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Student Research Conference Select Presentations

Student Research Conference


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3-2014

## 44th Annual WKU Student Research Conference

Scott Lyons, Chair, Student Research Council  
Western Kentucky University, [scott.lyons@wku.edu](mailto:scott.lyons@wku.edu)

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### Recommended Citation

Lyons, Chair, Student Research Council, Scott, "44th Annual WKU Student Research Conference" (2014). *Student Research Conference Select Presentations*. Paper 21.  
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**44<sup>th</sup> Annual  
Student Research Conference**



**Saturday, March 22, 2014  
Gary A. Ransdell Hall  
Western Kentucky University  
Bowling Green, Kentucky**



# CONFERENCE SCHEDULE

- 7:30-8:30 am**                    **Registration**  
Registration and Information Tables in First Floor Lobby  
Breakfast Buffet in Second Floor Lounge
- 8:30-10:00 am**                    **Concurrent Paper Sessions I**  
Rooms 1091, 2002, 2005, 2006, 2008, 2010, 2065, 2066, 2068,  
3002, 3003, 3005, 3006, 3010, 3076
- 10:00-10:15 am**                    **Morning Break**  
Information Tables in First Floor Lobby  
Breakfast Buffet in Second Floor Lounge
- 10:15 am-12:00 pm**                    **Concurrent Paper Sessions II**  
Rooms 1091, 2002, 2005, 2006, 2008, 2010, 2065, 2066, 2068,  
3002, 3003, 3005, 3006, 3010, 3076
- 12:00-1:00 pm**                    **Lunch Break**  
Information Tables in First Floor Lobby  
Lunch Buffet in Second Floor Lounge
- 1:00-2:15 pm**                    **Conference Spotlight on Creative Activity and Performance**  
Room 1074  
Remarks by Dr. Gordon Baylis, WKU Vice-President for Research
- 2:15-2:30 pm**                    **Afternoon Break**  
Information Tables in First Floor Lobby
- 2:30-3:30 pm**                    **Concurrent Poster Sessions I**  
Rooms 1002, 1003, 1089, 1091, 2002, 2005, 2006, 2008, 2010,  
2065, 2066, 2068, 3002, 3003, 3005, 3006, 3076
- 3:30-3:45 pm**                    **Afternoon Break – sponsored by the WKU Graduate School**  
Refreshments in Second Floor Lounge and Information Tables  
in First Floor Lobby
- 3:45-4:45 pm**                    **Concurrent Poster Sessions II**  
Rooms 1002, 1003, 1089, 1091, 2002, 2005, 2006, 2008, 2010,  
2065, 2066, 2068, 3002, 3003, 3005, 3006, 3076
- 4:45-5:00 pm**                    **Afternoon Break**  
Information Tables in First Floor Lobby
- 5:00-6:30 pm**                    **Sigma Xi Speaker Dr. John Shea and Awards Ceremony**  
Room 1074

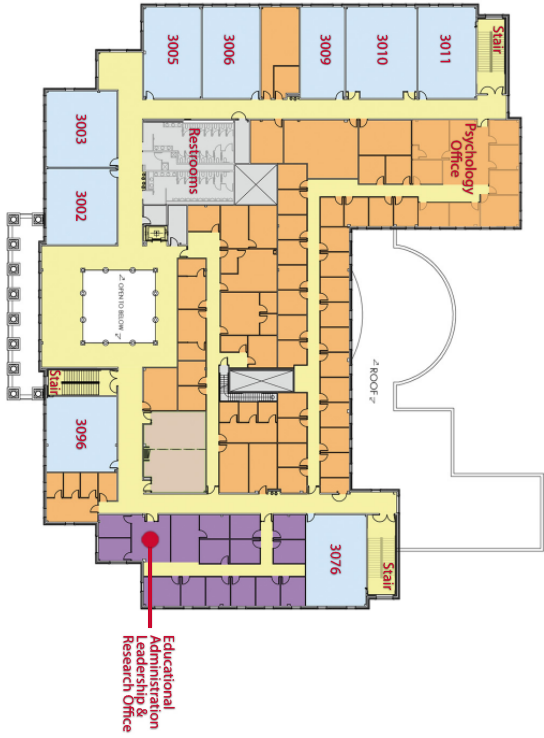
Remarks by Dr. Gordon Emslie, WKU Provost and Vice-President  
for Academic Affairs

**Judges**

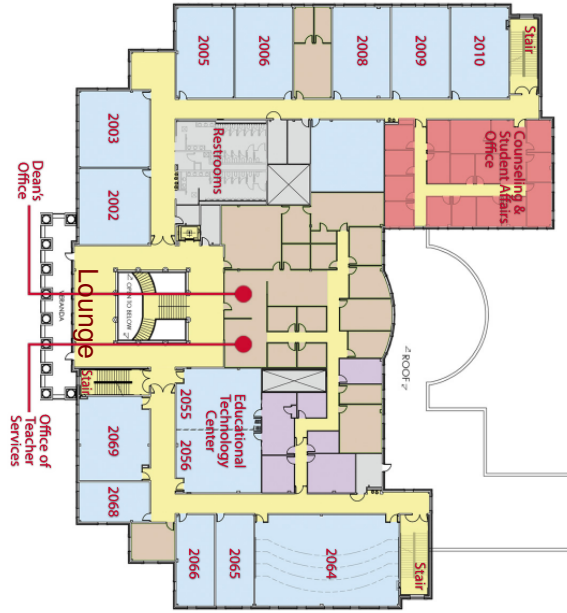
Please register at Student Research Council Table in first floor  
lobby. Room 2069 will be available all day for judges'  
deliberations.

# Gary Ransdell Hall Floor Plan

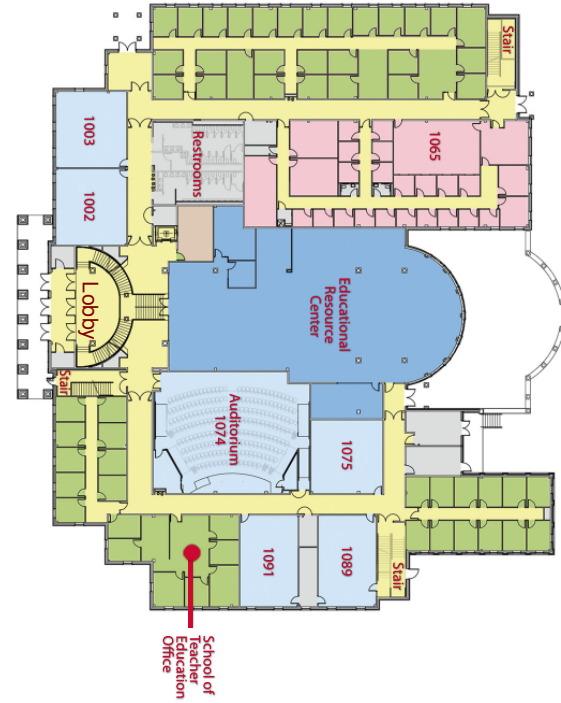
third floor



second floor



first floor



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**Abstracts are available at [www.wku.edu/studentresearch](http://www.wku.edu/studentresearch)**



WESTERN KENTUCKY UNIVERSITY  
IS AN INSTITUTIONAL MEMBER OF THE  
COUNCIL ON UNDERGRADUATE RESEARCH  
*Learning Through Research*

# INTRODUCTION

The WKU Student Research Conference showcases the scholarly activities of graduate and undergraduate students of diverse disciplines from across main and regional campuses. An annual tradition since 1970, the conference has provided opportunities for thousands of students to present talks, performances, posters, exhibits, and displays on their research and creative endeavors.

WKU has a rich history of scholarly engagement of students. Scholarly activity has been defined as original and creative work that is shared with colleagues and the general public. Research is a form of scholarly activity that involves the discovery of new knowledge. Other forms of scholarship include the development of new technologies, methods, materials or uses; the integration of knowledge that leads to new understanding; and artistry that creates new insights and interpretations.\* As demonstrated by the Student Research Conference, students significantly enrich their academic experiences at WKU by engaging in scholarly activity.

Between 1970 and 2002, the WKU chapter of Sigma Xi organized and funded the WKU Student Research Conference. Sigma Xi is a national research honor society of scientists and engineers that recognizes scientific achievement. The society is a diverse organization of members and chapters dedicated to companionship in science and engineering and advancement of knowledge through research, teaching, and service. For the next three years, the conference was jointly sponsored and organized by Sigma Xi and the University Honors Program. In 2006, WKU hosted a weekend-long celebration of student scholarship that included the Potter College Undergraduate Conference on Friday and the annual WKU Student Research Conference on Saturday, the latter again sponsored by Sigma Xi and the University Honors Program. The following year, a special committee comprised of representatives of each college, the University Honors Program, and Sigma Xi organized the conference. In 2006-2007 Sigma Xi and the Office of the Provost provided financial support for the conference.

In 2008 Provost Barbara Burch created the Student Research Council, a university-wide committee charged with promoting student scholarly activity on campus and organizing the annual student conference. Since that year, the Student Research Council has organized the annual Student Research Conference, with financial support provided by the WKU chapter of Sigma Xi, the Office of the Provost, the Office of Research, and other university units.

With support from the Office of the Provost and the Office of Research, in 2012 the Student Research Council developed a weeklong celebration of student scholarship. This year REACH (Research Experiences and Creative Heights) Week spanned March 17-22 and featured a keynote address, in conjunction with the WKU Cultural Enhancement Series and the Gatton Academy for Math and Science, by noted physicist Dr. Michio Kaku. REACH Week also featured research showcases hosted by nine WKU colleges and units. The Student Research Conference is the culminating activity of

\* Weiser, C. J. (1996, March 7). The Value System of a University: Rethinking Scholarship. Retrieved 30 November 2010 at [www.adec.edu/clemson/papers/weiser.html](http://www.adec.edu/clemson/papers/weiser.html)

REACH Week.

## CONFERENCE HIGHLIGHTS

With 383 research presentations, the 44<sup>th</sup> Annual WKU Student Research Conference is, by far, the biggest in the event's history. There are 185 oral presentations and 198 posters/exhibits, plus eight spotlight performances. A total of 281 undergraduate students and 102 graduate students are presenters this year. In addition, 65 students are co-primary authors and 144 are secondary authors.

The interdisciplinary nature of the conference is evident in the broad range of subject areas covered in the presentations. Student participants represent diverse disciplines from 47 departments, programs, and institutes in all colleges.

- Accounting
- African-American Studies
- Agriculture
- Allied Health
- Applied Physics Institute
- Architectural & Manufacturing Sciences
- Art
- Biochemistry
- Biology
- Business Sciences
- Center for Gifted Studies
- Chemistry
- Communication
- Communication Sciences & Disorders
- Computer Information Systems
- Computer Science
- Diversity & Community Studies
- Economics
- Educational Administration, Leadership, & Research
- Engineering
- English
- Family & Consumer Sciences
- Finance
- Folk Studies & Anthropology
- Gatton Academy
- Gender & Women's Studies
- Geography & Geology
- Health Services
- History
- Honors College
- Institute for Citizenship & Social Responsibility
- Journalism & Broadcasting
- Kinesiology, Recreation, & Sport
- Management
- Marketing & Sales
- Mathematics
- Modern Languages
- Nursing
- Philosophy & Religion
- Physics & Astronomy
- Political Science
- Popular Culture Studies
- Psychological Sciences
- Psychology
- Public Health
- Social Work
- Teacher Education

Among the undergraduate participants in the conference are 111 **Honors College** students. Many are presenting their capstone experience/thesis projects at the conference.



