UNDERGRADUATE RESEARCH AND EXTERNAL SCHOLARSHIPS

SCHOLARS SYMPOSIUM AND CREATIVE ACHIEVEMENT DAY

Tuesday, April 18, 2017
PROGRAM AT A GLANCE
Scholars Symposium and Creative Achievement Day
Tuesday, April 18, 2017

Registration and Breakfast: 8-9 a.m.
Union 240
Music by the Rainbow Tones

Welcome and Awards: 9 a.m.
Union 240
Dr. Charles Ambrose, University President
Dr. Shari Bax, Vice Provost for Student Experience and Engagement
Dr. Scott Lankford, 2016 Recipient of Undergraduate Research Mentor of the Year
Dr. Jennifer Varriale Carson, Coordinator of Undergraduate Research and External Scholarships
Mr. Dennis Peirce, Collaborative Learning Services Coordinator

Session I: 9:30-10:45 a.m.
Competition Panel 1a: Social and Behavioral Sciences, Union 236
Competition Panel 1b: Science and Technology, Union 238
Competition Panel 1c: Arts and Humanities, Union 101
Panel 1: Current Issues in Corrections, Union 235
Panel 2: Contemporary Perspectives on Gender and Sexuality, Union 233
Panel 3: International Economic Issues: Trade and Consumerism, Union 219
Panel 4: Crime, Conflict, Its Victims, and the Law, Union 229

Session II: 11 a.m.-12:15 p.m.
Competition Panel 2a: Social and Behavioral Sciences, Politics and Social Justice Week Panel, Union 236
Competition Panel 2b: Science and Technology, Union 238
Competition Panel 2c: Arts and Humanities, Union 240
Panel 5: Viewpoints on Child Development and Education, Union 235
Panel 6: Challenges in the Modern Workplace, Union 229
Panel 7: Science Smorgasbord!, Union 101

Lunch and Provost Panel: 12:30-1:45 p.m.
Union 240

Session III: 2-3:15 p.m.
Competition Panel 3a: Social and Behavioral Sciences, Union 236
Competition Panel 3b: Science and Technology, Union 238
Panel 8: Inspiration and Its Creative Work, Union 240
Panel 9: Art Through Music and Performance, Union 233
Panel 10: Applied Criminal Justice Research: A Research Methods Class Exercise, Union 235
Panel 11: Climate and Sustainability, Union 229
Panel 12: Fresh Looks at Historical Issues, Union 219
AGENDA
Scholars Symposium and Creative Achievement Day
Tuesday, April 18, 2017

REGISTRATION AND BREAKFAST: 8-9 a.m.
Union 240

WELCOME AND AWARDS: 9 a.m.
Union 240
Dr. Charles Ambrose, University President
Dr. Shari Bax, Vice Provost of Student Experience and Engagement
Dr. Scott Lankford, 2017 Faculty Mentor of the Year Award
Dr. Jennifer Varriale Carson, Coordinator of Undergraduate Research and External Scholarships
  • McNair Scholars
  • The Honors College
  • Undergraduate Scholars Grant Recipients
  • Fulbright Nominees
  • Goldwater Nominee
  • Rhodes Nominee
  • Truman Scholar Nominees
Mr. Dennis Peirce, Collaborative Learning Services Coordinator

SESSION I: 9:30-10:45 a.m.
COMPETITION PANEL 1A: SOCIAL AND BEHAVIORAL SCIENCES
Faculty Moderator: Dr. Rhonda McKee
Union 236
Amy Biggerstaff, “Like Me, Give Me What I Want, but Don’t Make Me Work for it: A Look at Entitlement Attitudes, Need to Belong, and GRIT”
**Beni Chikuru, “Eating Bugs to Combat Malnutrition in the Democratic Republic of the Congo”
***Ashley Garrard, “Non-market Valuation of the Student Recreation and Wellness Center at the University of Central Missouri”
Tanner Gipson, “Effect of the North Atlantic Gulf Stream on the Climate of High Latitudinal European Countries: A Controversy Over Aldo Leopold Theory”
**+Sawyer Harmon, “Behavioral Assessment of Test Anxiety in College Students”

