

THE COLLEGE OF ARTS AND SCIENCES 15TH ANNUAL SUMMIT FOR

# UNDERGRADUATE RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY



**NATURAL  
SCIENCES**

BIOLOGICAL SCIENCES CHEMISTRY &  
BIOCHEMISTRY GEOGRAPHY GEOLOGICAL  
SCIENCE MATHEMATICS PHYSICS & ASTRONOMY  
BIOLOGICAL SCIENCES CHEMISTRY &  
BIOCHEMISTRY GEOGRAPHY GEOLOGICAL

**FINE PERFORMING ARTS  
& HUMANITIES  
FINE PERFORMING ARTS**

ART & ART HISTORY ENGLISH GENDER &  
STUDIES MODERN LANGUAGES  
& CLASSICS MUSIC PHILOSOPHY RELIGIOUS  
STUDIES THEATRE DANCE  
ART & ART HISTORY ENGLISH GENDER &  
STUDIES MODERN LANGUAGES

**SOCIAL SCIENCES**

AMERICAN STUDIES ANTHROPOLOGY  
COMMUNICATIVE DISORDERS CRIMINOLOGY  
& CRIMINAL JUSTICE HISTORY NEW COLONIAL  
POLITICAL SCIENCE PSYCHOLOGY  
AMERICAN STUDIES ANTHROPOLOGY  
COMMUNICATIVE DISORDERS CRIMINOLOGY

**URSCA.UA.EDU**

**APRIL 13, 2018  
MOODY MUSIC HALL**



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# MESSAGE FROM THE DEAN

Dear Participants:

Welcome to the College's 15th annual 2018 Summit for Undergraduate Research, Scholarship, and Creative Activity (URSCA). Undergraduates representing all divisions of the College—the humanities and fine arts, the natural sciences and mathematics, and the social sciences—will present their research and creative works today.

The College of Arts and Sciences is proud of the many high-quality research and creative activities it offers to our undergraduates. Our faculty knows that hands-on learning experiences in the laboratory, the studio, or in the archives fuel the spirit of curiosity and discovery and open the mind to new vistas in learning. This is the process for intellectual discovery and for developing highly productive individuals who will serve their communities and their professions with great expertise and understanding. My sincerest thanks to each faculty mentor for your dedication.

We are equally proud of the many undergraduates who have chosen to present their investigations here today. These men and women represent the best of our College, and it will be a wonderful experience, indeed, to visit with them today and hear about their discoveries. I congratulate each participant for their excellent work and look forward to seeing their intellectual journey continue to unfold during their undergraduate years in the College.

I would like to extend special thanks to Dr. Roger Sidje and the faculty judges for the important roles they play and their valuable feedback to the students.

Thank you for joining us today.

Sincerely,

A handwritten signature in black ink that reads "Robert Olin". The signature is written in a cursive, flowing style.

Robert F. Olin, Ph.D.  
Professor and Dean

# SCHEDULE OF EVENTS

Attendance is open to all UA students and the general public, but presenters are UA students (from any program) that have A&S faculty mentors. Below is an outline of the schedule of events. Attendees and the public are welcome to watch the presentations and the creative interlude.

<b>8:00–8:45 a.m.</b>	Oral Presentation Registration and Set-Up	Lobby
<b>9:00 am–1:00 p.m.</b>	Oral Presentations	Classroom Wing
<b>9:00 am–1:00 p.m.</b>	Poster Presentations Registration and Set-Up	Lobby
<b>1:00–2:00 p.m.</b>	Creative Interlude: Watch the creative interlude while waiting on results from oral presentations. The interlude features a selection of performances by students in the fine and performing arts.	Concert Hall
<b>2:00–6:00 p.m.</b>	Poster Presentations	Million Dollar Band Wing

# FINE ARTS AND HUMANITIES

## ORAL PRESENTATIONS

### Group 1 – Room 180

**9:00 a.m.**

**CAITLYN BELL**

Department: Religious Studies

Faculty Mentor: Steven Ramey

(Religious Studies)