Meghan Althausen  
Noelle Anderson  
Rachel Archer  
Jarad Bagshaw  
Kimberly Baugh  
Nicholas Beasmore  
Jakob Bertram  
Charles Bolton  
Mary Boothe  
Emily Bouchard  
Nicholas Bratcher  
Amy Broadrick  
Erika Brown  
Courtney Broyles  
Anne S. Brusendorf  
Lindsey Burke  
Kevin Carey  
George Carpenter  
Caitlyn Clark  
Samantha Coates  
John Corum  
Forrest Deacon  
Lucas Deckard  
Maxwell Dierken  
Jamie Doctrow  
Holly Doss  
Breion Douglas  
Adam Edge  
Whitney Elmore  
Juliana Eovino  
Clarice Esch  
John Ferguson  
Christopher Fields  
Paul Fleischman  
Casey Fortney  
Sarah Fox  
Laura Fulkerson

Amanda Gallion  
Ashton Garber  
Loren Gross  
Morgan Gruner  
Stephanie Hagan  
Lydia Hall  
Jessica Hall  
Victoria Hampton  
Benjamin Harris  
Anna Helton  
Jacob Hughes  
James Hussung  
Paige Huzyak  
Dzenana Kadric  
Hannah Keith  
Sarah Kinnicutt  
Georgina Kleinhelter  
Elias Kleinsmith  
Madison LeRoy  
Abigail Lewis  
Allison Linn  
William Lyle  
Kyle Mann  
Shareen Mann  
Kelsey McNally  
Lillian McNeal  
Amanda Mitchell  
Rachel Moad  
Elizabeth Oates  
Caitlynn Oberhausen  
Alexandra Oldham  
Briana Phillips  
Ryan Peach  
Emily Potter  
Carson Price  
Tyler Prochazka  
Nathan Puckett

Robert Rabold  
Allison Randall  
Michael Richardson  
Matthew Riggle  
Hannah Ruggles  
Cyrus Sadrinia  
David Sams  
Tyler Scaff  
Jonathan Serpico  
Paige Settles  
Brenna Sherrill  
Kaitlynn Smith  
Kaitlyn Snyder  
Mary Spraggs  
Kayla Steber  
Kayla Steele  
Caitlin Stephens  
Aaron Tagliaboschi  
Darren Tinker  
Cynthia Tope  
Mallory Treece  
Leah C. Turner  
Abigail Vickers  
Ryan Vincent  
Emily Walker  
Jeffrey Walker  
Rachael Walters  
Autumn Ward  
Charles Ward  
Jordan Webb  
Jesse Wells  
Justin Wellum  
Celia Whelan  
Samuel White  
John Winstead  
Spencer Wright  
Jamey Yadon

Also among the undergraduate participants are 30 students in the **Carol Martin Gatton Academy of Mathematics and Science in Kentucky**. Since its creation in 2008, a total of 176 Gatton Academy students have presented at the conference.

Corbin Allender  
Tori Buckley

Justin Bunch  
Fenil Chavda

Nate Clause  
Rachel Cook

Ajit Deshpande  
Benjamin Guthrie  
Cameron Hubbard  
James Hughes  
Allyson King  
Isaac Kresse  
Nitin Krishna  
Dimitri Leggas

Kelly Lynch  
Muhammad Mahmood  
Logan Mitchell  
Patrick Osterhaus  
Shania Polson  
Lindsey Porter  
Kathryn Price  
Valerie Richmond

Benjamin Riley  
Hannah Rodgers  
Rena Ryumae  
Lindsey Shain  
Ananya Sharma  
Christian Simms  
Austin Smith  
Joshua Stewart

A variety of funding opportunities are available to assist students with their research. In 2012 the Office of Academic Affairs and the Office of Research initiated an internal funding program for undergraduate students called **Faculty-Undergraduate Student Engagement (FUSE) grants**. FUSE grants are designed to support students' intellectual development by fostering active engagement in the areas of research, creative and scholarly activities, and/or artistic performances. Nearly 200 undergraduate students have received FUSE grants over the past two years, many of whom are among the conference participants this year. Also, the WKU Graduate School provides grants to graduate students to support creative scholarship that promotes inquiry and contributions to knowledge. A number of the graduate students presenting today were assisted by funding from the Graduate School.

## STUDENT SPOTLIGHT

This year the Student Research Council is pleased to spotlight the creative works of several undergraduate students. The performances will be held in GRH Auditorium and are open to the entire campus community; this is a swipearable event for WKU students. Dr. Gordon Baylis will make introductory remarks.

In the most eclectic year yet for the Spotlight for Creative Activity and Performance, these presentations represent five different departments from across WKU. We begin by exploring the contrast between two poems: one collaborative and therapeutic, the other creative and cultural. After the creative readings, the collection takes a visual turn with video and photo presentations. Performance pieces close the hour with a DNA extraction demonstration and an a capella performance.

### Creative Writing

#### Gerontology - Cherita Black

Cherita Black is a WKU Honors College student, a Psychology major, and Gerontology minor from Springfield, Tennessee. Cherita is a recipient of the F.U.S.E grant mentored by Dr. Dana Burr Bradley, the director of the Center for Gerontology. Cherita's F.U.S.E grant research formed the basis for her honors thesis, "Life Narratives and Poetry-Writing with Older Adults." Cherita investigated narrative life

reviews and poetry-writing as an alternative approach to improving the social well-being of older individuals. Cherita will briefly present the methodology and recite each poem created with an elder.

### **Poetry - Haley Edwards**

Haley Edwards is a senior Creative Writing/Arabic double major at WKU. Her work attempts to navigate Southern childhood and spiritual growth throughout travels in the Middle East. It seeks to find common ground between these various cultures which seem so inextricably linked within the poet herself.

### **Fiction - Katie Pickens**

Katie Pickens is a senior from Owensboro. She is a creative writing major and literature minor. In Fall 2012, she was one of four WKU students selected to receive a scholarship for a Winter Writing Workshop led by Gurney Norman. She wrote her first novella, *Tumors*, this past semester—Fall 2013. It was the longest and most challenging story she'd taken on. It was also the most rewarding piece of writing she's ever completed. She has a journalism background, but switched majors to see if she was any better at writing about people in complex ways that felt more natural to her.

### **Creative non-fiction - Ashley Coulter**

Ashley will read [wrote this too] from her original creative nonfiction [+ FREE lies] collection, to be published as an Honors Thesis this semester. His selected piece – “Delay” – extends a not-so-subtle intro[quack]tion to the collection's theme –What's n[ot]orm[e]al? Quack like duck, get it? Ash will start Teach For America this fall in Indianapolis.

## **Presentations**

### **Film – Jayme Powell**

Jayme Powell, a film major from Bowling Green, will present her film *Epiphany* and discuss the filmmaking process from concept to post-production. Jayme wrote, produced, and directed the film in spring 2013. Her interest in dreams led her to question what it would be like if someone realized they were dreaming and tried to control the outcome. The film is a look at the concept of lucid dreaming. This past fall, Jayme studied abroad at Harlaxton and over winter term she participated in a faculty-led study away course that went to the Sundance Film Festival. Jayme has worked on several productions outside of WKU and is writing, producing and directing a second film this semester called *Scripted*. Her mentors are RonDeMarse, Ted Hovet, and Travis Newton.

### **Photojournalism – Jabin Botsford**

Jabin Botsford is a senior photojournalism and sociology student at WKU. He has interned at *The New York Times*, *The Washington Post* and in the summer of 2014 will be interning at *The Los Angeles Times*. In October of 2013 he was a student at The Eddie Adams Workshop XXVI. He has been recognized by Pictures of the Year

International, the College Photographer of the Year, The William Randolph Hearst Photojournalism Award program, the National Press Photographers Association, the Kentucky News Photographers Association, The Atlanta Photojournalism Seminar, and many others. His images and multimedia have been published in *The New York Times*, *The Washington Post*, *The Wall Street Journal*, *AARP*, and numerous other publications throughout the country.

### **Biology – Bobby Voyles**

Bobby Voyles, a biology major from Owensboro, will present an innovative experiment “Banana DNA in a bag,” to illustrate the importance and prevalence of molecular biology in our daily lives, and also discuss how the scientific thought process is an integral part of our lives. Through this creative activity at SRC, Bobby is seeking to showcase how research can be a fun activity while answering crucial questions about life. Bobby is an active undergraduate research student who won both a FUSE grant and BSURE grant to pursue research in plant molecular biology. Bobby attends WKU-Owensboro, and his faculty mentor is Dr. Chandra Emani.

### **A capella ensemble – The Redshirts**

The Redshirts are the premier male vocal ensemble at WKU! But that sounds too extravagant; these are a group of ambitious young men who love music, performance, hanging out with each other, and love to share their music with the community. The Redshirts sing repertoire from Doo-wop, Standards, Contemporary, and Choral, to Musical Theater, Jazz and Pop. Their wide repertoire and performance capabilities are what makes this men’s a capella group so unique! These young men are continually seeking new ways to positively entertain as well as inspire young men to keep singing and expressing themselves. Twitter: [@thewkuredshirts](#), Email: [thewkuredshirts@gmail.com](mailto:thewkuredshirts@gmail.com) and Facebook: **The WKU Redshirts!**

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## **CONFERENCE SPEAKER**

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Dr. Shea is a paleoanthropologist whose research focuses on the archaeology of human origins. His interests span the length of the Paleolithic period. These include early hominid adaptive radiations, the origin of *Homo sapiens*, the extinction of the Neandertals, and the end of the Later Stone Age in Africa. He has investigated these subjects through projects in Israel, Jordan, Eritrea, Ethiopia, and Kenya. His most recent fieldwork focuses on Later Stone Age sites in the Early Holocene Galana Boi Formation, West Turkana, Kenya. This latter work is being carried out in conjunction with the Turkana Basin Institute and in collaboration with Prof. Elisabeth Hildebrand.



He is an expert flintknapper and skilled replicator of primitive technologies. He uses the results of stone knapping and tool use experiments to improve archaeological methods for reconstructing human behavior through the analysis of stone tools. His most recent research in this area focuses on the origins of stone projectile point technology.

Dr. Shea's presentation is open to the entire campus community and is a swiipeable event for WKU students. It is sponsored by the WKU chapter of Sigma Xi.

## AWARDS CEREMONY

WKU faculty and professional staff judge student presentations, performances, posters, and exhibits at the conference. The judges select one winner from each of the 69 sessions listed on pages 15-36 in this program.

**Conference session winners** are announced and acknowledged at the Awards Ceremony in GRH 1074 following Dr. Shea's Sigma Xi presentation in the late afternoon. All students who presented papers and posters at the conference, as well as family members, friends, faculty mentors, and administrators, are invited to attend. WKU Provost and Vice President for Academic Affairs Dr. Gordon Emslie will make remarks and recognize the session winners.

## INFORMATION TABLES

Representatives from a variety of campus offices and organizations are hosting informational tables in the first-floor lobby during the conference. Students are welcome to visit the information tables throughout the day.

**KIIS Study Abroad** is recognized as a leader in international education and is one of the most cost-effective study abroad organizations in the United States. Every summer KIIS provides WKU students over 100 course options in a range of academic disciplines (<http://www.kiis.org/go/COURSES.php>) in 27 programs in Europe, Africa, Asia, Canada, and Latin America. KIIS programs are faculty-led and all course credit is issued by WKU. Undergraduate, graduate, honors, and non-degree seeking students are welcome to apply. WKU faculty are invited to teach abroad with KIIS. Visit [www.kiis.org](http://www.kiis.org) for scholarship, application, and program information. **Contact** Dr. John Dizgun in Tate Page Hall 129 or at [kiis@wku.edu](mailto:kiis@wku.edu) or 270-745-4416.