COMPETITION PANEL 1B: SCIENCE AND TECHNOLOGY
Faculty Moderator: Dr. Daniel Wong
Union 238
Ann Crighton, “Declining Bee Populations Pose a Threat to Global Agriculture”
**Jordan Greenfield, “Molecular Mechanism of Stress’s Effect on Reproduction”
Makayla Hill, “Effect of Rotating Boar Semen Post-Collection on Sperm Viability and Quality”

Saidee Hyder, “Comparing the Home Ranges of Male and Female Ornate Box Turtles (Terrapene ornata) and Three-Toed Box Turtles (Terrapene carolina triunguis) in Johnson County, Missouri”

Alexandra Rohder, “Cargo Volumetric Efficiency of Passenger Aircraft”

Erika Wright, “An Examination of Species Composition and Survey of Babesia divergens-like and Heartland Virus in Ticks from Southeast Missouri”

COMPETITION PANEL 1C: ARTS AND HUMANITIES
Faculty Moderator: Prof. Melanie Johnson
Union 101

Noah Goodwin, “Color Theory”
Carter Higgs, “The Toxic Avenger and Special Effects Makeup”
Teresa Scarbrough, “Round Robin”

PANEL 1: CURRENT ISSUES IN CORRECTIONS
Faculty Moderator: Dr. Scott Chenault
Union 235

Audel Diaz, “Wrongful Conviction and The Death Penalty”
Cassidy Heiss, “Prison Overcrowding”
Madison Parkinson, “Suicide in Correctional Facilities”
Auston Ruddell, “Prison Gangs”
Garrett Sofia, “Aryan Brotherhood”

PANEL 2: CONTEMPORARY PERSPECTIVES ON GENDER AND SEXUALITY
Faculty Moderator: Dr. Amber Clifford-Napoleone
Union 233

Brooke Blythe, “I Am (You) Woman”
Matthew Butler, “XXY’s Portrayal of Gender Alienation and Perfomativity”
Alison Dalbom, “Gender Inculturation in a Rural Montessori School”
Scout Miller, “Social Media: Ending the Stigma of Gay Males and Online Dating”
Casey Reed, “Hegemonic Masculinity: Producing, Perpetuating, and Rewarding Self-harm in American Football Players”
Keyontae Richardson, “Changes”

PANEL 3: INTERNATIONAL ECONOMIC ISSUES: TRADE AND CONSUMERISM
Faculty Moderator: Dr. Eric Nelson
Union 219

Jacob Anderson and Bryce Bradford, “International Trade between the U.S. and Canada”
Jenna Bartholomew and Thomas Haun, “International Trade between the U.S. and China”
Andrew Devine and Cameron Lee, “Trade with the E.U.”
Tanner Franklin and Dallas Sander, “International Trade between the U.S. and Germany”
**Keli Myracle, “Travel Agent’s Guide to Cuba: Maximizing Study Tour Abroad”
Taylor Prince and Alyson Wessing, “International Trade Between U.S. and Mexico”

**PANEL 4: CRIME, CONFLICT, ITS VICTIMS, AND THE LAW**
Faculty Moderator: Dr. Ashley Wellman
Union 229

Victoria Arends, “United States v. Martinez-Fuerte and Its Affect on Border Patrol”
**+Dessie Long, “The Blame Game: Exploring Social Media Messages of Parental Responsibility Following a Sexual Assault”
**Caeley Nuss, “Doorway of the Forgotten”
***+R. Nikole Wright, “Safe in Your Own Skin”

SESSION II: 11 a.m.-12:15 p.m.
**COMPETITION PANEL 2A: SOCIAL AND BEHAVIORAL SCIENCES, POLITICS AND SOCIAL JUSTICE WEEK PANEL**
Faculty Moderator: Dr. Delia Gillis
Union 236