*Exhibiting Asia: When Asia Meets America in Contemporary Museums*

**9:20 a.m.**

**MOLLY BUFFINGTON**

Department: History

Faculty Mentor: George McClure (History)

*A Faith That Sings: Lutheran Liturgy as a Theological Tool in the Reformation*

**9:40 a.m.**

**RHIANNON HEIN**

Department: History

Faculty Mentor: Daniel Riches (History)

*Nationalist Sentiment in the Era of German Unification*

**10:00 a.m.**

**KYLE VAN FRANK**

Department: Theatre and Dance

Faculty Mentor: Stacy Alley (Theatre and Dance)

*Kidnapped Culture: The Story of Tap Dancing America*

**10:20 a.m.**

**ANNIE YONGE**

Department: Theatre and Dance

Faculty Mentor: Donna Meester

(Theatre and Dance)

*The 25th Annual Putnam County Spelling Bee: How Costume Research Influences Design*

**10:40 a.m.**

**TALLY ROBISHAW**

Department: New College

Faculty Mentor: Jane Cassidy

(Art and Art History)

*Community Without (Verbal) Communication*

**11:00 a.m.**

**JARED TUBBS**

Department: Music

Faculty Mentors: Andrew Dewar (New College)

Holland Hopson (New College)

*Internal: Sonifying the Human Body*

**11:20 a.m.**

**RYAN TUMBLESON**

Department: Modern Languages and Classics

Faculty Mentor: Alecia Chatham

(Modern Languages and Classics)

*A Timeless Fight*

## Group 2 – Room 181

**9:00 a.m.**

**BRITTANY GRADY**

Department: New College

Faculty Mentor: Julia Cherry (New College)

*The Impact of Service Learning Courses on First Generation and Pell Grant Eligible Students*

**9:20 a.m.**

**YASMINE NANA-YEBOAH**

Department: American Studies

Faculty Mentor: Stacy Morgan  
(American Studies)

*An Observation of Jazz Music to Hip-Hop: Black Music and the Impact on American Pop Culture*

**9:40 a.m.**

**ANNEMARIE LSKO**

Department: Modern Languages and Classics

Faculty Mentor: Alessandra Montalbano  
(Modern Languages and Classics)

*"[A]s the assassination of President John F. Kennedy Shocked Americans": American Media Representations of the Aldo Moro Kidnapping*

**10:00 a.m.**

**GABRIEL ROSSER**

Department: New College

Faculty Mentors: Andrew Dewar (New College)  
Holland Hopson (New College)

*Building a Modular Synthesizer*

**10:20 a.m.**

**ALEXIA ACEBO**

**ALEXANDRA MANNINGS**

Department: Theatre and Dance

Faculty Mentor: Rebecca Salzer (Theatre and Dance)

*Mixed Reality*

**10:40 a.m.**

**ALEXANDER TAMEZ**

Department: Religious Studies

Faculty Mentor: Theodore Trost  
(Religious Studies)

*The Death of Film*

**11:00 a.m.**

**BRADLEY JOHANSEN**

Department: Philosophy

Faculty Mentor: Rekha Nath (Philosophy)

*The Noncombatant Naked Soldier*

# FINE ARTS AND HUMANITIES

## POSTER PRESENTATIONS

### Group 1-Band Room

**101**

**RACHEL CANO**

Department: New College

Faculty Mentor: Marysia Galbraith  
(Anthropology)

*Where's Your Dirty Laundry: An Ethnography of a  
Modern Day Watering Hole*

**102**

**ANNIE ROBERSON**

Department: Music

Faculty Mentor: Elllary Draper (Music)

*A Survey of the Thoughts and Attitudes of Music  
Faculty and Staff Towards Music Therapy*

**104**

**GRACE ALBRIGHT**

Department: Psychology

Faculty Mentor: Patricia Parmelee (Psychology)

*Moderating Effects of Coping on Objective and  
Subjective Health in Older Adults*

**105**

**ABIGAEL FURMAN**

Department: English

Faculty Mentor: Dilin Liu (English)