The **WKU Graduate School** is pleased to support graduate student research through competitive grants and travel awards. Graduate study at WKU is an excellent route to continued academic and career success. For more information on graduate program opportunities at WKU, please be sure to stop by our table. **Contact** Colette Chelf at [colette.chelf@wku.edu](mailto:colette.chelf@wku.edu).

The intellectual environment of the **Honors College** at WKU is comparable to a smaller, liberal arts institution with the undergraduate resources of a mid- to large-size public university. The Honors in the Major program may be of particular interest to current students wishing to apply to Honors with a higher number of credit hours. Applications are available online for Fall 2014 at [www.wku.edu/honors](http://www.wku.edu/honors). **Contact** Honors Admission Counselor Allison Smith at [allison.smith@wku.edu](mailto:allison.smith@wku.edu) with questions.

The **Office of Scholar Development** (OSD) works with students and their mentors to build research and creative agendas, helps students identify appropriate national and international scholarship opportunities, and provides intensive writing support throughout the application process. Whether you are looking for funding for a specific project or just curious about potential national and international scholarship opportunities, OSD can help. **Contact** an OSD representative for more information about how to make your big dreams come true. Email [osd@wku.edu](mailto:osd@wku.edu) to schedule an appointment. For information about scholarships and past scholarship recipients, visit [www.wku.edu/osd](http://www.wku.edu/osd).

## ACKNOWLEDGEMENTS

On behalf of the entire campus community, the members of the WKU Student Research Council extend appreciation and congratulations to the hundreds of students who participated in the conference. We applaud your talent, creativity, dedication, and commitment to making the most of your educational experience at WKU. Your passion for learning and academic excellence, as well as your motivation to meet and overcome challenges, not only distinguishes you from your peers, it serves as an inspiration to others. We are proud of your accomplishments, and you should be, too.

Faculty members who served as mentors to students are identified throughout the conference schedule. We commend the 186 faculty mentors for their support of student scholarly activities and for their assistance in preparing students for the conference.

A total of 114 WKU faculty/staff serving as conference session judges are listed below. We greatly appreciate the support of the judges.

Khaldoun Almously  
Shahnaz Aly  
Darlene Applegate  
Lynn Austin  
D'Lee Babb  
Mark Baum  
Wes Berry  
Brent Bjorkman  
Lauren Bland  
Lorraine Bormann  
M. Branstetter  
Wolfgang Brauner  
Amy Brausch  
Barbara Brindle

Bryan Carson  
Wanda Chandler  
Ismail Civelek  
Krisstal Clayton  
Jason Crandall  
Jerry Daday  
Raja Dakshinamurthy  
Robert Davis  
Laura DeLancey  
Lisa Draskovich-Long  
Holli Drummond  
Lisa Duffin  
Marko Dumancic  
Melanie Eaton

Gina Sobrero Evans  
Timothy Evans  
Xingang Fan  
Ann Ferrell  
Connie Foster  
Jim Fulkerson  
Nahid Gani  
Cecile Garmon  
Fred Gibson  
Tim Gott  
Chris Groves  
Sanju Gupta  
Ashley Hadden  
Jennifer Hanley

Tony Harkins  
Timothy Hawkins  
Gail Hiles  
Beverley Holland  
Jean-Luc Houle  
Xiaoxia Silvie Huang  
Kate Hudepohl  
Sandra Hughes  
Grace Hunt  
Nezam Iraniparast  
Kumi Ishii  
Emmanuel Iyiegbuniwe  
Trish Jagers  
Muhammad Jahan  
Molly Kerby  
John Khouryieh  
Jae Kim  
Rodney King  
Thomas Kingery  
Elisabeth Knight  
Sally Kuhlenschmidt  
Alison Langdon  
Sonia Lenk  
Diane Lickenbrock

Nancy Mager  
Jill Maples  
Tamilselvi Marutharaj  
Sara McCaslin  
Lauren McClain  
Rosemary Meszaros  
Akihiko Michimi  
Christian Montgomery  
Tracey Moore  
Carl Myers  
Matthew Nee  
Christina Noel  
J. Farley Norman  
Leslie North  
Stephen O'Connor  
Alexander Olson  
Anne Onyekwuluje  
Peggy Otto  
Katherine Pennavaria  
Nielsen Pereira  
Nathan Phelps  
Raymond Poff  
Jason Polk  
Jenni Redifer

Thomas Reece  
Nancy Richey  
Claire Rinehart  
Mark Schafer  
Ian Schnee  
Amber Schroeder  
Richard Schugart  
Cangliang Shen  
Jonghee Shim  
Fredrick Siewers  
Lee Ann Smith  
Roxanne Spencer  
Mary Taylor  
Jason Thompson  
Brandy Tiernan  
Shannon Vaughan  
Adam West  
Andrew West  
Aaron Wichman  
Jennifer Wright  
Robert Wyatt  
Rong Yang  
Helen Zhu

Funding for the 44<sup>th</sup> Annual WKU Student Research Conference and other REACH Week activities was provided by the Office of the Provost and Vice President for Academic Affairs, the Office of Research, and the WKU Chapter of Sigma Xi.

The Office of Public Affairs developed electronic advertising, provided photography services for REACH Week events, prepared press releases, and designed the conference artwork. Special thanks to Alicia Carter, Scott French, Tom Meacham, and Tommy Newton.

Web support was provided by Diana Keeling and Leyla Zhuhadar. Scott Lyons and Jeanie Adams-Smith arranged travel for John Shea. Jennifer Tougas and staff in the Parking and Transportation Office provided parking maps and shuttles for REACH Week events.

Honors Toppers, Office of Scholar Development Ambassadors, Gatton Academy students, and the Exercise Science Club assisted at the conference and other REACH Week events. Special thanks to Leslie Baylis, Audra Jennings, Jill Maples, and Derick Strode.

The College of Education and Behavioral Sciences Dean's Office provided logistical support for the conference. Special thanks to Sam Evans, Jackie Pope-Tarrence, Sharon Hartz, and Susan Krisher. The Department of Folk Studies and Anthropology, the Office of the Vice-President for Research, and the Office of the Provost provided

additional conference support. Special thanks to Jennifer Cole, Kim Newell, Teresa Jackson, Gordon Baylis, and Gordon Emslie. The Music Department provided music stands for the conference. Special thanks to Jacob Tabor and Gary Schallert.

Support for the “Be an Academic Rock Star” student workshop series was provided by the Interactive Video Services Office. Special thanks to Brandon Davidson, Jacob Hamlin, and Tamela Smith. Josh Marble and staff in the Technology Resources Center edited workshop videos.

The WKU Student Research Council organizes the conference. Members represent each college, University Senate, and Student Government Association: Scott Lyons (Chair), Jeanie Adams-Smith, Scott Arnett, Leslie Baylis, Dana Bradley, Colette Chelf, Jennifer Cribbs, Vlad Dobrokhotov, Chandra Emani, Lance Hahn, Bob Hatfield, Andrew Mienaltowski, Lynn Minton, David Mokone, Tammera Race, Lawrence Snyder, Derick Strobe, and Leyla Zhuhadar. For more information about the Council, visit [www.wku.edu/studentresearch](http://www.wku.edu/studentresearch).

## **PAPER SESSION I**

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**Room: GRH 1091**

**Judges: Dr. Lauren Bland and Dr. Fred Gibson (moderator)**

- 8:30 **Katherine Slone** Ipads: Do They Help Teacher Instruction? (Nielson Pereira)  
8:45 **Matt McGuire** Senior Exit Exam Data Analysis (Dawn Bolton)  
9:00 **Kimberly Horan** Educational Motivation For Students In Gales Point, Belize (Patricia Desrosiers)  
9:15 **Igwe Igwe** Assessment Of Indoor Air Quality Monitoring At The Housing Authority Of Bowling Green’s Fort Webb Manor (Iyiegbuniwe Emmanuel)  
9:30 **Ali Karim** Ph Switchable Surfaces For The Trapping And Release Of Trapped Substances (Eric Conte)  
9:45 **Heidi Sisler** Free Practice, Guarded Profession: Identity Negotiation For Public University Professors (Jennifer Mize Smith)

**Room: GRH 2002**

**Judges: Dr. Kumi Ishii (moderator) and Dr. Amber Schroeder**

- 8:30 **Andrew Yeater** Homer, Heroes, And Hogs (Niko Endres)  
8:45 **Logan Scisco** Vanguard Of The Right: The Department Of Education Battle, 1978-1979 (Patricia Minter)  
9:00 **George Carpenter** Playing With Reality: An Aesthetic And Thematic Exploration Of How Scott Pilgrim Vs. The World Interprets Reality (Jerod Hollyfield)



- 9:15 **Mohammad Vahid Alizadeh Dizaj** New Mobile Payment Protocol: Mobile Pay Center Protocol 3 (mpcp3) By Using New Key Agreement Protocol: Vc3 (Brent Vanmeter)
- 9:30 **Kerry Duck** Effect Of Problem-based Learning On Interest In Mathematics Across Time For High Achieving Students (Steven Winger)
- 9:45 **Whitley Stone** 24-hour Post-exercise Hypotension Following Concurrent Cardiovascular And Resistance Exercise (Mark Schafer)

**Room: GRH 2005**

**Judges: Dr. Alison Langdon, Ms. Lisa Draskovich-Long, and Dr. Krisstal Clayton (moderator)**

- 8:30 **Katheryn Young** The Pen Or The Sword: The Progression Of Thomas Jefferson's Political Ideologies From 1774 To 1776 (Michael Ann Williams)
- 8:45 **Jakob Maase** Being Human (Michael Ann Williams)
- 9:00 **Karen Hogg** How Many Guitarists Does It Take To Screw In A Lightbulb? - The Folklore Of Musician Jokes (Michael Ann Williams)
- 9:15 **Sarah Jameson** The Bombing Of Japan (Beth Plummer)
- 9:30 **Lucas Somers** Censorship In The American Revolution (Beth Plummer)
- 9:45 **Aaron Whitehead** The Fatty Arbuckle Case And The Exploitation Of Celebrity Scandal In The 1920s Culture Wars (Anthony Harkins)

**Room: GRH 2006**

**Judges: Dr. Jean-Luc Houle and Dr. Raymond Poff (moderator)**

- 8:30 **Renee Pinkston** Frog Legs, Pigs Feet, And Hogs Brains: Categories Of What We Eat And Don't Eat In The South (Ann Ferrell)
- 8:45 **Jacob Buechler** Haunted Here; All With Me: Pareidolic Realities And The Spaces Where The Darkness Peers Back (Ann Ferrell)
- 9:00 **Teresa Westfall** Silence, Voice And Identity In Maxine Hong Kingston's The Woman Warrior (Michael Ann Williams)
- 9:15 **Joshua Chrysler** 'Pass the Word': Utilizing Kentucky's Oral History Archives (Michael Ann Williams)
- 9:30 **Steven Watts** The Cultural Phenomenon Of The Vampire In Western Culture (Michael Ann Williams)
- 9:45 **Bonnie Hughes** Women In Country Music, 1970-2014: An Analysis Of Billboard Trends And Census Data (Michael Ann Williams)