*Ariissa Calvert, “It’s What They Don’t Say: Culture Identity is the Root to All Greatness”
+Shania Cole, “Use of Force, Body-Worn Cameras, and Student’s Decisions to Punish”
Lindsey D’Agostino, “Intentions of Democratic Governments”
***Brooke Herrera, “Flipped or Flopped: Mindsets and Experiences of High School Students in a Flipped Geometry Classroom”
**Emily Johnson, “Effects of Classroom Materials on Toddler’s Play and Behavior”
**+Sara Nierman, “Picturing Freedom: A Case Study of Female Exonerees”
Alexandria Seidler, “End Rape on Campus: Changing Rape Culture on Campus”
*Morgan Yelvington, “Opinions of University of Central Missouri Students about the Potential Removal of Bans on Firearms on Campus”

**COMPETITION PANEL 2B: SCIENCE AND TECHNOLOGY**
Faculty Moderator: Dr. Mandy Blackburn
Union 238

*Casey Adkins, “Behavioral Changes in Rats Infected with Toxoplasma Gondii to Assess Correlation to Mental Illness in Humans”
**Emily Allgeyer, “Temperature Dependence in Coiled-Coil Helices”
**Khadija Baghdadi, “Microbes and Antimicrobials Associated with Wings of the Housefly Musca domestica”
**Jessica Harmon,** “Culturing Microorganisms from Phlebotomy Trays”  
*Isabella Holt,* “Prevalence of *Yersinia pestis* in *Peromyscus sp.* in Johnson county Missouri”  
**Amanda McCarthy,** “Environmental Effects on Telepractice Among the States”  
*Esther Onufreychuk,* “The Cloning, Sequencing, and Expression of the Flavonoid Pathway Enzymes”

**COMPETITION PANEL 2C: ARTS AND HUMANITIES**  
Faculty Moderator: Dr. Josh Nygren  
Union 240

**Kayla Daspit,** “Crossing the Streams: An Analysis of Gender Representation in Ghostbusters”  
Michael Mason, “Spoon-Feeding the American Reader: The Effects of Food Rationing on Kitchen Appliance and Food Advertisements in American Magazines, 1942-1946”  
**Darby Simon, Miranda McCullough, **Katherine Scherry, **Kirsten Orndoff, **Lacee Stanley, and **Caeron Travis, “American Sign Language”

**PANEL 5: VIEWPOINTS ON CHILD DEVELOPMENT AND EDUCATION**  
Faculty Moderator: Dr. Kristy Boney  
Union 235

Teigan Hockman, “Dyscalculia: Leaving Behind Brilliant Minds”  
+Amanda McCullough, “Family Friend Outings: Not Just For Fun”  
**Justin Nitz,** “An Orchestral Adventure through Virtual Reality: Inspiring Future Musicians”

**PANEL 6: CHALLENGES IN THE MODERN WORKPLACE**  
Faculty Moderator: Dr. Sara Sundberg  
Union 229

Christian Bertz, Cristiano Mayorga, and Ashley McGuffey, , “Right to Work in Missouri: A Historical Perspective”  
Brittney Estes, “A Crappy Day at Work”  
Keyonna Gladney, “Failure Does Not Define Me”  
**Ashley Marmon,** “Risk of Service: The Need for Legislation in an Unprotected Profession”

**PANEL 7: SCIENCE SMORGASBORD!**  
Faculty Moderator: Dr. Mohammad Sadi  
Union 101

Chad Brown, “Do I Understand What I Am Seeing?”  
**Ryan Hoerr,** “Quantification of Carcinogens in Hookah Smoke”  
**Stacie Savage,** “Nutrition Made Simple: A Grocery Guide”
Tucker Strader, “The Effects of Behavioral Relaxation Training on Mindfulness”