*Great, Awesome, Terrific, and Fantastic: Analyzing  
the Lexical Semantic Change of a Set of Near  
Synonyms using Corpora*

**107**

**KATHERINE METCALF**

Department: English

Faculty Mentor: Marni Presnall (English)

*Montaigne and Woolf: Humility, Experimentation,  
and Power in the Personal Essay*

**108**

**ALEXANDRA VANCE**

Department: Modern Languages and Classics

Faculty Mentor: Bryan Koronkiewicz  
(Modern Languages and Classics)

*Pronouns in Code-Switching: Comparing Spanish-  
English and French-English*

**109**

**MEGAN GOLDMAN**

Department: Art and Art History

Faculty Mentor: Pete Shulte  
(Art and Art History)

*Shadow Series*



# NATURAL SCIENCES AND MATHEMATICS

## ORAL PRESENTATIONS

### Group 1 – Room 258

**9:00 a.m.**

**COURTNEY THOMPSON**

Department: Chemistry

Faculty Mentor: Elizabeth Papish (Chemistry)

*Synthesis and Characterization of Transition  
Metal Complexes as Redox Mediators for Dye-  
Sensitized Solar Cells*

**9:20 am**

**PEDRAM MALEKNIA**

Department: Biological Sciences

Faculty Mentors: Cheng-Yu Li

(Biological Sciences)

Ryan Earley (Biological Sciences)

*Can Rivulus Fish See Through the Müller-Lyer  
Visual Illusion?*

**9:40 am**

**NATHAN MONIZ**

Department: Biological Sciences

Faculty Mentors: Kim Caldwell

(Biological Sciences)

Guy Caldwell (Biological Sciences)

*Identifying Intrinsic Modulators of Neuronal  
Resilience in a C. elegans PD Model*

# NATURAL SCIENCES AND MATHEMATICS POSTER PRESENTATIONS

## Group 1-Band Room

301

**JALEN CATES**

**ANDREW STEWART**

Department: Physics and Astronomy and Chemistry

Faculty Mentor: Adam Hauser

(Physics and Astronomy)

*The superconducting properties of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub> samples minutely-doped with dysprosium*

302

**CLARE OLS**

**VANESSA MARSHALL**

**CHARLES PITSENERGER**

Department: Biological Sciences

Faculty Mentor: Jeffrey Lozier

(Biological Sciences)

*DNA Barcoding as a Tool to Assess Pollinator Diversity in a Fragmented Landscape*

303

**JOSHUA GOBLE**

Department: Biological Sciences

Faculty Mentor: Dr. Kevin Kocot

(Biological Sciences)

*The Biodiversity of Deep-Sea Icelandic Aplacophoran Molluscs*

304

**LAKBIRA SHEFFIELD**

Department: Biological Sciences

Faculty Mentor: Stanislava Chtarbanova

(Biological Sciences)

*Identification of Novel Factors in Age-Dependent Anti-Viral Innate Immunity*

305

**CARIS SMITH**

Department: Chemistry

Faculty Mentors: David Dixon (Chemistry)

Monica Vasiliu (Chemistry)

*Computational Chemistry Studies of Modular Approaches to Contemporary Complexants for Separations*

306

**TYLER MORGAN**

Department: Chemistry

Faculty Mentor: Silas Blackstock (Chemistry)

*Redox Switching of a Bis(Azobenzene)Amine*

307

**CONNOR KIRKLAND**

Department: Geological Sciences

Faculty Mentor: Joe Lambert (Geological Sciences)

*Seasonal Growth of Speleothems in Northern Alabama Cave Systems: A Watch Plate Study*

308

**CHARLES WATTS-KERR**

Department: Biological Sciences

Faculty Mentor: Stephen Secor (Biological Sciences)

*Postfeeding Energetics of Centipedes*

**309**

**AUSTIN WHITE**

Department: Biological Sciences

Faculty Mentor: Katrina Ramonell (Biological Sciences)

*The Characterization of Arabidopsis thaliana Fungal Pathogen Receptor-Like Kinase, PMRK1*

