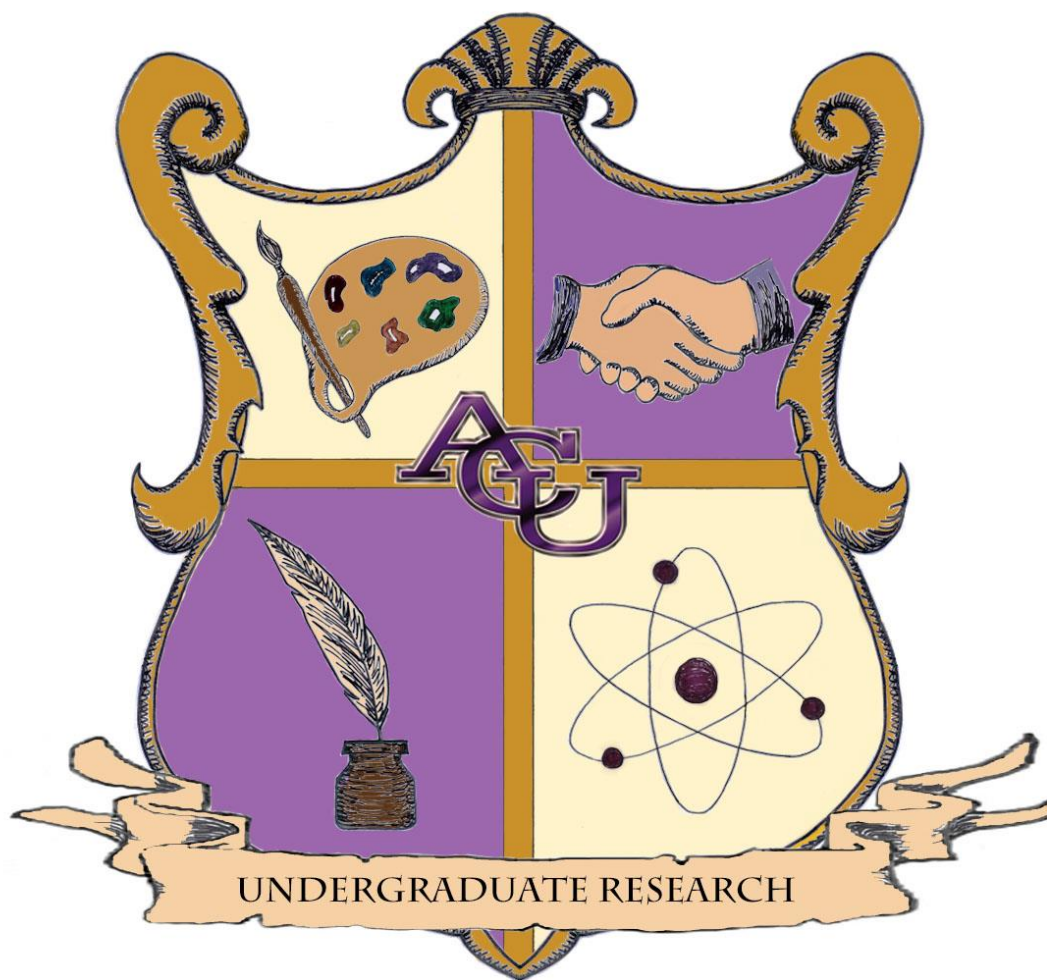


2014 ACU Undergraduate Research Festival




April 1, 2014

The ACU Undergraduate Research Festival

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A Message from the Director:

Welcome to ACU's 6th annual Undergraduate Research Festival. Whether you are presenting your research, judging the entries, or simply learning about others' research, we are excited that you are a part of this event. This conference celebrates some of the best of our students' work – work that requires intellectual curiosity, creativity, and critical thinking. Today we also honor the partnership between the student researchers and the faculty who mentor them. Many hours of hard work have gone into the preparation for this event, so many thanks to the Research Festival Planning Committee. Thank you also to the Honors College and Graduate School for co-sponsoring this event. And finally, thank you for being a part of the day. Enjoy the Festival!