**LUNCH AND PROVOST PANEL: 12:30-1:45 p.m.**
Faculty Moderator: Dr. Deborah Curtis
Union 240
Torri Hicks, “9 Circles”
**Lauren Mabe, “Geographic Information Systems (GIS) Based Analysis of Animal Manure Transportation and Environmental Impact in Pettis County, Missouri”**
**Jordan Peck, “Synthesis of an Amide N-H Protected Amino Acid Derivative”**

**SESSION III: 2:00-3:15 p.m.**
**COMPETITION PANEL 3A: SOCIAL AND BEHAVIORAL SCIENCES**
Faculty Moderator: Dr. Gene Bonham Jr.
Union 236
*Kiera Green, “From Shell Shock to PTSD: How Print Media Portrays Post-Traumatic Stress Disorder”
Zachary Horton, “Testing Diet Indicates for Paranthropus boisei Using a Model Organism”
Bradley Unkel, “Gender Division of Labor among the Amish of Benton, Pettis, and Henry County, Missouri”

**COMPETITION PANEL 3B: SCIENCE AND TECHNOLOGY**
Faculty Moderator: Dr. Sumi Singh
Union 238
**Dustin Davis, “Examining the Relationships Between Skeletal Muscle Mass, Fiber Type, and Obesity: A Systematic Review of the Literature”
Joshua Herndon, “A Novel Approach to 3D Protein Structure Comparison Using Locality Sensitive Hashing”**
**Risa Mori-Kreiner, “Dose-dependent effects of E2 and EE2 on vitellogenin gene expression in the male rainbow trout (Oncorhynchus mykiss)”**
◊**+Madison Saunders, “A Resource for Parents of Children with Cleft Palates”
+Audrey Zoog, “Attempted Synthesis of a Tricyclic Azamacrocycle”

**PANEL 8: INSPIRATION AND ITS CREATIVE WORK**
Faculty Moderator: Prof. Marco Rosichelli
Union 240
**Madeline Best, “An Amateur’s Review of Iconic Literature, Jessica Helfand’s Design: The Invention of Desire”
Gage Bunting, “Public Forum”**
**Margaret Schmiegelow, “New Work (Solo Exhibition)”**
**Kayla Tyree, “Through Color Blind Eyes”**
PANEL 9: ART THROUGH MUSIC AND PERFORMANCE
Faculty Moderator: Asst. Prof. Victoria Depew
Union 233
  Nehemiah Campbell, “Stage Manager Portfolio”
  **+Hannah Dalton, “Analysis of the Live Sound Industry”
  Madeline Lugenbeel, “Stage Manager Portfolio”
  Andrew Peveler, “Portfolio Website”
  +Mackenzie Umscheid and **Hannah Dalton, “L-Acoustics”

PANEL 10: APPLIED CRIMINAL JUSTICE RESEARCH: A RESEARCH METHODS CLASS EXERCISE
Faculty Moderator: Dr. Jennifer Carson
Union 235
  George Cottrell, Riley Hulse, Adam Rafferty, Tevin Teamer, Wesley Thomas, and Devin Wilmore, “Accuracy of Eye Witness Testimony”
  Zacheriah James, Nexcy Benavides, Joshua Butler, Paige Mcfall, Tyler Blaney, and Phillip Eubanks, “Does Race Affect the Use of Force?”
  +Madison Parkinson, Austin May, Carly Hall, Jamela Patterson, and LeNyia Talbert, “Fake News vs. Real News”

PANEL 11: CLIMATE AND SUSTAINABILITY
Faculty Moderator: Dr. Li Liu
Union 229
  Michaela Brawley, “Sustainable Energy for Spain”
  Matthew Deloach, “Does Mitigation Approach Save Life and Property: A Discussion of Risk Mitigation Strategies for Tornadoes in the Context of Climate Change and Development?”
  Tayia Gibson, “The Advantages and Disadvantages of Water Privatization”
  Jordan Klingensmith, “Electric Powered Trainer Aircraft”
  Tanner Masters, “A Sustainable Business Model for Soda Pop Manufacturing”
  Kenneth Pierson, “Socialism and Public Transportation in Germany”
  **Sydney Piontek, “Psychology: The Best Way to Combat Climate Change”

