinary and inclusive approach  
to the study, preservation, and presenta-  
tion of fashion focusing on integrating  
the past, present, and future ethos of  
fashion through cross-curricular lense  
study.  
Marcy.Koontz@ua.edu

**28. DR. MAIRIN ODLE**

College of Arts and Science:  
American Studies  
AMS Lab:  
Exploring Native Alabama and docu-  
menting tribal treaties and regional land  
sales.  
lmodle@ua.edu

**29. DR. SERGEI GLEYZER**

College of Arts and Sciences:  
Physics and Astronomy  
Data Science Laboratory  
New Physics Discovery with Machine  
Learning.  
sgleyzer@ua.edu

### **30. DR. AMBER BUCK**

College of Arts and Science:  
Department of English  
Composition, Rhetoric, and English  
Studies Program  
Audience on social media platforms.  
ambuck@ua.edu

### **31. DR. ALEXIS MCGEE**

College of Arts and Science:  
Department of English  
Composition, Rhetoric, and English  
Studies Program  
Black feminist rhetorician and advocate of  
music, language, and pedagogy.  
armcgee1@ua.edu

### **32. DR. CINDY TEKOBBE**

College of Arts and Science:  
Department of English  
Composition, Rhetoric, and English  
Studies Program  
Decolonizing digital rhetorics, literacies, and  
identities.  
cindy.tekobbe@ua.edu

### **33. SARAH MARSHALL M.F.A.**

College of Arts and Science:  
Art and Art History  
Studio Art Printmaking  
Fine art and craft theory and  
applications for intaglio, relief, screenprint,  
lithographic, and experimental printmaking  
methodologies.  
smarsh@ua.edu

### **34. DR. MICHAEL R. MCKAIN**

College of Arts and Sciences:  
Biological Sciences  
McKain Lab  
Genomic adaptations of flowering  
plants.  
Mrmckain@ua.edu

### **34. PROFESSOR BRANDON KIM**

College of Arts and Sciences:  
Biological Sciences  
Kim Lab  
Host-pathogen interactions between  
meningeal pathogens and the blood-  
brain barrier.  
bjkim4@ua.edu

### **35. STEVEN POLUNSKY**

Alabama Transportation Policy  
Research Center  
Transportation Policy Research  
Center  
Federal, state, and local laws, ordinances,  
and policies affecting transportation.  
polunsky@ua.edu

### **36. OFFICE FOR UNDERGRADUATE RESEARCH DR. KIM BISSELL AND JACKIE HARRISON**

The Emerging Scholars Program  
Undergraduate Research and  
Creative Activity Conference  
(URCA)  
OUR is assists undergraduates to connect  
with faculty for research and  
presentations at academic conferences.  
UndergraduateResearch.ua.edu  
UndergraduateResearch@ua.edu



# THANK YOU

## FOR ATTENDING THE FACULTY RESEARCH SHOWCASE!

On behalf of the Office for Undergraduate Research, thank you for helping make the 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!

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**TWITTER:** [@UA\\_OUR](https://twitter.com/UA_OUR)

**INSTAGRAM:** [@UAOUR](https://www.instagram.com/UAOUR)

FOR MORE INFORMATION ABOUT ESP OR ANY OF OUR'S PROGRAMS, VISIT  
[UNDERGRADUATERESEARCH.UA.EDU](https://undergraduateresearch.ua.edu) OR CONTACT **JACKIE HARRISON** AT  
[JHARRISON@UA.EDU](mailto:JHARRISON@UA.EDU).