Dr. Autumn Sutherlin

ACU Director of Undergraduate Research

Festival Schedule Overview

8:00 – 3:00 PM Registration

Lobby of the Hunter Welcome Center

8:30 – 9:20 AM Oral Presentations

- A1. Mental, Physical, and Nutritional Health - McCaleb Room Zone A
- A2. Religion and Spirituality - McCaleb Room Zone B
- A3. Spirituality and Interpretation of Scripture – Alumni Conference Room
- A4. Reports from PHENIX - LYNAY Classroom

9:30 – 10:50 AM Oral Presentations

- B1. Transcending Apparent Differences - McCaleb Room Zone A
- B2. Film, Culture, and Rhetoric - McCaleb Room Zone B
- B3. Mevalonate Pathway, Osmium Compounds, and Noble Gases – Alumni Conference Room
- B4. STEM Potpourri – LYNAY Classroom
- B5. Communicating for Better and Worse - AT&T Theater

11:00 – 11:30 AM Chapel with– LYNAY Classroom

11:35 – Lunch is served

McCaleb Room Zone C

11:40 – 12:25 PM Poster Session I

Atrium of the Hunter Welcome Center

12:35 – 1:20 PM Poster Session II

Atrium of the Hunter Welcome Center

1:30 – 2:50 PM Oral Presentations

- C1. Research on Teaching - McCaleb Room Zone A
- C2. Biology Interest - McCaleb Room Zone B
- C3. Decision Making and the Political Process – Alumni Conference Room
- C4. Health in Humans and Felines - LYNAY Classroom
- C5. Gender and Sexuality – AT&T Theater

3:00 – 4:20 PM Oral Presentations

- D1. Conflict and Power in International Relations - McCaleb Room Zone A
- D2. Physics Interest – McCaleb Room Zone B
- D3. Families and Rights - Alumni Conference Room
- D4. Business - AT&T Theater

5:30 – 6:30 Dinner and Awards Ceremony

McCaleb Room Zone C

SESSIONS

Tuesday, April 1, 8:30 – 9:20 AM

Session A1: Mental, Physical, and Nutritional Health – McCaleb Room Zone A

Asset or Obstacle? Anxiety Levels in Honors and Non-Honors Students

Sarah Pelfrey

Understanding the Services for Treatable and Preventable Diseases: Investigating Low- Income areas in Dallas and the Effectiveness of the Health Care System

Grace McNair and Barrett Corey

Nutrition from a Child's Perspective

Jacquelyne Quinterro, Jeanette Avila, and Raychel Duncan

Session A2: Religion and Spirituality – McCaleb Room Zone B

Urban Churches and Social Outreach: Perceptions of Charity

Julia Johnson, Sarah Ritchie, and Amanda Stephens

Constructing Spiritual Mattering: A Validation Study

Avia Gray

Generation X: Leaving the Church

Kaylen Runyan

Session A3: Spirituality and Interpretation of Scripture – Alumni Conference Room

The Search for a Pentadic Theme

Joshua Brandon

Trusting the Spiritual Director: Gregory the Great and the Epistemology of Testimony

John Kern

The Beasts in Revelation 13

Gloria Paul

Session A4: Reports from PHENIX – LYNAY Classroom

Studying the Internal Structure of the Proton with PHENIX

Marshall Towell

Characteristics of Colliding Protons

Ryan Pinson

Exploring the Proton's Spin at PHENIX

Andrew Miller

Tuesday, April 1, 9:30 – 10:50 AM

Session B1: Transcending Apparent Differences – McCaleb Room Zone A

Monomyth, Racism, and Dragons: An Exploration of "The Elder Scrolls V: Skyrim"

Daniel Archer

Experience Creates Perception: How Demographic Factors Impact Perception of Other Social Classes

Taylor Bush, Wes Robbins, and Erin Zachary

A Dialogical Discourse: Gaskell's Social Commentary on a Divided Culture

Elisa Wyrick

Clipped Wings

Carley Glover

Increasing Awareness of Diversity through Strong Student Leaders

Kholo Theledi

Session B2: Film, Culture, and Rhetoric – McCaleb Room Zone B

The Effect of Time on Portrayal of Violence in Disney Animated Films

Jonathan McMichael, Laura Benson, and Bianca Luna

The Dude Abides: A Perspective of Socioeconomic Status and Power Through The Big Lebowski