**Room: GRH 2008**

**Judges: Dr. Ismail Civelek (moderator) and Ms. Rosemary Meszaros**

- 8:30 **Madison LeRoy** Choices Or Discrimination: Examining The Causes Of The Gender Pay Gap (Kelly Reames)
- 8:45 **Kevin Carey** The Impact Of The Shortage Of Safe Assets On The Global Economy (David Beckworth)
- 9:00 **Kyle Mann** The Importance Of Preventative Care And Oral Health (Jeffrey Rice)
- 9:15 **Matthew Riggle** A Tale Of Three Cities: Infrastructural Influences On Diverse Metropolitan Areas (Kelly Reames)

- 9:30 **Corbin Allender** Implementating A Matching Algorithm For Roommate Pairing (Uta Ziegler)
- 9:45 **Lindsey Porter** Allelic Variability In The Angiotensin Converting Enzyme Polymorphism Ace I/d In An East African Population (Nancy Rice)

**Room: GRH 2010**

**Judges: Ms. Melanie Eaton, Dr. Lynn Austin, and Dr. Nahid Gani (moderator)**

- 8:30 **William Lyle** Herbal And Holistic Medicine In Mexico And Peru (William Mkanta)
- 8:45 **Allison Randall** The Fitting Of Assistive Ambulation Devices Of Residents From Assisted Living Facilities (Scott Lyons)
- 9:00 **Laura Fulkerson** My Experience in Kentucky Clinics and Gale's Point Clinic (Jeanette Gullett)
- 9:15 **Spencer Wright** Allelic Variability In The Cyp11b2 C344t Single Nucleotide Polymorphisms From A Cohort Of East Africans (Dr. Nancy Rice)
- 9:30 **Sarah Fox** Dare To Care: A Study In Socially Active Leadership (Tracy Inman)
- 9:45 **Kayla Steele** Cross-cultural Communication In Nursing: A Short-term Missions Perspective (Jeanette Gullett)

**Room: GRH 2065**

**Judges: Dr. Nazem Iraniparast (moderator), Mr. Robert Davis, and Ms. Katherine Pennavaria**

- 9:00 **Brenna Sherrill** The Wizarding Words Of J.k. Rowling: Literary Merit In The Harry Potter Series (Molly McCaffrey)
- 9:15 **Kaitlynn Smith** Will You Buy My Movie? A Study Of The Films Purchased For Distribution At The Sundance Film Festival (Ted Hovet)
- 9:30 **Nitin Krishna** A Mathematical Model for the Interaction of the Proteins MMP-1, TIMP-1, And ECM in a Wound (Richard Schugart)
- 9:45 **Nate Clause** A Numerical Solution Of An Application Of A Linear Optimal Control Problem To A Bacteria Infection In A Wound Using Oxygen Therapy (Richard Schugart)

**Room: GRH 2066**

**Judges: Dr. Lorraine Bormann, Dr. Jennifer Redifer, and Ms. Lee Ann Smith (moderator)**

- 8:30 **Christopher Fields** Functional And Expression Analysis Of A Novel Basement Membrane Degradator In Drosophila Melanogaster (Ajay Srivastava)
- 8:45 **James Hughes** An Automated Algorithm For Identifying Dark H2 Regions (Steven Gibson)
- 9:00 **Jessica Hall** Analysis Of No And Noy In The Low Atmosphere Of Mammoth Cave National Park (Matthew Nee)
- 9:15 **Samuel White** Laser Intensity And Ionic Strength Dependence Of The Aqueous Nitrate And Carbonate Ion Raman Spectra (Matthew Nee)

- 9:30 **Cameron Hubbard** Criticality Point For AGN Jet Structure From Poincare Maps (Keith Andrew)
- 9:45 **John Ferguson** Silsesquioxane Nanostructures For Photovoltaic Devices (Hemali Rathnayake)

**Room: GRH 2068**

**Judges: Mr. Khaldoun Almously, Ms. Gail Hiles, and Dr. Anne Onyekwuluje (moderator)**

- 8:30 **Samantha Coates** White Space: An Overlooked Element Of Design (Kelley Coppinger)
- 8:45 **Sarah Kinnicutt** Les Villes Jumelées: Finding Bowling Green A French Speaking Sister City (Eddy Cuisinier)
- 9:00 **Tyler Prochazka** The World In Transition: A Comparative Analysis Of Youth Perceptions In China & America (Soleiman Kiasatpour)
- 9:15 **John Corum** Expanding The Critical Space: Emerging Works As Postcolonial Literature (Jerod Hollyfield)
- 9:30 **Ashton Garber** The Effects Of Magical Realism (Sonia Lenk)
- 9:45 **Charles Ward** Just Write The Damn Thing: A Writer's Journey (David Bell)

**Room: GRH 3002**

**Judges: Dr. Marko Dumancic (moderator), Ms. Nancy Mager, and Ms. Mary Taylor**

- 8:30 **Michael Richardson** Real Life Awaits: Changing Views Of Culture And Society As Expressed In The Holy Mountain And Spring Breakers (Jerod Hollyfield)
- 8:45 **Jarad Bagshaw** Kentucky Blue: A Living History Of The Blues In South Central Kentucky (Erika Brady)
- 9:00 **Jesse Wells** The Evolution Of Death (David Bell)
- 9:15 **Jamey Yadon** Political Elements In Early Anabaptist Baptismal Practice (Lawrence Snyder)
- 9:30 **Anna Helton** Exotic Women, Conflicting Allegories: La Paillardise And Savage Identities In The Early Modern French Imagination, 1500-1700 (Beth Plummer)
- 9:45 **Mary Boothe** Rebranding The WKU Office Of Sustainability (Kelley Coppinger)

**Room: GRH 3003**

**Judges: Mr. Mark Baum, Dr. Lauren McClain, and Dr. Ian Schnee (moderator)**

- 8:30 **George Carpenter** Where's Jonesville? How The Destruction Of Jonesville Left A Legacy Of Housing Discrimination In Bowling Green, Kentucky (Patricia Minter)
- 8:45 **James Hussung** Faith And Physical Healings In Luke-acts (Joseph Trafton)
- 9:00 **Elias Kleinsmith** Digital Avant-garde: Pushing Against The Digital Forecast (Jerod Hollyfield)
- 9:15 **Benjamin Harris** Catholicism, Aufklärung And The Rise Of Nationalist Sentiment In The Germanies: An Examination Of Maximilian Iii Joseph And Frederick Ii (Beth Plummer)
- 9:30 **Erika Brown** Reexamining The Equipollence Of (Audrey Anton)
- 9:45 **John Winstead** Analysis Of Euphonic Blending Of (Elizabeth Winkler)

**Room: GRH 3005**

**Judges: Dr. Jill Maples (moderator), Ms. Sara McCaslin, and Dr. Akihiko Michimi**

- 8:30 **Nicholas Bratcher** The Use Of Prophecy In The Pauline Epistles (Joseph Trafton)
- 8:45 **Robert Rabold** Lawrence V Bowling Green Board Of Education And Desegregation In Bowling Green, Kentucky (Patricia Minter)
- 9:00 **Abigail Vickers** Eating Disorders In Bowling Green (Alexander Olson)
- 9:15 **Jamie Doctrow** Community Based Research In Bowling Green (Elizabeth Gish)
- 9:30 **Emily Potter** Public Achievement: Coaching 21st Century Skills (Elizabeth Gish)
- 9:45 **Jordan Webb** Food Insecurity And Hunger in Bowling Green and Beyond (Elizabeth Gish)

**Room: GRH 3006**

**Judges: Dr. Holli Drummond, Dr. Cecile Garmon (moderator), and Mr. Christian Montgomery**

- 8:30 **Madison Moore** Teaching Engineering Design Using Steam Machines (Nielsen Pereira)
- 8:45 **Cody Kirk** Achieving Competitive Advantage With A Designated Hitter (Leyla Zhuhadar)
- 9:00 **Neal Bush** Press Fit Engineering (Joel Lenoir)
- 9:15 **Jacob Thorley** Blockbusted: The Future Of Cinema Exposed By The Blockbusters Of The Past And Present (Jerod Hollyfield)
- 9:30 **Jacob Delk** A Red Shadow Around Every Corner: Reflections Of Cultural Paranoia In 1950s Science Fiction Films (Jennifer Hanley)
- 9:45 **Kelli Ralston** Perceptions And Memories Of Tiananmen Square 1989 (Patricia Minter)

**Room: GRH 3010**

**Judges: Dr. D'Lee Babb (moderator) and Ms. Ashley Hadden**

- 8:30 **Joshua Miller** Not Just In February (Lloren Foster)
- 8:45 **Christopher Page** Soul Business (Terry Shoemaker)
- 9:00 **Holly Logsdon** zen Buddhist Elements in Frost's 'mowing' and Emerson's 'brahma' (Mary Ellen Miller)
- 9:15 **Christopher Conger** Temporal Or Atemporal Eternity: Two Parts Of The Eternal Trinity (Alison Langdon)
- 9:30 **Whitney Marsh** Gender And The Evolution Of The American Tattoo (Kristi Branham)
- 9:45 **Jessica Blauw** Reframing Psychological Pathology Through Existential Themes (Grace Hunt)

**Room: GRH 3076**

**Judges: Ms. Shahnaz Aly and Dr. John Khouryieh (moderator)**

- 8:30 **Austin Hastings** A Foundation Built On Brotherhood (Laura Leach)
- 8:45 **Mary Nally** Evolution Of The Library (Laura Leach)

- 9:00 **Clay Larkin** Creating A Healthy Space For A Healthier Community (Laura Leach)  
 9:15 **Matthew Walker** The Progression of Space (Laura Leach)  
 9:30 **Carmen Van Leer** For The Love Of Art (Laura Leach)  
 9:45 **Randy Rodriguez** Integrating Design Into The Community (Laura Leach)

## **PAPER SESSION II**

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### **Room: GRH 1091**

**Judges: Ms. Jae Kim, Ms. Rosemary Meszaros, and Dr. Fred Siewers (moderator)**

- 10:15 **Dale Rose** Eugenics And Communal Housing In La Mission De Lâ'esprit Saint: An Ethnography Of A Quebecois Denomination (Michael Williams)  
 10:30 **Alena Cieszko** Look With Your Eyes, Not With Your Hands: Why The Old Adage Is True, And Why You Should Care (Michael Ann Williams)  
 10:45 **Virginia Siegel** The Gardner House: Rehabilitating A Jewel Of Hart County (Michael Ann Williams)  
 11:00 **Anton Banchy** The Trial Of Carmello Musso In 1914 Milwaukee (Michael Ann Williams)  
 11:15 **Steven Devine** Petrographic Controls On Cavernous Porosity In The Haney Limestone (Michael May)  
 11:30 **Nathaniel Blackburn** Ethiopian Plateau Cenozoic Incision Phases: Thermal Modeling (Nahid Gani)  
 11:45 **Keri Younger** Equivalent Temperature Trends Across Kentucky (Rezaul Mahmood)

### **Room: GRH 2002**

**Judges: Ms. Shahnez Aly and Dr. Robert Wyatt (moderator)**

- 10:15 **Monic Shah** Spectroscopy Confirmation For Encapsulation Of Antibiotic Onto Gold Nanoparticles (Rajalingam Dakshinamurthy)  
 10:30 **Yogesh Kherde** Green Synthesis, Characterization Of Sugar Coated Gold Nanoparticles For Catalytic Applications (Rajalingam Dakshinamurthy)  
 10:45 **Hitesh Kumar Waghvani** Direct Aminoglycoside Coated Gold Nanoparticles Synthesis, Characterization And Antibacterial Susceptibility Testing (Rajalingam Dakshinamurthy)  
 11:00 **Tulsi Modi** Molecular Level Interaction Of Human Fibroblast Growth Factor-1 (hfgf-1) With Anti-diabetic Drug (Rajalingam Dakshinamurthy)  
 11:15 **Arezoo Mehrabi** Employing Best Practices of Project Risk Management in Healthcare Organizations (Ahmed Khalafallah)  
 11:30 **Pegah Kakavand** Integrating Earned Value Analysis and Risk Management Techniques to Improve Cost and Time Estimation (Ahmad Khalafallah)  
 11:45 **Andrew Austin** Improving Process Capability In A Computer Integrated Manufacturing (cim) Cell (Greg Arbuckle)