PANEL 12: FRESH LOOKS AT HISTORICAL ISSUES
Faculty Moderator: Dr. Hannah Marsh
Union 219
  Jacob Angevine, “The Co-Evolution of Combat Rations and Modern Military Tactics”
  **Emma Luechtefeld, “Neanderthal Personal Adornment: How They Learned Their Art and What It Meant for Their Culture”
  Gina Schlobohm, “Inuit Language Revitalization”
Acknowledgements

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Prof. Michael Benson  Dr. Duane Lundervold
Dr. Keshav Bhattarai  Dr. Hannah Marsh
Dr. Mandy Blackburn  Dr. Rhonda McKee
Dr. Kristy Boney  Prof. Ashley Miller-Scully
Dr. Gene Bonham Jr.  Dr. Thomas Mitchell
Prof. Karen Breshears  Dr. Mina Moussavi
Dr. Lover Chancler  Dr. Eric Nelson
Dr. Scott Chenault  Dr. Eric Newsom
Dr. Amber Clifford-Napoleone  Dr. Selene Nikaido
Prof. Belinda Copus  Prof. Jean Nuernberger
Dr. Skip Crooker  Dr. Joshua Nygren
Dr. Kurtis Dean  Dr. Vida Olivares
Prof. Victoria Depew  Dr. Anna Oller
Dr. Amanda Drake  Prof. Cassandra Pauling
Dr. Wendy Geiger  Dr. Melissa Petkovsek
Dr. Delia Gillis  Prof. Marco Rosichelli
Dr. Anil Giri  Dr. Somnath Sarkar
Dr. Eric Honour  Dr. Sumi Singh
Prof. Helene Hood  Dr. Jay Steinkruger
Dr. Ellie Hyeyeon Hwang  Dr. Parker Stuart
Prof. Joyce Jablonski  Prof. Eric Stykel
Prof. Melanie Johnson  Dr. Sara Sundberg
Dr. Mary Kelly  Dr. Joshua Taft
Prof. Allison Kerek  Dr. Greg Turner
Dr. David Kreiner  Dr. Natalie Tye
Dr. Robynn Kuhlmann  Dr. Donald Wallace
Dr. Scott Lankford  Dr. Ashley Wellman
Dr. Li Liu  Dr. Daniel Wong
Dr. Kyle Lovercamp

◊ Phi Kappa Phi
*McNair Scholar
**Honors College Student
***McNair Scholar and Honors College Student
+Undergraduate Scholars Grant Recipient
The Office of Undergraduate Research and External Scholarships would like to thank the following contributors for their support of this event:

The 2017 Symposium Judges
The Honors College Advisory Committee, Honors College Student Association, and staff, with many thanks to Ms. Anna Robb and Ms. Darby Simon
The University Research Council
The UCM Institutional Review Board
The UCM Animal Care and Use Committee
The University Relations staff, especially Ms. Sarah Chamberlin and Ms. Marcy Bryant
The Union Meeting and Conferences Services, especially Ms. Presley Wehrle
Mr. Frank Finley, for video production
Mr. Dennis Peirce and Mr. Cody Brown, for technology support
Mr. Bryan Tebbenkamp, for event photography
Ms. Carol Knight, for event videography
The UCM Hospitality Club
The UCM Rainbow Tones

The Undergraduate Research and Creative Project Faculty Mentor Award recognizes one faculty member’s annual contribution to undergraduate scholarship and/or creative work. **Congratulations to our 2017 Nominees:**

Dr. Keshav Bhattarai
Dr. Gene Bonham Jr.
Dr. Skip Crooker
Dr. Kurtis Dean
Dr. Delia Gillis
Dr. Eric Honour
Prof. Helene Hood
Dr. Ellie Hyeyeon Hwang
Dr. Celia Kingsbury
Prof. Ashley Miller-Scully
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