Brock New

Growth of the Chinese Film Industry

Kaley Knowlton

Exploring the "Strong Female Character": An Analysis of Audience Attitudes Towards Gender On-Screen

Toni Maisano

Different Directions: Analyzing Champion's Final Show

Alex Whitten

Session B3: Mevalonate Pathway and Osmium Compounds– Alumni Conference Room

Expression and Characterization of Enzymes of the Mevalonate Pathway in Enterococcus faecalis

Aubrey White

Investigation of Transient Interactions between Mevalonate Pathway Enzymes in E. faecalis using FRET Spectroscopy

Maxwell Moore

Preparation of Coordination Polymers Containing Osmium

Soo Hun Yoon

Synthesis of an Osmium-Organic Framework

Audrey Fikes

Session B4: STEM Potpourri – LYNAY Classroom

An Analysis of the Harmonics of Notes with Multiple Fingerings on the Clarinet

Kristin Holz

Designing and Demonstrating Vocal Recognition Software

Ryan Castillo

Linear Programming Problems with Multiple Optimal Solutions

Jesse Luebbert

Using Optical Character Recognition as a Tool for Biblical Scholars

Travis Cramer and Elizabeth Carlisle

Modeling the Interaction Potentials of Alkali-rare Gas Pairs

Adam Simpson

Session B5: Communicating for Better and Worse – AT&T Theater

"Say It Loud!": The Power of African American Protest Music in the Twentieth Century

Justin Webb

In the Shadow of Bayreuth: How the Music of Wagner Influenced the Architect of the Third Reich

Parker Gordon

Why You Should Trust Your Doctor: Medicinal Cannibalism of the 16th & 17th Centuries

Adam Lubbers

Preserving Their Voices

Sarah Agee

Tuesday, April 1, 11:00 – 11:30 AM

Chapel: LYNAY Classroom

Tuesday, April 1, 11:35 – 12:30 PM

Lunch: McCaleb Room Zone C

Tuesday, April 1, 11:40 – 12:25 PM

Poster Session I: Hunter Welcome Center Atrium

Range and Distribution of Large and Meso-Mammals

Darryll Morley

Calvin Klein's Obsession for Men Cologne as an Attractant for West Texas Wildlife Species

Reece Wells and Catherine Longest

Marine Biodiversity: The Rocky Tide Pools of Cozumel

Jessica Bryan and Bailey Gaspard

*Creating a Differential Medium for an *Aeromonas salmoicida* clp Mutant that is Deficient in Transformation*

Jacob Woods

*Investigating the Geographic Range of *Mentzelia obscura* (Loasaceae)*

Gregory Ponder, Bryce Gerlach, and Landon Cook

*The Search for Genetic Variation Within the Species *Mentzelia veatchiana* (Loasaceae)*

Bailey Merkel and Victoria Pannill

*Isolating *Aeromonas* from Rainwater*

Sally Hays

*Evidence for the Geographic Origin of *Mentzelia dispersa* Based on DNA Sequences*

Latonia Smith and Kristen Clemons

*Application of ITS Sequences to the Biogeographical Study of *Mentzelia thompsonii* (Loasaceae)*

Rachel Ritchie and Maxwell Moore

*Comparison of Geographic Patterns of Cytochrome B Sequence Variation in *Tadarida brasiliensis* from Texas and South America*

Lindsey L. Bloomer and Kimberly A. Burt

*The Investigation Genetic Variation in the Species *Mentzelia pectinata* (Loasaceae)*

William Morales, Elliot Klar, and Micheal Kellar

*The *tapY1* Gene and Natural Transformation in *Aeromonas**

Christina Lee

*Ecological Climate and Niche Comparisons of *Danaus gilippus* and *Danaus plexippus* in North America*

Bailey Gaspard

End Group Functionalization of Di-block Polymers Used in Making pH-Activatable Nanoprobes

Nigel Gwini

*Understanding the *Wolbachia* Genome in Relation to the Horn Fly*

Savannah Vincent and Jennifer Acuff

*Genetic Identification of *Mentzelia crocea* and *M. lindleyi* (Loasaceae)*

Jaime Gordon and Tabitha Lewis

*Phylogenetic Relationships in the *Oryzomyini* (Rodentia: Cricetidae)*

Carter Hayes, Jack Hamilton, and Rachel Hurst

Reconstruction of Phylogenetic Relationships in Thomasomys (Rodentia: Cricetidae) Based on cytochrome C Oxidase Subunit I