### **Room: GRH 2005**

**Judges: Dr. Lorraine Bormann and Dr. Xingang Fan (moderator)**

- 10:15 **Harika Javangula** Comparative Studies On Standard And Fire-rated Gypsum Wallboards (Quentin Lineberry)
- 10:30 **Kelly Derham** African Elephant (*loxodonta Africana*) Impact To Marula (*sclerocarya Birrea*), Knobthorn (*acacia Nigrescens*), And False Marula (*Iannea Schweinfurti*) In The Associated Private Nature Reserves, South Africa. (Bruce Schulte)
- 10:45 **Sukyeon Lee** Electrically Controlled Formation And Release Of Admicelles For Solid Phase Extraction (Eric Conte)
- 11:00 **Natalie Jones** Tetracyclines In Swine Waste (Dr. Eric Conte)
- 11:15 **Kegan McClanahan** Utilizing  $\delta^{13}C$  To Track The Riverine Carbon Cycle In A Karstified Catchment (Jason Polk)
- 11:30 **Dan Nedvidek** Evaluating The Effectiveness Of Regulatory Stormwater Monitoring Protocols On Groundwater Quality In Urbanized Karst Regions (Jason Polk)
- 11:45 **Veronica Hall** Addressing Water Resource Issues In Barbados From An Isotopic And Atmospheric Characterization Of Precipitation Variability (Jason Polk)

**Room: GRH 2006**

**Judges: Dr. Nezam Iraniparast and Dr. Thomas Kingery (moderator)**

- 10:15 **Shashidhar Annarapu** Thermal Analysis Of Binding Of Organic Pollutants To Titanium Dioxide (Matthew Nee)
- 10:30 **Elizabeth Tyrrie** Using Eye-tracking Techniques To Assess The Effectiveness Of Karst Visualizations: Seeing Through The Complexities Of Karst Environments (Leslie North)
- 10:45 **Mahdi Bandegi** A Coupled Pde Model For Morphological Instability Of A Multi-component Thin Film During Surface Electromigration (Mikhail Khenner)
- 11:00 **Elizabeth Malloy** Trophic Dynamic Interactions In A Temperate River: A Comparison Between High And Lower Karst Flow Reaches (Scott Grubbs)
- 11:15 **Laura Osterhoudt** Geochemistry And Carbonate Mineral Interactions In The Upper Green River Basin, Kentucky (Chris Groves)
- 11:30 **Jingyi Yue** Graphene From Electrochemically Exfoliated Graphite (Yan Cao)
- 11:45 **Skylar Wall** Suzanne Vitale Clinical Education Complex (Robert Hatfield)

**Room: GRH 2008**

**Judges: Dr. Lauren Bland and Dr. Lisa Duffin (moderator)**

- 10:15 **Dzenana Kadric** The Iraqi Community In Bowling Green (Alex Olson)
- 10:30 **Jonathan Serpico** Analysis Of Systematic Error In Parity Violating Proton Asymmetry In The  $^3He(n,p)^t$  Reaction (Ivan Novikov)
- 10:45 **Paige Huzyak** Poly Oligomeric Silsesquioxane Anthracene Dendrimers And Potential Thermoelectric Generation Devices (Hemali Rathnayake)
- 11:00 **Courtney Broyles** Thermal Inactivation Of *Escherichia Coli* O157:h7 In Moisture Enhanced Non-intact Beefs As Affected By Internal Temperature,

- Moisture Enhancing Rate, And Resting Time By Double Pan-broiling (Cangliang Shen)
- 11:15 **Darren Tinker** Project-based Learning: The Evolution Of A Senior Project To A Laboratory Test Bed (Robert Choate)
- 11:30 **Isaac Kresse** A Photocatalytic Reactor For Use With Raman Spectroscopy To Analyze Photocatalytic Degradation (Matthew Nee)
- 11:45 **Hannah Rodgers** Single Step, Antibiotic Mediated Synthesis Of Gold Nanoparticles With Potent Antimicrobial Activity (Rajalingam Dakshinamurthy)

**Room: GRH 2010**

**Judges: Dr. Beverley Holland and Dr. Mark Schafer (moderator)**

- 10:15 **Aaron Tagliaboschi** Development Of A Method To Convert Fortran Potential Energy Surface Subroutines To The Potlib2001 Standard (Jeremy Maddox)
- 10:30 **Adam Edge** Examining Human Perception Of African Elephants (*Ixodonta Africana*) And Large Trees For Insights Into Conservation Of An African Savanna Ecosystem (Bruce Schulte)
- 10:45 **Clarice Esch** A Native Cyanobacteria, *Nostoc*, As A Biofertilizer (Martin Stone)
- 11:00 **David Sams** Sleep Deprivation Increases Cytokine Gene Expression And Plasma Corticosterone Levels In A Murine Model: A Possible Link Between Stress And Inflammation? (Noah Ashley)
- 11:15 **Jacob Hughes** Analysis Of Fluid-inclusions In Sphalerite From Columbia, Ky (Andrew Wulff)
- 11:30 **Justin Wellum** Critical Analysis Of The Kenyan Health Care System And Models For Improvement (Sam McFarland)
- 11:45 **Kayla Steber** Student Attitude And Gender In Relation To Student Participation In Physical Activity (Pamela Jukes)

**Room: GRH 2065**

**Judges: Dr. Holli Drummond, Dr. Jean-Luc Houle, and Dr. Sonia Lenk (moderator)**

- 10:15 **Paige Settles** What Goes Up On The Internet Must Not Come Down: The Tweet Retraction Process Of Politicians (Timothy Rich)
- 10:30 **Amanda Mitchell** The Otaku's Mecca: A Pilgrimage Of Nerds In Japan (Kate Hudepohl)
- 10:45 **Jeffrey Walker** Through The Hermit's Shell - The Regulation Of Ngos In North Korea (Timothy Rich)
- 11:00 **Mallory Treece** Opinions On Gun Control: Evidence From An Experimental Web Survey (Timothy Rich)
- 11:15 **Charles Bolton** Adjusting Multiple Correlations For Regression Overfitting And Indirect Range Restriction (Reagan Brown)
- 11:30 **Forrest Deacon** The Third Sex: The Objectification And Mythification Of The Gender-nonconformist (Grace Hunt)

11:45 **Juliana Eovino** The Self-defense Law Does Not Apply: Collective Punishment in Sport (Frederick Grieve)

**Room: GRH 2066**

**Judges: Dr. Jason Crandall (moderator) and Dr. Jennifer Redifer**

- 10:15 **Christopher Johnson** Influence Of Karst Landscapes On Weather Systems: A Wrf Modeling Study On Responses For Different Land And Soil Types (Xingang Fan)
- 10:30 **Jason Payne** Phloridzin Gold Nanoparticles - An Attempt To Regain Its Lost Charm (Rajalingam Dakshinamurthy)
- 10:45 **William Hamilton** Designing A Unique Therapeutic Agent Involving Gold Nanoparticles Capped With Ceftazidime For Potent Antibacterial Applications (Rajalingam Dakshinamurthy)
- 11:00 **Emily Thornton** 26 April 2011 Pre-frontal Squall Line And Subsequent Kentucky Mesonet Data (Rezaul Mahmood)
- 11:15 **Michael Perry** Improving Efficiency Through Automation (Kevin Schmaltz)
- 11:30 **Joshua Williams** Studying The Seyfert Galaxy Ii Zw 229.015: Determining The Mass Of The Central Supermassive Black Hole. (Michael Carini)
- 11:45 **Brian Goodman** Amounts Of The Blue-light Photoreceptor Plant Cryptochrome In Chlamydomonas Strains That Differ In Their Blue-light Sensitivity (Sigrid Jacobshagen)

**Room: GRH 2068**

**Judges: Ms. Nancy Mager, Dr. Nielsen Pereira (moderator), and Dr. Adam West**

- 10:15 **Michelle Foley** Using Raman Microscopy To Identify Plagioclase Zoning In Chilean Lava Flows (Andrew Wulff)
- 10:30 **Ronald Waterbury** Identification Of Samples From White Mountain, Sunlight Basin, Wyoming. (Andrew Wulff)
- 10:45 **Allison Steen** Effects Of Reward Cues On Item And Associative Recognition (Sharon Mutter)
- 11:00 **Darin Green** Evaluation Of Carbonatites From Gunnison, Co And Magnet Cove, Ar (Andrew Wulff)
- 11:15 **Sarah Zibart** Comparison Of Morphometric Parameters In The Cima Volcanic Field, Ca (Andrew Wulff)
- 11:30 **William Garmon** Fluid Inclusion Investigations Of Burkesville, Ky Ore Deposits (Andrew Wulff)
- 11:45 **Bryan Knowles** Clockwise Visualization Of Spatio-temporal Summary Data (Stuart Foster)

**Room: GRH 3002**

**Judges: Ms. Sara McCaslin (moderator) and Ms. Katherine Pennavaria**

- 10:15 **Ryan Difani** Real-time Field Analysis Of The 28 May 2013 Mile Wide Ef-3 Tornado Near Bennington, KS (Joshua Durkee)
- 10:30 **Erik Smith** An Investigative Remote Sensing Analysis Of The 26 May 2013 Supercell Thunderstorm And Possible Tornado (Joshua Durkee)



- 10:45 **Colton Lindsey** Comparative Analysis Of Two Supercell Thunderstorms From May 2013 (Joshua Durkee)
- 11:00 **Tyler Binkley** Quasi-linear Convective System Climatology For Kentucky And Tennessee (Gregory Goodrich)
- 11:15 **Richard Briscoe** Museum Of Romani Culture: An Ethnographic Study Of Museum Impact (Darlene Applegate)
- 11:30 **Luke Jean** Mexico's Dark Knights: Autodefensas Role In The Mexican Drug War (Timothy Rich)
- 11:45 **Lyndsey Pender** Exploring Cultural Heritage Through The C.H. Nash Museum At Chucaliss (Kate Hudepohl)

**Room: GRH 3003**

**Judges: Mr. Mark Baum (moderator), Ms. Gail Hiles, and Mr. Christian Montgomery**

- 10:15 **Jay Hollis** Perceived Engagement Of In-service Teachers During Traditional And Inquiry-based Lessons (Lee Ann Smith)
- 10:30 **Michael Bowlds** Kentucky Radio 2020 (Dick Taylor)
- 10:45 **Sidney Wahle** Benefit Of The Commons: How Synergy Supplements The Circular Economy (Krist Schell)
- 11:00 **Chris Holmes** Stalker: Politics And Religion In The Soviet Union (Jerod Hollyfield)
- 11:15 **Chris McHargue** Disembodiment Of Violence In Film: Why Americans Seem To Enjoy Violence (Jerod Hollyfield)
- 11:30 **Kaycee Hill** Settling The Score: The Other "other" And Hybridity In The Fugees' Lyrics (Jerod Hollyfield)