**310**

**ALYSSA KANDOW**

Department: Chemistry

Faculty Mentor: Jennifer Howeth

(Biological Sciences)

*Effects of Zebra Mussel Invasion on Water Quality in Texas Reservoirs*

**311**

**CATHERINE OWENS**

Department: Chemistry

Faculty Mentors: Silas Blackstock (Chemistry)

Ariel Kelley (Chemistry)

*Magnetic Anisotropy of Nitrosoarenes*

**312**

**LUCAS GLISSON**

Department: Biological Sciences

Faculty Mentor: Carla Atkinson

(Biological Sciences)

*Impact of Temperature Gradients on Phosphorus Content of Mayflies in the Alaskan Tundra*

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## Group 2-Band Room

**313**

**TAYLOR PERKINS**

Department: Chemistry

Faculty Mentor: Carolyn Cassady (Chemistry)

*Influencing Charge State Distribution of Biological Peptides in Electrospray Ionization Mass Spectrometry Using Chromium (III) Nitrate*

**314**

**BLAIR MORRISON**

Department: Biological Sciences

Faculty Mentor: Ryan Earley

(Biological Sciences)

*Green Invaders: Life Stages of the European Green Crab (Carcinus maenas) in Southern Maine*

**315**

**ALLISON CUMMINS**

Department: Biological Sciences

Faculty Mentor: Stanislava Chtarbanova

(Biological Sciences)

*Involvement of the Receptor Croquemort in Bacterial Phagocytosis by Glial Cells in the Brain of Drosophila melanogaster*

**316**

**CHRISTOPHER MCCULLERS**

Department: Engineering—Chemical and Biological

Faculty Mentor: John Yoder (Biological Sciences)

*Expression Level Regulation of Transcription Factor Dsx and Hox Protein Abd-B in Drosophila melanogaster Embryo*

317

**ALAA ABUSAAD**

Department: Geological Sciences  
Faculty Mentor: Marcello Minzoni  
(Geological Sciences)

*Constructing Synthetic Seismic Images of Cambrian Microbialite Exposures in Mason, Texas to Aid Exploration of the Jurassic Smackover in the Gulf of Mexico*

318

**LANEY BRAGER**

Department: Geography  
Faculty Mentor: Justin Hart (Geography)  
*Drought-Induced Growth Response of Longleaf Pine in the Alabama Line Hills*

319

**ALEXANDER SHAVER**

Department: Chemistry  
Faculty Mentor: Stephen Woski (Chemistry)  
*Cyanocarbazole Derivatives as Universal Bases*

320

**RACHEL RIDGWAY**

Department: Chemistry  
Faculty Mentor: Silas Blackstock (Chemistry)  
*Redox-Auxiliary Catalysis of bicyclo[3.2.0]heptene ring-openings*

321

**HOPE BURNHAM**

Department: Chemistry  
Faculty Mentor: Shane Street (Chemistry)  
Matthew Confer (Chemistry)  
*A Raman Investigation of Ammonia Borane Thermal Decomposition*

322

**LAUREN COOK**

Department: Biological Sciences  
Faculty Mentors: Kim Caldwell (Biological Sciences)  
Guy Caldwell (Biological Sciences)  
*Gene-by-Environmental activation of DAF-7/TGF- $\beta$  signaling in response to exposure to a noxious stimulus in a *C. elegans* model of Parkinson's Disease*

323

**CONNOR MEYERS**

Department: Chemistry  
Faculty Mentor: Silas Blackstock (Chemistry)  
*Redox auxiliary mediated Z->E switching of a stable cis azobenzene*

# SOCIAL SCIENCES

## ORAL PRESENTATIONS

### Group 1 – Room 257

**9:00 a.m.**

**MARUKA WALKER**

Department: History

Faculty Mentor: John Giggie (History)

*Hidden Figures: The Women Behind the Montgomery Bus Boycott (The Case of Jo Ann Robinson)*

**9:20 a.m.**

**JOHN DENTON**

Department: Modern Languages and Classics

Faculty Mentor: Bronwen Lichtenstein

(Criminology and Criminal Justice)