Kristen Smith, Beth Reiser, and Amberly Grothe

Texas Children's Hospital Design As Therapy

Kaitlin Pegoda

To Hell and Back Again: Christianity's Influence in Horror and Adventure Films

Hailey Hendricks, Kyle Knapp

Culture is Power

Richard Elmore

Multidimensional Aspects of Language Learning in America and Japan

Sarah Gubachy

The Obamacare Conundrum: How Framing of the ACA by Media Outlets Affects Viewer Perceptions

Marissa Jones, Brace Armstrong, Josh Cook, JP Festa, and Kristen Holman

Nature's Presence in Mondrian's Geometric Abstraction

Brandy Rains

Art and Civil Disobedience in Iran

Amanda Bitner

Tuesday, April 1, 12:35 – 1:20 PM

Poster Session II: Hunter Welcome Center Atrium

Creating a Diffraction Grating

Case Herndon

Using Fourier's Method to Find Effects of Diffraction

Carson Brown

The Power of Machine Learning: A Simple Demonstration

Jonathan Shouse and Frazier Mince

Improving Timing for SeaQuest

Lacey Medlock

Nutritional Status in Honduran Children Living in Rural Villages

Taylor Newhouse, Kelsie Andrews, and Emily Karibian

*The Investigation of Genetic Variation in the Species *Mentzelia affinis* (Loasaceae)*

Alexander Rose, Matt McGowan, and Kevin Warner

*Influence of Entomocidal Protein Gene on Germination of *Bacillus thuringiensis* and *Bacillus cereus* Spores*

Heather Rawls

*Effects of Growth Media and Crystals on *Bacillus thuringiensis* and *Bacillus cereus* Spore Sizes*

Miranda Nguyen

Investigation of Germination Inhibitors Present in Disposable Labware

Christina Barr

Analysis of kdr Mutation Prevalence in Texas Mosquito Populations

Kyle Stainsby

*Antibiotic Resistance of *Escherichia coli* Isolated from Canada Geese Feces and Urban Playa Lake Water*

Nolan Rutherford

*Ecological Climate Change: Comparative Analysis of *Microtus pennsylvanicus* and *Microtus ochrogaster**

Jesse Leon

Application of Distributed Drug Discovery Methodology to the Synthesis of Some Analogs of Antimalarial Screen Hits

Cliff Pruett

Microwave Synthesis and Characterization of Oxovanadium Salophen Complexes

Stephanie Martin

Microwave Synthesis of Osmium (I) Acetylene Complexes

Erin Fry

Isolation and Characterization of Hydrocarbonoclastic Bacteria from Rail Bed Soil

Karen McAlister

Distributed Drug Discovery

Dru Collins

The Effects of Remaining Hydrocarbons on Vegetation Following Bioremediation of a Crude Oil Spill

Jacob Windsor

Lack of Services for Those Affected by Autism in the UK

Adelaide Rich

The relationship between gendered toys and stereotype threat in girls

Caitlyn Spain

~~*The Effects of Non-verbal Cues as a Selling Technique*~~-Withdrawn

~~Marcus Romero~~

Ambition: Virtue or Vice?

Tyler McCuiston, Caroline Nikolaus, and Marvin Norman

Screen Potato: Technology Addiction Could be Ruining Your Health

Sarah Kirby, Kyle Levenick, and Mindi Gonzales

Increasing School Attendance Through Parent Motivation

Kylee Craggett and Karli Southward

Disappearing Rural China

Kaitlyn Tuiasosopo

Tuesday, April 1, 1:30 – 2:50 PM

Session C1: Research on Teaching – McCaleb Room Zone A

The Effect of Structured Divergent Prompts on Knowledge Construction

Laura James

Effects of the iPad on Teaching and Improving Social Skills of Children with Autism Spectrum Disorders

Kara Nestle

Complicity and Resistance: Understanding Teachers' and Administrators' Responses to a High-Stakes Testing Policy in Reading