**Room: GRH 3005**

**Judges: Dr. Jennifer Hanley, Dr. Tony Harkins, and Dr. Amber Schroeder (moderator)**

- 10:15 **Milo Wesley** LGBT Representation And Presentation In Disney Animated Features (Jerod Hollyfield)
- 10:30 **Jayme Powell** New Frontiers: The Impact Of Technology On The Film Industry (Jerod Hollyfield)
- 10:45 **Jeremy Raley** Continued Struggle Of Minority Filmmakers (Jerod Hollyfield)
- 11:00 **Maggie Woodward** Poems From Home Videos (Jerod Hollyfield)
- 11:15 **Cody Varney** What Fairy Tail Creatures Really Are: Shrek And The Lgbtq Community (Jerod Hollyfield)
- 11:30 **Dustin Grillon** By The Rivers Of Babylon: Diaspora And The Origin Of The Jewish Presence In Rome (Eric Kondratieff)
- 11:45 **Emily Kemp** The Equal Rights Amendment (Patricia Minter)

**Room: GRH 3006**

**Judges: Dr. D'Lee Babb, Ms. Ashley Hadden, and Dr. Alison Langdon (moderator)**

- 10:15 **Cameron Carpenter** Cinema Is Good Television: How Marvel Studios Changed Our Perception Of Blockbusters Forever (Jerod Hollyfield)

- 10:30 **Hope Mortberg** Conflicting Evidence: Examining Homer's Motives For Racially Charged Imagery (Guy Jordan)
- 10:45 **Marrquon Barte** Evolution Of The Critique: An Examination Of Modern Hollywood Cinema Through Modern Ediums. (Jerod Hollyfield)
- 11:00 **Jeffry Edwards** Concept Of Space (Laura Leach)
- 11:15 **Emelia Pierson** The Relationship Between Athletics And Architecture (Laura Leach)
- 11:30 **Brittany Slocum** Long Live The Queen: An Uncommon Phrase Of The 1980's In Northern Ireland, Hunger, Steve Mcqueen (Jerod Hollyfield)
- 11:45 **Jaclyn Melcher** Wild Beasts: Analyzing Elements Of Magical Realism In Films Portrayed From A Child's Perspective (Jerod Hollyfield)

**Room: GRH 3010**

**Judges: Mr. Khaldoun Almously, Dr. Cecile Garmon, and Dr. Lauren McClain (moderator)**

- 10:15 **Cody Wooten** The New Schoolyard: Bullying In The Cyber World (Anthony Harkins)
- 10:30 **Heli Shah** Integrating Art And Architecture To Create A Link Between Bowling Green And WKU (Laura Leach)
- 10:45 **Ethan Atherton** Improving Acoustical Interior Environments Of Sustainable Design (Laura Leach)
- 11:00 **Dallas Wilson** Music Videos Since MTV (Jerod Hollyfield)
- 11:15 **Nicholas Benson** A Lack Of An Era For Woman Filmmakers (Jerod Hollyfield)
- 11:30 **Nicole Romano** Different Wonderlands (Jerod Hollyfield)
- 11:45 **Raven Heinstei** Visual Tension In Graphic Design (Kelley Coppinger)

## POSTER SESSION I

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**Room: GRH 1002**

**Judges: Dr. Bryan Carson and Dr. Helen Zhu (moderator)**

- 1 **Nicholas Wilmes** Transitional Accounting Methods In Accounting Standards Updates (Allen Hunt)
- 2 **Sarah Nale** Raising Law Enforcement Officers Awareness Of Traumatic Brain Injury Signs: A Training Module (Jo Shackelford)
- 3 **Skyler Mirck** The Effect Of Educated Values Of Agricultural Lending And Their Actual Usage In Today's Markets (Stephen King)
- 4 **Ese Aghenta** Using The Theory Of Planned Behavior To Explain Physical Activity Among College Students (Gretchen Macy)
- 5 **Khoa Nguyen** Factors Affecting Emergency Department Wait Time (David Beckworth)

**Room: GRH 1002**

**Judges: Dr. Ann Ferrell (moderator) and Dr. Emmanuel Iyiegboniwe**

- 6 **Mohammed Adnan Yousuf** III Effects Of Carbonated Drinks On Teeth.  
(Gretchen Macy)
- 7 **Denise Anderson** Comparison Of Objective And Subjective Evaluation Of  
Equine Stress Levels In The Therapeutic Riding Environment (Petra Collyer)
- 8 **Jasmon Harris** Academic Strength of Thematically-Designed International  
Programs: Phase III of KIIS Tanzania Program (William Mkanta)
- 9 **Yao Xue** The Threat Of Global Warming On Meeting Chilling Requirements Of  
Perennial Fruits Grown In Kentucky (Elmer Gray)
- 10 **Usonwanne Nwosu** Association Between Fluoride In Drinking Water and  
Dental Caries of Children In South Central Kentucky (Ritchie Taylor)

**Room: GRH 1003**

**Judges: Dean Connie Foster (moderator) and Dr. Rodney King**

- 11 **Jesse Winchester** The Impacts Of Land Cover Change On Local Precipitation  
Over The Land Between The Lakes Region. (Rezaul Mahmood)
- 12 **Kort Butler** Diagenetic Compartmentalization of a Late Mississippian Reservoir  
in Warren and Butler Counties, KY (Michael May)
- 13 **Mayme Van Meveren** Graphene-based “hybrid” Nanomaterials With  
Manganese Oxides For Alternative Clean Energy: Synthesis And Properties  
(Sanju Gupta)
- 14 **Zach Lancaster** Making Quadrotor Research Affordable (Joel Lenoir)
- 15 **Abdulhameed Dawood** A Comparative Study Of Conventional And Sustainable  
Machining Of Titanium Alloy (Muhammad Jahan)

**Room: GRH 1003**

**Judges: Dr. Chris Groves (moderator) and Dr. Cangliang Shen**

- 16 **Armin Smailhodzic** String Gravity Mattig Relation For Cosmological Distances  
(Keith Andrew)
- 17 **Mychal-Drew Moses** Fabrication Of Quality Micro-features Using Micro Scale  
Electrical Discharge Machining (Muhammad Jahan)
- 18 **Armin Smailhodzic** Critical Behavior Of Cyber Phase Structure On Hyperbolic  
Graphs From Arabic Twitter Data Files (Keith Andrew)
- 19 **Pavan Kumar Chityala** Effect Of Xanthan-Guar Synergism On The Stability Of  
Oil-In-Water Emulsions (Hanna Khouryieh)
- 20 **Jahi Palmer** Cementicious Matrix Structure At The Basalt Fiber Fracture Point  
(Edward Kintzel)

**Room: GRH 1089**

**Judges: Dr. Gina Sobrero Evans (moderator) and Dr. Jerry Daday**

- 21 **Anne Sofie Brusendorff** A Case Study On Carlsberg’s Csr Strategy And Its  
Effect On The Company’s Current Position And Competitive Advantage In The  
Brewing Industry (Patricia Todd)
- 22 **Morgan Gruner** The Reaction Of A Platinum Triamine Complex With Different  
Dna Protein Complexes (Kevin Williams)

- 23 **Hannah Ruggles** How Are Hospitals Reducing Readmission Rates (Dana Bradley)
- 24 **Emily Bouchard** Integrating Guided Motor Imagery And Cross Education Into Rehabilitation: Scientific Review And Clinical Application (Don Hoover)
- 25 **Noelle Anderson** Better Emergency Care For The Deaf Population Through Improved Communication (Ashley Fox)

**Room: GRH 1089**

**Judges: Dr. Tim Hawkins (moderator) and Dr. Kate Hudepohl**

- 26 **Whitney Elmore** Ensuring A Healthier Future: Raising Awareness Of Sealants Among Minority Families (Lynn Austin)
- 27 **Breion Douglas** It Must Stop: Dental Cavities Among Young Children (Gregory Ellis-Griffith)
- 28 **Holly Doss** Factors Involved In Optimal Oral Health In A Non-fluoridated Community (Lynn Austin)
- 29 **Caitlynn Oberhausen** The Truth About Type 1 Diabetes - The Myths Exposed (Margaret Cook-Newell)
- 30 **Amy Broadrick** Hookah: A Fun Fad Or Harmful Habit? (Lynn Austin)

**Room: GRH 1091**

**Judges: Dr. Sandra Hughes (moderator) and Dr. Molly Kerby**

- 31 **Lucas Deckard** Motor Behavior For The Youth Basketball Coach: Scientific Review And Practical Application (Don Hoover)
- 32 **Georgina Kleinhelter** Cunicular Domesticus (Laurin Notheisen)
- 33 **Sharen Mann** A Qualitative Examination Of Corruption In Indian Cricket (Paula Upright)
- 34 **Rachael Walters** Mesoamerican Legend: A Creative Interpretation Of Quetzalcoatl And The Quetzal Bird (Sonia Lenk)
- 35 **Emily Walker** Frontal Plane Knee Motion Of ACL-repaired And Non-injured Females When Using Knee Savers (Scott Arnett)

**Room: GRH 1091**

**Judges: Mr. Wolfgang Brauner and Dr. Xiaoxia Silvie Huang (moderator)**

- 36 **Kelsey McNally** Crashing, Painting, And Choosing (David Bell)
- 37 **Rachel Moad** The Effects Of An Ergonomic Device On Sagittal Plane Lower Extremity Motion During A Full Squat In ACL-repaired And Non-injured Females (Scott Arnett)
- 38 **Casey Fortney** Self-explanation And Retrieval Practice Improve Recall And Inference Test Performance (Jenni Redifer)
- 39 **Amanda Gallion** Karst Landscape: The Relationship Between Social Work Education And Environmental Sustainability (Simon Funge)
- 40 **Briana Phillips** Uncertainty, Political Conservatism, And Compensatory Conviction (Aaron Wichman)

**Room: GRH 2002**

**Judges: Dr. Barbara Brindle (moderator) and Ms. Roxanne Spencer**

- 41 **Jakob Bertram, Allison Linn, Ryan Peach** Scada Test Bed (Stacy Wilson)
- 42 **Carson Price** Conducting Polymer Nanostructures And Nanocomposites: Hierarchical Assembly Via Molecular Electrochemistry And Property Characterization (Sanju Gupta)
- 43 **Tyler Scaff** Diagnosis In Medicine And Chess (Wieb van der Meer)
- 44 **Mary Spraggs** A Multi-wavelength Analysis Of Cold Evolving Interstellar Clouds (Steven Gibson)
- 45 **Nathan Puckett** Determining The Organic Composition Of Kyrrock By Use Of Toluene And N-pentane (Cathleen Webb)

**Room: GRH 2002**

**Judges: Dr. Tim Gott and Dr. Wanda Chandler (moderator)**

- 46 **Caitlyn Clark** Infrared Platform For Visualization Of Air Flow (Robert Choate)
- 47 **Elizabeth Oates** Discovery And Analysis of Arthrobacter Phage Mudcat (Claire Rinehart)
- 48 **Victoria Hampton** An Analysis Of The Temperature Differences Between Metcalfe And Cumberland County Mesonet Observations (Rezaul Mahmood)
- 49 **Leah Catherine Turner** Assessment Of Horses For Therapeutic Riding Purposes: Comparison Of Physiological And Behavioral Parameters (Petra Collyer)
- 50 **Darren Tinker** Design, Installation, And Implementation Of A Pan/tilt Camera Mount On A Quadrotor (Joel Lenoir)

