2016 ACU
Undergraduate Research Festival

April 5, 2016
The ACU Undergraduate Research Festival

is brought to you by

The Office of Undergraduate Research.
blogs.acu.edu/undergradresearch
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A Message from the Director:

Thank you so much for being a part of the 8th ACU Undergraduate Research Festival. It is so exciting to see the wide variety of research being done by undergraduates here at ACU. Those of us who have been involved in planning the Research Festival are so impressed with and proud of the work that students have been doing – work that requires intellectual curiosity, creativity, and critical thinking. Whether you are here to present, mentor, judge entries, or learn about others’ research, I am so grateful that you are part of this day.

The Research Festival would not take place without the many hours of hard work put in by Research Festival Planning Committee. They have my deepest appreciation. I would also like to thank the Honors College and Graduate School for co-sponsoring this event.

Enjoy the Festival!

Dr. Autumn Sutherlin
ACU Director of Undergraduate Research

To view the complete festival program and abstracts online go to blogs.acu.edu/researchfest/2016surfprogram/
Festival Schedule Overview

8:00 – 3:00 PM Registration
Hunter Welcome Center Hall of Honor

8:30 – 9:20 AM Oral Presentations
A1. Studies in Culture - McCaleb Room Zone A
A2. Issues in the Classroom - McCaleb Room Zone B
A3. Culture Issues - Alumni Conference Room
A4. Culture and Conflict - LYNAY Classroom

9:30 – 10:50 AM Oral Presentations
B1. Analyzing Verbal and Nonverbal Messages - McCaleb Room Zone A
B2. The Chemical Element Osmium - McCaleb Room Zone B
B3. High Energy Nuclear Research - Alumni Conference Room
B4. Issues of Diversity in Race, Gender, and Sexuality - LYNAY Classroom
B5. War: Events and Issues - AT&T Theater

11:00 – 11:30 AM Chapel
McCaleb Room Zone B

11:45 – Lunch is served
McCaleb Room Zone C

12:00 – 12:40 PM Poster Session I
Atrium of the Hunter Welcome Center

12:45 – 1:20 PM Poster Session II
Atrium of the Hunter Welcome Center

1:30 – 2:50 PM Oral Presentations
C1. International Issues - McCaleb Room Zone A
C2. Chemistry, Biochemistry, and Physics Research - McCaleb Room Zone B
C3. Nursing and Health Focus - Alumni Conference Room
C4. Theater, Film, and Television - LYNAY Classroom

3:00 – 4:20 PM Oral Presentations
D1. Mental and Physical Health - McCaleb Room Zone A
D2. Contemporary Communication - Alumni Conference Room
D3. Investigating Plants and Animals - AT&T Theater

5:30 – 6:30 Awards Dinner (Pre-registration required)
McCaleb Room Zone C
MORNING SESSIONS
Tuesday, April 5, 8:30 – 9:20 AM

Session A1: Studies in Culture - McCaleb Room Zone A

Study Abroad’s Influence on Cultural Perceptions
Annie Bailey

French Immigration and Cultural Dissonance
Parker Pollard

Professionalism and Ethics: A Guided Study on Ferguson, Missouri
Chanel Brown & BaiLee Evans

Session A2: Issues in the Classroom - McCaleb Room Zone B

Rewiring the iBrain: The Effects of Technology in the Classroom
Samantha Studvick

Understanding the Decision Making of First Year Teachers Regarding Reading Assessment and Instruction
Hannah Lowry

Graphic Terror: Comic Books in the Classroom
Maggie McAlister

Session A3: Cultural Issues - Alumni Conference Room

Elders in Black and White: J.S. Winston and the Impact of Institutional Racism on Church Leadership
Ian Nickerson

Whispers of Wilderness: Reconciling Humanity and Nature
Michelle Weidenaar

Ἡ Ἀνάρρυσις Ἀρετή: The Parthenon Marbles and Greek National Identity
Savannah Weeks

Session A4: Culture and Conflict - LYNAY Classroom

Homosexuality and Gender Expression in India
Chelsea Peer

Clash of Civilizations: Fact or Myth?
Kendra Oregon

Homosexual Adoption in Today’s Society
Federica Vinera

Tuesday, April 5, 9:30 – 10:50 AM

Session B1: Analyzing Verbal and Nonverbal Messages - McCaleb Room Zone A

Cellphone Use as Nonverbal Communication
Hannah Chappell

For Those Who Can’t Speak
Andrea Archer

Secrets Out: An analysis of Ashley Madison’s Hacking System Crisis
Itzel Garcia De Alba

Moral Foundations of Presidential Primaries: An Analysis of Partisan Campaign Language
Courtney Tee, Barrett Corey, & Wesley Robbins

Aggression and Maternal Discipline in Adolescence
Fabiola Vargas

Session B2: The Chemical Element Osmium - McCaleb Room Zone B

Synthesis and Characterization of Osmium (I) Carbocylate Dimers
Kylie Wilson & Erica Lambert

Osmium-Containing Chemotherapeutic Drugs
David Marolf

New Triosmium Clusters with PT/A Ligands
Kristen Brehm & Amanda Dugan

Syntheses of Water-Soluble Osmium Carbonyl Clusters
Joel Jackson & Soo Hun Yoon

Session B3: High Energy Nuclear Research – Alumni Conference Room

Using a Neural Network to Detect Dimuons for Fermilab Seaquest
Paul Carstens

Testing of Advanced Particle Detectors for the Next Generation Particle Collider
Hannah Hamilton