Tara Lowe

A Qualitative Study of Parent-Teacher Communication

Whitney White

An Evaluation of the Availability of Mentorship in Dallas ISD - Added

Rachael Kroeger, Courtney Tee, and Tessa Wolford

~~*How Resources Affect Student Achievement*~~ - Withdrawn

~~Alan Songer, Bethany Richardson, and Molly Clemans~~

Session C2: Biology Interest – McCaleb Room Zone B

*Edaphic Specialization in the Neoendemic Plant *Mentzelia monoensis**

Tina Johnson

*Catalogued Effects of Wolbachia Infections in *Haematobia irritans**

Jennifer Acuff and Savannah Vincent

*Phylogentic Relationships In *Thomasomys* (Rodentia: Cricetidae) Based On Mitochondrial And Nuclear DNA*

Tanya Daughtry

*A Determination of the Optimum Primers and PCR Conditions for Allele Specific PCR in Order to Investigate a Knockdown Resistance (kdr) Mutation in the Sodium Channel Gene of the Mosquito *Culex quinquefasciatus**

Andres Saucedo

*Determining Genes Necessary for Natural Transformation in *Aeromonas salmonicida**

Kathryn Davis and Madeline Peterson

Session C3: Decision Making and the Political Process – Alumni Conference Room

Political Dissent and Social Media in China

Laura Gonzalez

By the People, For the People?: The Effect of Area Median Income on Political Connectedness

Caleb Orr and Alex Gabriele

~~*Groupthink in Jury Decision Making*~~ - Withdrawn

~~Chanel Sharp~~

Can There Be Too Much Choice? Empirical Explorations of Theoretical Predictions

Levi Ritchie

Session C4: Health in Humans and Felines – LYNAY Classroom

Parental Concerns about Early Childhood Vaccinations

Mathew Molina

Maternal Hypertension and Associated Diagnoses: Epidemiological Look at Maternal Hypertension in Texas 2010

Dulce Lopez

Practicality and Validity of an iDevice-Operated Blood Pressure Monitor

Nicholas Sterling

Identification of Feline Leukemia Virus, Feline Immunodeficiency Virus, and Common Internal and External Parasites in Unowned, Free-roaming cat populations on Abilene Christian University Campus

Emily Schuster

Session C5: Gender and Sexuality – AT&T Theater

Social Subversion and Shakespearian Drag

Erik Ringle

Hysteria in Nineteenth Century Feminist Literature

Brandy Rains

~~*Rape Defined: An International Comparison and Analysis*~~ - Withdrawn

~~Haley Johnson~~

~~*Suicides in China Among Women in Rural Areas*~~ - Withdrawn

~~Kelsey Kotara~~

Queer Ecologies and Sexual Stratification in The Scarlet Letter
Dylan Brugman

Tuesday, April 1, 3:00 – 4:20 PM

Session D1: Conflict and Power in International Relations – McCaleb Room Zone A

China and the Arab-Israeli Conflict

Caitlin Phillips

Terrorism in China

Brittney Tunnell

The Effects of China's Military Modernization

Josi Flores

Chinese Employment of Soft Power in Brazil

Nikolai Rabinovitsj

Session D2: Physics Interest – McCaleb Room Zone B

Experimental Upgrades of Phonon Imaging Apparatus and the design of a Sn sample holder

Francisco Teran

Development of Mobile Lens Platform for Phonon Imaging

Erik Forrister

Analyzing the Hodoscope Signal-width of E-906/SeaQuest

Noah Kitts

Construction of Prototype B for the COMPASS II experiment

James Mallon

Fabricating and characterizing a Fabry-Perot Etalon

Andrew Boles

Session D3: Families and Rights – Alumni Conference Room

Equality in Ephesians Household Codes

Darren Hughes

Fathers and the Daughters Who Defy Them: An Exploration of the Father-Daughter Relationship in Shakespeare's Tragedies

Alikay Wood

Ceremony and Obedience: Fathers and Daughters in Shakespearean Tragedy

Emily Moses

The effects of China's One-child Policy on Family and Social Structures

Dana Dilling

Session D4: Business – AT&T Theater

Of Mice and Men: Financial Calamity and Press Coverage of the Dodd-Frank Act

Jared Poole

But Where Did We Come From? Teaching Business Ethics by Journeying through the Moral Arguments of Great Economists from Smith to Galbraith