**Room: GRH 2005**

**Judges: Dr. Darlene Applegate (moderator) and Dr. Sanju Gupta**

- 51 **Christian Simms** Determinants Of University Presidents' Compensation (Johnny Chan)
- 52 **Allyson King** Discovery And Characterization Of Bacteriophage Larenn (Rodney King)
- 53 **Rena Ryumae** The Association Of A Variant In The Irf7 Locus In Systemic Lupus Erythematosus (sle) (Derick Strode)
- 54 **Ananya Sharma** Discovery And Genomic Comparison Of Bacteriophages Desigirl And Peeza (Rodney King)

**Room: GRH 2005**

**Judges: Dr. Sally Kuhlenschmidt and Dr. Matthew Nee (moderator)**

- 56 **Tori Buckley** Expression And Purification Of Human Fibroblast Growth Factor-1 And Its In Vitro Interaction Studies With Aminoglycoside (Rajalingam Dakshinamurthy)
- 57 **Joshua Stewart** Isolation And Characterization Of A Bacteriophage Sparxx, A New A4 Subcluster Mycobacteriophage. Josh Stewart, Rodney A. King And Claire Rinehart (Rodney King)
- 58 **Fenil Chavda** A Single Step Synthesis And Characterization Of Nanowires & Nanospheres For Catalytic Applications (Rajalingam Dakshinamurthy)
- 59 **Kathryn Price** Isolation And Characterization Of Gansey, A New Member Of The Cluster K Mycobacteriophages (Rodney King)

- 60 **Justin Bunch** Discovery And Genomic Comparison of Bacteriophages Bustinjunch And Kimya (Rodney King)

**Room: GRH 2006**

**Judges: Dr. Raja Dakshinamurthy and Dr. Christina Neal (moderator)**

- 61 **Rachel Cook** Discovery And Analysis Of Mycobacteriophages Cookland And Enyo (Rodney King)
- 62 **Patrick Osterhaus** In Silico Prediction Of 3d Models For Mycobacteriophage Structural Proteins (Claire A. Rinehart)
- 63 **Valerie Richmond** Spectral Exploration Of Nitrate Ion Symmetry-breaking In Aqueous Solution (Matthew Nee)
- 64 **Austin Smith** Sleep Deprivation Decreases Depressive Behavior In Mice: Does Sex Matter? (Noah Ashley)
- 65 **Muhammad Mahmood** The Reaction Rates Of Chemotherapy Drugs With Protein And Dna (Kevin Williams)

**Room: GRH 2006**

**Judges: Dr. Diane Lickenbrock (moderator) and Dr. Tami Marutharaj**

- 66 **Dimitri Leggas** Counter-propagating Wave Methodologies For Stationary Scattering State Calculations (Jeremy Maddox)
- 68 **Benjamin Riley** Temperatures And Densities Of Planetary Nebulae From Optical Spectra (Ting-Hui Lee)
- 69 **Shania Polson** Efficient Paths Through Obstacles (Thomas Richmond)

**Room: GRH 2008**

**Judges: Dr. Laurie Branstetter and Dr. Shannon Vaughan (moderator)**

- 71 **Kelly Lynch** The Discovery And Analysis Of Athrobacter Phage Ezio (Claire Rinehart)
- 72 **Ajit Deshpande** Comparison Of Antibacterial Effects Between Biologically And Chemically Synthesized Silver Nanoparticles (Shivendra Sahi)
- 73 **Logan Mitchell** Hydrologic Budgeting Of Autogenic Recharge In Crumps Cave, Kentucky (Christopher Groves)
- 74 **Benjamin Guthrie** Representation Of The Stau Neutralino Feynman Diagram Epsilon Integral As An Analytic Function (Keith Andrew)
- 75 **Lindsey Shain** Compulsive Cell Phone Use And History Of Motor Vehicle Crash (Stephen O'Connor)

**Room: GRH 2008**

**Judges: Ms. Laura DeLancey, Dr. Aaron Wichman, and Dr. Alexander Olson (moderator)**

- 76 **Katelyn Dotson** The Effect Of Coragyps Atratus And Cathartes Aura Regurgitation On Escheichia Coli Bacteria (Noah Ashley)
- 77 **Eli Heintzman** Raman Scattering And Raman Mapping Of 2d Van Der Waals Solids For Potential Technologies: Going Beyond Graphene (Sanju Gupta)

- 78 **Justin Cave** Mineralogy Of Terrigenous Marine Sediment From Cores Off Nw Africa Using Quantitative X-ray Diffraction Methods (Aaron Celestian)
- 79 **Stacy Hancock** The Mass Of The Central Supermassive Black Hole In The Seyfert Galaxy Ngc 5548 (Michael Carini)
- 80 **Kimberly Stinnett** Modeling Le Chatelier's Principle Using A 5e Inquiry-based Lesson (Andrew Wulff)
- 81 **Richard Pape** Highly-integrated Wireless Sensor Networks (Vladimir Dobrokhotov)

**Room: GRH 2010**

**Judges: Prof. Tracey Moore and Dr. Peggy Otto (moderator)**

- 82 **Hannah Holgate** Organic Influence (Laurin Notheisen)
- 83 **Landon Stinson** Expanding One's Digital Thumbprint (Matthew Tullis)
- 84 **Cae Normanha** The Waiting Room (Laurin Notheisen)
- 85 **Timothy Bishop** Digital Self Promotion (Matthew Tullis)
- 86 **Charlotte Brindley** Dragons Of East And West: The Savior And Enemy Of Mankind (Ingrid Cartwright)

**Room: GRH 2010**

**Judges: Dr. Timothy Evans (moderator) and Ms. Trish Jagers**

- 87 **Derrin Whitehead** Archaeological Investigation of Historic Saltpeter Mining at Temple Hill Saltpeter Cave, Barren County, Kentucky (Darlene Applegate)
- 89 **Hannah Conner** Bioarchaeological Analysis of Human Skeletal Remains from Sites 15Wa399 And 15Wa916, Warren County, Kentucky (Darlene Applegate)
- 90 **Harrison Bailey** Social Media And Self Advertising (Matthew Tullis)
- 91 **Emily Prosser** Self-advertising Through Social Media (Matthew Tullis)

**Room: GRH 2065**

**Judges: Dr. Farley Norman (moderator) and Ms. Nancy Richey**

- 92 **Lorena Barnes** Can Facebook Be Faked? (Amber Schroeder)
- 93 **Meaghan Ritchie** Using Technology to Self-monitor for Students with Emotional and Behavioral Disorders (Wanda Chandler)
- 94 **Christopher Cook** Ease Of Retrieval Does Not Explain The Relationship Between Identification With All Humanity And Human Rights Choices (Aaron Wichman)
- 95 **Whitney Young** How Classroom Layout Impacts Special Education Delivery (Wanda Chandler)
- 96 **Shayla Carter** Effects of Token Economies for Children with Special Needs (Wanda Chandler)

**Room: GRH 2065**

**Judges: Mr. Brent Bjorkman, Dr. Grace Hunt (moderator), and Mr. Thomas Reece**

- 97 **Porshia Austin** The Effects of Using Teacher Praise (Wanda Chandler)
- 98 **Emily Blythe** Behavioral Contracting for K-12 Students (Wanda Chandler)

- 99 **Laura Fiorella** Time-out Procedures with an Emphasis on Sensory Rooms (Wanda Chandler)
- 100 **Leslie Howard** Visual Prompting for Students with Disabilities (Wanda Chandler)
- 101 **Cory Cooper** Behavioral Contracts (Wanda Chandler)

## POSTER SESSION II

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### Room: GRH 1002

**Judges: Dr. Canglang Shen and Dr. Richard Schugart (moderator)**

- 1 **Bright Adu** Advancing the Processes of Cost Control for Construction Projects (Ahmed Khalafallah)
- 2 **Selahittin Cinar** Analysis Of A Solid Film Stability In The Horizontal Electric Field (Mikhail Khenner)
- 3 **Chia-Mao Wang** Enhancing Project Management Processes for New Product Development (Ahmed Khalafallah)
- 4 **Zaid Al Hussein** Best Practices For Managing Multiple Construction Projects (Ahmed Khalafallah)
- 5 **Zahra Doostmehraban** Selecting Effective Project Delivery Systems for Successful Project Management (Ahmed Khalafallah)

### Room: GRH 1002

**Judges: Dr. Leslie North and Dr. Jason Polk (moderator)**

- 6 **Qinchuan Du** Employing Project Management Best Practices in Automotive Industry (Ahmed Khalafallah)
- 7 **Bright Kahindi** Enhancing Project Management Processes for New Product Development (Ahmed Khalafallah)
- 8 **Yeni Febriyani Yani** Efficient Utilization of Information Technology in Managing Coal Mining: A Case Study on Ithaca Resources Company in Indonesia (Ahmed Khalafallah)
- 9 **Augustine Amonge** Managing Ethical Hot Spots in Aviation Project Management (Ahmed Khalafallah)
- 10 **Omar Ramadan** The Effects of Using Social Media Tools in Project Management (Ahmed Khalafallah)

### Room: GRH 1003

**Judges: Dr. Bryan Carson (moderator) and Dr. Wanda Chandler**

- 11 **Aaron Carver** Synthesis And Catalytic Studies Of Iron(iii) Corrole Towards Selective Oxidation Of Organic Sulfides (Rui Zhang)
- 12 **Brandon Coffey** The Impact Of Speeded Preconscious Emotion Processing On Spatiotemporal Vision (Andrew Mienaltowski)
- 13 **Xin Liu** Synthesis, Properties And Mercury Adsorption Of Porous Metal-organic Frameworks (Bangbo Yan)



- 14 **Michael Starling** Bonding With Literacy: A 5e-chemical Bonding Lesson (Jennifer Cribbs)
- 15 **Varun Kiran Kolanka** The Thermal Analysis And Properties Of Ionic Liquids (Yan Cao)

**Room: GRH 1003**

**Judges: Dr. Jerry Daday (moderator) and Dean Connie Foster**

- 16 **Caleb Johnson** Technology And Literacy Synergy: A Case Study (Jennifer Cribbs)
- 17 **Jacob Cheeseman** The Effect Of Age Upon The Perception Of 3-d Shape From Motion (J. Farley Norman)
- 18 **Dustin Ursrey** 5e-lesson For Teaching Impulse In 9th Grade Physics (Jennifer Cribbs)
- 19 **Tessa Seidler** A Beautiful Mind: Examining The Effects Of Emotional Intelligence And Physical Attractiveness On Employee Evaluations (Amber Schroeder)
- 20 **Chloe Williams** The Buffering And Reversal Of Mortality Salience Effects Through Afterlife Beliefs (Aaron Wichman)

**Room: GRH 1089**

**Judges: Dr. Kate Hudepohl (moderator) and Dr. Carl Myers**

- 21 **Victoria Greenwell** Examining Associations Between Infant Temperament, Parental Competence, And Family Resources And Their Effects On Parental Sensitivity (Diane Lickenbrock)
- 22 **Emily Smith** Comprehensive Examination Preparation For Graduate Students In Speech-language Pathology (Janice Smith)
- 23 **Danielle Lowry** The Neural Correlates Of Human Discrimination Learning (Sharon Mutter)
- 24 **Ranjana Roka** Associations Between Hypertension And Body Mass Index And Waist Circumference In U.s. Adults: A Comparative Analysis By Gender (Akihiko Michimi)
- 25 **Taylor Blaetz** Is Lol Really A Word? (Lance Hahn)