*Accept or Decline?: Deciding Factors in a Voluntary HIV Testing Program for Probationers and Parolees*

**9:40 a.m.**

**KYLIE HOPKINS**

Department: Biological Sciences

Faculty Mentor: Bronwen Lichtenstein

(Criminology and Criminal Justice)

*Is Divorce Fair?: The Gendered Dynamics of Property Disposition*

**10:00 a.m.**

**KATY ANN THAXTON**

Department: History

Faculty Mentor: Lesley Gordon (History)

*The Conflicting Views on Andrew Jackson*

# SOCIAL SCIENCES

## POSTER PRESENTATIONS

### Group 1-Band Room

201

**CLAIRE MANDERFIELD**

Department: Psychology

Faculty Mentor: Joan Barth (ISSR)

*Gender Role Norms in High School Girls' Social Groups and STEM Interest*

202

**GRACIE SMITH**

Department: Political Science

Faculty Mentor: Allen Linken (Political Science)

*The Modern Major General*

203

**CHARLOTTE MCRAE**

**ALEXANDRA THOMASSON**

Departments: New College and Psychology

Faculty Mentor: Beverly Roskos (Psychology)

*Drawings of Hope*

204

**JULIA SPONHOLTZ**

Department: Anthropology

Faculty Mentor: Chris Lynn (Anthropology)

*Keeping the Home Fires Burning: The Impact of Sociability on Fireside Relaxation*

205

**HANNA BENKHRABA**

**ERIN MCNEIL**

Department: Criminology and Criminal Justice

Faculty Mentor: Diana Dolliver

(Criminology and Criminal Justice)

*Anonymity and TOR: Weapons Trade on the Darknet*

206

**ABIGAIL KAPPELMAN**

Department: Political Science

Faculty Mentor: Jacqueline Morgan

(Political Science)

*Cuba's Response to Zika: How a Socialist Island Nation Avoided The Biggest Disease Outbreak of 2015*

207

**ROXANNA HARE**

**COURTNEY DIEBOLD**

**JACK SCHWARZ**

**JULIANNA BOSKUS**

Department: Psychology

Faculty Mentor: Jessica Mendoza (Psychology)

Beverly Roskos (Psychology)

*Perceiving Nuances and Punctuation from Online Textual Communications*

**208**

**TONI REBALDO**

Department: Psychology

Faculty Mentor: Beverly Roskos (Psychology)

*Wayfinding: Navigation in an Outdoor Environment*

**209**

**JORDAN BOLLING**

Department: Biological Sciences

Faculty Mentor: Ian McDonough (Psychology)

*Transcranial Direct Current Stimulation with Language and Memory*

**210**

**MADYSON POTTER**

**ALEXA TOMLAK**

Department: Psychology and Biological Sciences

Faculty Mentor: Beverly Roskos (Psychology)

*Relations Among Video Game Training, Gender, and Spatial Skills*

**211**

**AISLINN TANSEY**

Department: Psychology

Faculty Mentor: Lauren Kois (Psychology)

*The Impact of a Psychopathy Diagnosis and Affect of a Defendant on Juror Perceptions*

**212**

**ALEXIS CORZINE**

**NICHOLAS MERRING**

Department: Psychology

Faculty Mentor: James Hamilton (Psychology)

*Learning about Factitious Disorder Through Published Legal Cases: The Use of Experts and Terminology Issues*

**213**

**WHITNEY HOVATER**

Department: Psychology

Faculty Mentor: Lauren Kois (Psychology)

*Effective Measures for Detecting Malingering and Deception in Adolescents*

**214**

**KIRSTEN WILLIAMS**

Department: Psychology

Faculty Mentor: Joan Barth (Psychology)

*The Effect of Self-Efficacy on the Career Goals of College and Elementary-Age Students*

**215**

**JENNIFER FOURROUX**

Department: Psychology

Faculty Mentor: Christopher Lynn (Anthropology)