Jared Poole

Streamlined Bureaucracy: A Comparative Study of the E-Government System of the United Arab Emirates Relating to the Petroleum Services Industry

Stewart McGregor

China's Emphasis on English: More Than Just a Business Deal
Sarah Gubachy

Tuesday, April 1, 5:30 – 6:30 PM

Awards Ceremony and Dinner in the McCaleb Conference Room Zone C

To view the complete festival program online go to blogs.acu.edu/researchfest/2014program



To view the abstracts please go to blogs.acu.edu/researchfest/2014abstracts



A special thanks to...

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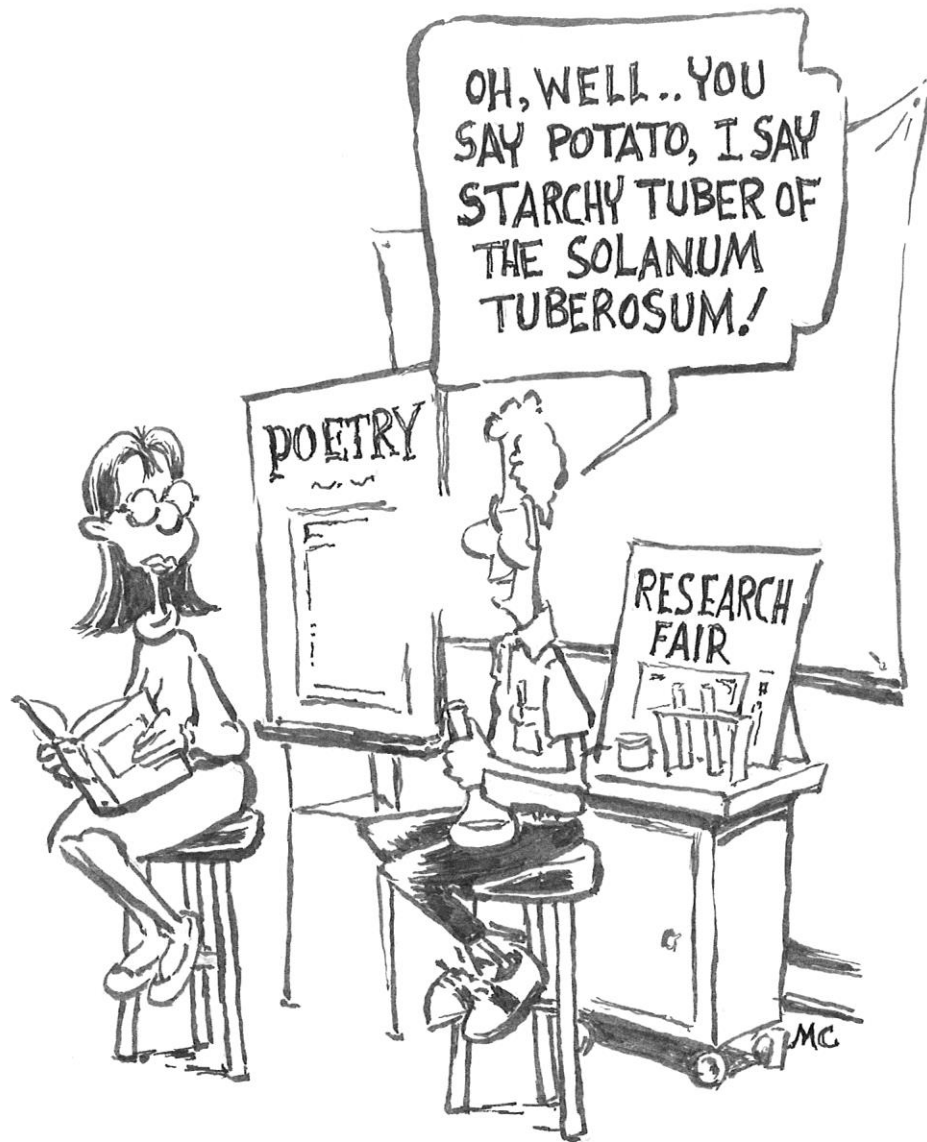
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