**Room: GRH 1089**

**Judges: Dr. Gina Sobrero Evans and Dr. Jonghee Shim (moderator)**

- 26 **Keyin Zhang** Dental Health Status And Its Risk Factors Among Western Kentucky University International Students: A Cross-sectional Study (Helen Zhu)
- 27 **Cameron Lile** Examining Legal Precedents For Organizational Social Media Use (Amber Schroeder)
- 28 **Gabrielle Manny** Attitudes Toward Sustainable Practices In Recreational Sports Facilities (Fred Gibson)
- 29 **Elizabeth Camfield** Increasing Flexible Thinking: Mindfulness, Working Memory, And Insight Problem Solving (Jenni Redifer)
- 30 **Palpasha Jonchhe** Bone Density Screening Results In South Central Kentucky, 2006-2011 (Darlene Shearer)

**Room: GRH 1091**

**Judges: Dr. Tim Gott (moderator) and Dr. Stephen O' Connor**

- 31 **Kimberly Baugh** Isolation and Characterization of Mutant Bacteriophages that Grow on an Antitermination Defective E. coli Host (Rodney King)
- 32 **Paul Fleischmann** Study Of Morphophysiological Adaptations In Alfalfa Under High Phosphate Regime. (Shivendra Sahi)
- 33 **Cyrus Sadrinia** Inflammatory Response In Mice Exposed To Nanotitania (tio<sub>2</sub>nps) (Nilesh Sharma)
- 34 **Cynthia Tope** Reaction Rates Of The Amino Acids Cysteine, Methionine, And Histidine With Analogs Of The Anti-cancer Drug Cisplatin (Kevin Williams)
- 35 **Stephanie Hagan** Paleontological Study Of The Mercury Levels In Bats (Cathleen Webb)

**Room: GRH 1091**

**Judges: Dr. Amy Brausch and Dr. Emmanuel Iyiegbuniwe**

- 36 **Abigail Lewis** Social Networking Profile Assessment In Employee Evaluations: Should Organizations "like" This Practice? (Amber Schroeder)
- 37 **Lydia Hall** Elephant Behavior and Grouping at the Nashville Zoo (Bruce Schulte)
- 38 **Lindsey Burke** Do Older Adults Really Decline In Their Emotion Perception Ability? New Results From An Emotion Matching Task (Elizabeth Lemerise)
- 39 **Celia Whelan** Reaction Rates Of Amino Acids With Derivatives Of The Anticancer Drug Cisplatin (Kevin Williams)
- 40 **Rachel Archer** Mood And Experience: Effects Of Ostracism On Diathesis Activation (Aaron Wichman)

**Room: GRH 2002**

**Judges: Dr. Andrew West (moderator) and Dr. Rong Yang**

- 41 **Nicholas Beasmore** Mortar Cube Studies Using Type Iii Portland Cement With And Without Microfibers (Shane Palmquist)
- 42 **Alexandra Oldham** Perceptions About Competition: A Comparison Of Self-report Data And Competitive Performance (Steven Winingar)
- 43 **Maxwell Dierken** Development Of Geant4 Model For Rotating Modulating Collimator Based Imaging (Ivan Novikov)
- 44 **Meghan Althausser** Wku Student Teaching Abroad Program- Professional, Cultural, And Character Impacts On Elementary, Middle, And High School In-service And Preservice Teachers (Fred Carter)
- 45 **Ryan Vincent** Landscape Genetics Of The Endangered California Tiger Salamander In The Central Valley Of California (Jarrett Johnson)

**Room: GRH 2002**

**Judges: Ms. Roxanne Spencer (moderator) and Dr. Helen Zhu**

- 46 **Kaitlyn Snyder** Longer Is Not Necessarily Better: Younger And Older Adults' Performance On Short And Long Versions Of An Emotion Matching Task (Andrew Mienaltowski)
- 47 **Loren Gross** Post-secondary Students Perception Of College Readiness Skills Developed During Secondary Education Careers (Thomas Kingery)
- 48 **Autumn Ward** Investigations Into Students' Identities With Mathematics (Jennifer Cribbs)
- 49 **Hannah Keith** The Pursuit Of Effective Teaching (Lisa Duffin)
- 50a **Caitlin Stephens** Improving Access To Care: Mobile Dental Units (Lynn Austin)
- 51b **Lillian McNeal** Factors Involved In Early Age Dental Visits (Lynn Austin)

**Room: GRH 2005**

**Judges: Dr. Wes Berry (moderator) and Dr. Timothy Evans**

- 51 **Martin Daugherty** Real Time Speed Sensorless Estimation Of Induction Motor Drives (Farhad Ashrafzadeh)
- 52 **Andrew White** Designing For The New Generation (Laura Leach)
- 53 **Morgan Armistead** The Architectural Development Of Young Minds (Laura Leach)
- 54 **Crystal Mackin** Developing A Pet Mall (Laura Leach)
- 55 **Adam Wilck** Safety And Sustainability: Franklin Fire Station Seven (Laura Leach)

**Room: GRH 2005**

**Judges: Dr. Muhammad Jahan and Mr. Nathan Phelps (moderator)**

- 56 **Ethan Atherton** Networking Alumni With Current Students To Create Unique Internship Opportunities (Laura Leach)
- 57 **Larry Sweeting** Philosophy Of Sustainability (Laura Leach)
- 58 **Collin Southwood** The New Western Kentucky University Science And Research Institute: An Expression Of Science (Laura Leach)
- 59 **Jonathan Spiegl** WRECC Demand Voltage Reduction (Mark Cambron)
- 60 **Daniel Cotton** Engineering A Frame (Ron Rizzo)

**Room: GRH 2006**

**Judges: Dr. Laurie Branstetter (moderator) and Dr. Barbara Brindle**

- 61 **Emily Kemp** The Equal Rights Amendment (Patricia Minter)
- 62 **Bruno Jonatan de Sousa** Analysis Of The Chemical Composition And Photographic Record Of Typical Food Of Natal-rn (Karen Mason)
- 63 **Kara Lengeman** Can You Hear Me Now? Examining Student-faculty Communication Expectations And Perceptions (Amber Schroeder)
- 64 **Adam Kratt** A Pilot Study Of Indoor Air Quality Assessment Of Selected Homes In Gales Point, Belize (Emmanuel Iyiegbuniwe)
- 65 **Muhamed Hasanovic** Growing Diversity At Wku (Leyla Zhuhadar)

**Room: GRH 2006**

**Judges: Ms. Trish Jagers and Dr. Molly Kerby (moderator)**

- 66 **Shelby Adams** Risky Business? Risk Taking Personality Traits And Their Effect On Error Processing (Brandy Tiernan)
- 67 **Amanda Staples** Metabolic Gene Expression Increases In Skeletal Muscle After Epigenetic Modifications (Jill Maples)
- 68 **Heli Shah** Three-dimensional Architectural Visualization In The Digital Environment (Shahnaz Aly)
- 69 **Kendra Whitaker** Preserving The Past Through Drawings (Shahnaz Aly)
- 70 **Kaley Stone** American Red Cross Disaster Preparedness (Leyla Zhuhadar)

**Room: GRH 2008**

**Judges: Dr. Farley Norman and Dr. Sally Kuhlenschmidt (moderator)**

- 71 **Timothy Bucklew** Learning Project Management Techniques Through Multiple Entrepreneurial Experiences (Stacy Wilson)
- 72 **Robert Day** The Writing On The Wall: Facebook Content Predicts Job Performance (Amber Schroeder)
- 73 **Douglas Harris** Creation Of Environmentally Safe Quality Control Device (Stacy Wilson)
- 74 **Ariele Gatti** Incivility Perpetrators 'r Us: Examining How Personality Predicts Workplace Incivility (Amber Schroeder)
- 75 **Amer Salihovic** Plc (Stacy Wilson)

**Room: GRH 2008**

**Judges: Dr. Xiaoxia Silvie Huang and Dr. Brandy Tiernan (moderator)**

- 76 **Angelica Soto-Freita** The Effects Of Cognitive Ability And Text Genre On Age Differences In Mindless Reading (Matthew Shake)
- 78 **Josh Dye** Artificial Swim Bladder (Stacy Wilson)
- 79 **Lauren Estes** Music As A Performance Enhancer: Does It Work? (Steven Wininger)
- 80 **Jonathan Lindsey** Hygreen Handwash Redesign Project (Stacy Wilson)
- 81 **Cortney Keen** Promoting Mental Health Awareness Among College Students (Krisstal Clayton)

**Room: GRH 2010**

**Judges: Mr. Wolfgang Brauner and Dr. Shannon Vaughan (moderator)**

- 82 **Justin Edwards**-page 3d Pourbaix Diagram (Gregory Arbuckle)
- 83 **Devon Woosley** Rosine Substation Modernization Project (Mark Cambron)
- 84 **Anthony Ford** Sustained Energy Reductions In Buildings Through Informed Consumer Decision Making (Keith Sylvester)
- 85 **Jesse Reesor** Quadrotor Reconnaissance Of The Sinkhole At The Corvette Museum (Joel Lenoir)
- 86 **Curtis Stuckwisch** Determination Of Forces Induced On A Horse Rein (Matthew Dettman)

**Room: GRH 2010**

**Judges: Dr. Rodney King (moderator) and Dr. Claire Rinehart**

- 87 **Mackenzie Farrar** Quantitative Analysis Of Hormone Concentrations Using An Internal Standard In Surface Enhanced Raman Spectroscopy (sers) (Matthew Nee)
- 88 **Varavoot Siriyutwatana** Green Synthesis Of Tetracycline Derivative Doxycycline Capped Gold Nanoparticles And Evaluation Of Its Antimicrobial Activity (Rajalingam Dakshinamurthy)
- 89 **Aaron Armstrong** A Zinc Finger Protein Array For The Visual Detection Of Pathogen-specific Dna Sequences (Moon Soo Kim)
- 90 **Benjamin Bryant** Architecture And Music (Laura Leach)
- 91 **Andrew Shelburne** Look Good, Play Good, Design Well (Laura Leach)

**Room: GRH 2065**

**Judges: Mr. Jim Fulkerson and Ms. Jennifer Wright (moderator)**

- 92 **Jonathan Rogers** Design Of A Precision And Accuracy Test Stand For Varying Firearms: A Capstone Project (Joel Lenoir)
- 93 **Heath Faulk** Redesign And Reliability Testing Of Windage Assembly For Rifle Testing System (Joel Lenoir)
- 94 **Seth Prince** An Analysis Of Thermoplastic Material Properties Of A Stratasys Dimension Elite Rapid Prototyping Machine (Joel Lenoir)
- 95 **Rachel Glass** Agriculture And Spanish (Thomas Kingery)
- 96 **John Runyon** Multi-rotor Octocopter Design For Interactive Virtual Engineering Applications (Joel Lenoir)

**Room: GRH 2065**

**Judges: Ms. Elisabeth Knight (moderator) and Mr. Jason Thompson**

- 97 **Lauren Harris** Post-secondary Agriculture Students Perception Of Chemistry Use (Thomas Kingery)
- 98 **Haley Valentine** Synthesis Of Metal-organic Frameworks Involving Copper (ii) And 2,5-dichloroterephthalate (Bangbo Yan)
- 99 **Callie Franks** Students In Ansc 140 Perceptions On Value, Purpose, And Animal Welfare Of The Modern Rodeo (Thomas Kingery)
- 100 **Kaitlin Butler** Extreme Skin Friction (Chris Byrne)
- 101 **Wei Long Luo** Axial Ligand Effect On Catalytic Oxidation Of Sulfides By Manganese (iii) Porphyrin Complexes (Rui Zhang)

***An index of all student presentations will be available on the day of the conference as a separate insert.***

***The WKU Student Research Council thanks all students, mentors, and support staff who contributed to make this conference a success.***