*Caregivers' Perspectives on their Human-Nonhuman Primate Relationships*

**216**

**MILLIE SARTAIN**

**ANNA CHAN**

Department: Communicative Disorders

Faculty Mentors: Angela Barber (Communicative Disorders)

Candace Cook (Communicative Disorders)

*What Parents Want: Examining Parental Preference of Intervention for Children with Autism*

## Group 2-Band Room

217

**STEPHANIE MACKENZIE**

Department: Psychology

Faculty Mentor: James Hamilton (Psychology)

*Understanding Death Acceptance*

218

**HAROLD ACOSTA**

Department: Psychology

Faculty Mentor: Christopher Lynn  
(Anthropology)

*The Genetics of Attention: Preliminary Results from a Pilot Study of Absorption, Mental Boundaries, and Catechol-o-Methyltransferase*

219

**ALAYNA WATSON**

Department: Psychology

Faculty Mentor: Ansley Gilpin (Psychology)

*The developmental relationship of inhibitory control and emotion regulation in preschoolers: A longitudinal study*

220

**BROOKE BOYLES**

**MOLLY BAILEE**

**SOPHIE NORGAARD**

**GRACE SHIRAH**

**JACKSON GIST**

Department: Communicative Disorders

Faculty Mentor: Memorie Gosa

(Communicative Disorders)

*Reliability and Validity of the IDDSI Flow Test as a Measure of Liquid Consistency*

221

**RACHEL LEE**

Department: Psychology

Faculty Mentor: Jessica Mendoza (Psychology)

*Sub-Criterion A PTSD*

222

**TANNER MULLENIX**

**ANTHONY FANT**

Department: Psychology and Biological Sciences

Faculty Mentors: Beverly Roskos (Psychology)

Qichen Zhao (Psychology)

*Group Creativity and the Incubation Effect*

223

**SALENA LEE**

Department: C&BA—Management

Faculty Mentor: Rachel Stephens

(Art and Art History)

*Uncovering Slavery at The University of Alabama*

224

**KIRA YANCEY**

Department: Anthropology

Faculty Mentor: Christopher Lynn (Anthropology)

*Stars, Bars, and Skin Marks: A Preliminary Study of Tattoos in the American Military*

225

**TAYLOR PUCKETT**

Department: Anthropology

Faculty Mentor: Christopher Lynn (Anthropology)

*Tattoos and Piercings Among Undergraduate Populations*



226

**TESSA HAWKINS**

Department: Psychology

Faculty Mentor: Alexa Tullett (Psychology)

*Cognitive Bias and Scientific Self-Correction in Psychologists*

227

**ALICIA RAMBO**

Department: Communicative Disorders

Faculty Mentors: Angela Barber

Candace Cook (Communicative Disorders)

*The Effect of Manualized vs. Traditional Therapy Methods on the Preparation of Successful Speech-Language Pathologists Working with Children who are at Risk for an Autism Spectrum Disorder*

228

**ROLANDA TURNER**

Department: Political Science

Faculty Mentor: Nicholas Kerr (Political Science)

*Exploring the Electoral Fraud During Kenya's 2013 Election*

229

**WADE TIDWELL**

Department: Anthropology

Faculty Mentor: Lisa LeCount (Anthropology)

*Artifact Ubiquity as Indices of Ancient Maya Socioeconomic Variability at Actuncan, Belize*

230

**LAUREN MCGUIRE**

Department: Psychology

Faculty Mentor: Ian McDonough (Psychology)

*Encoding Activity in Sedentary Versus Physically Active Jobs using fMRI*

231

**PHILIP PITTS**

**ZOE BERNDT**

**PEYTON BADURA**

Department: Geography, Biological Sciences, and C&BA—Information Systems, Statistics, and Management Science

Faculty Mentor: David Bolus (Theatre and Dance)

*The Beautification and Revitalization of Marion, Alabama*

232

**VALERIE MOORE**

Department: Communicative Disorders

Faculty Mentor: Angela Barber

(Communicative Disorders)

*Examining Vocabulary and Social Communication in Young Children with ASD*