Measuring the Density of Liquid Targets in the SeaQuest Experiment
Zhaojia Xi

Development of an Electron Ion Collider Detector Test Stand
Cecily Towell

Data Reconstruction Analysis (E906/SeaQuest)
Lauren Selensky

Session B4: Issues of Diversity in Race, Gender, and Sexuality – LYNAY Classroom

Arab Feminism: History, Goals, Challenges - and a Promising Future
Andrew Brown

Liberated Divinity: The Experience of African American Females in Pastoral Leadership
Shaobeny Johnson

Gender Role Behavior and Sexual Orientation
Savannah Hipes

Biracial Identity Salience: Family, Community, and Media Influence on Identity Formation
Andrea Wiggins, Melanie Collazos, & Samone Smith

Cultural Behaviors and Attitudes for LGBTQ Christians at ACU
Diego González

Session B5: War: Events and Issues - AT&T Theater

Crossings: The Critical Role of Railroads in the Civil War
Coleton Spruill

The Screaming Eagles in the A Shau: Major Operations of the 101st Airborne Division in the A Shau Valley, 1968-1969
Coleman Stein

On Conflict
Aaron Steward

Bennie Lee Fudge: A Voice of Pacifism in World War II Returning to the Stone-Campbell Roots
Rachel Schaad

Missileers of the Cold War
Jessica Price

Tuesday, April 5, 11:00 – 11:30 AM

Chapel: McCaleb Room Zone B

Tuesday, April 5, 11:45 AM – 1:00 PM

Lunch: McCaleb Room Zone C

Tuesday, April 5, 11:45 AM – 1:00 PM

Lunch: McCaleb Room Zone C
Poster Session I: Hunter Welcome Center Atrium

The Process and Importance of Film Adaptations of Novels
Angela Fogle

The Effects of the First World War on European Environment and Health
Joshua DeLeon

The Effect of an Interprofessional Educational Simulation Exercise on Perceptions
Kennedy Morrison

Long Term Affects of Speech Therapy on Aphasia
Regine Yaites

No Change in Perceptual or Chronotropic Outcome When Altering Preferred Step Frequency for a Short Duration
Megan Kriger, Jill Baker, Gloria Haynes, Marlee Jones, Heather Markgraf, Janice Nkrumah, & Brianna Phillips

Antibiotic Resistance and Biosynthetic Potential of Microbes Isolated from Sorcerer’s Cave, Texas
Jeffrey Wooliscroft

Quantifying Wolbachia and Spiroplasma Infection Rates in Monarch and Queen Butterflies
Kristen Brehm, Isabel Laiseca-Ruiz, & Jamie Thompson

Phylogeny of rodent genus Thomasomys based on the mitochondrial cytochrome c oxidase subunit 1 gene
Jeremy Aymard, Cody Bly, Andrea Saenz, & Samantha Studvick

Future Habitat Niches of Thomasomys and Rhizomys (Rodentia: Cricetidae)
Paris Webb & Amy Grotojohn

Baseline survey of small mammals and bacterial pathogens in the southeastern Rolling Plains
Hannah Seah & Daisy Gomez

Estimating Climate-Based Range Expansion in Prosopis glandulosa (Honey Mesquite)
William M. Keenan

Infectious Disease Prevalence and Age of Feral Cat In a Population Living on the Abilene Christian University Campus
Amanda McCormick

Comparison of Microbial Communities Growing in Winogradsky and Diatomaceous Earth Columns
Taylor Russell

Protein Differences in First and Second Cutting Sorghum Hay Harvested in West Central Texas
Ryan Pleasant

Development of a new nuclear marker for phylogeny reconstruction in Thomasomys (Rodentia: Cricetidae)
Paulina Sanchez, Maya Feller, Katherine Lawrence, & Jessica James

Retrofitting a Manually-Operated Scanning Monochromator with a Computer-Controllable Stepper Motor
Candace Brooks

Biometrics and Psychometrics in Yahoo! Data
Christy Duke

Poster Session II: Hunter Welcome Center Atrium

Gender and Double Standards in Easy A
Kimberly Martinez

Who’s He Tweeting?: Attachment and Jealousy on Social Media
Kylie Richter, Brandon Clements, Alexandra Gartley, & Brie Hawkins

Child Life Specialist Impact on Family Stress Resilience: A Parent’s Perspective
Julia Prior & Katie Bell

Public Perception of SNAP Benefits: Implications for Policy and Practice
Chelsea Fordham

Engagement and Productivity in Gendered and Non-Gendered Toys in Girls Ages 8-11
Claire Tyrrell & Bree Foster

Typecasting of Women in the Action Film Genre
Erika Thrasher, Emily Studer, & Stephanie Jordan

The Role of Histone Deacetylase 3 in Diffuse Large B Cell Lymphoma
Tina Johnson

The Role of Chronology in Analyzing Introductory Programming Assignments
Kayla Holcomb

Residual ATNR May Affect Functional Movements in Children in an Additive or Synergistic Manner
Jaci Williams, Emily Sorrells, Elena Taylor, Megan Hobby, Bailee Burns, & Chelsie Stefan

Bobwhite Quail and Montezuma Quail Territory Change
Christian Hofsommer

Phylogeny of rodent genus Thomasomys based on the mitochondrial cytochrome b gene
John Iragena, Kathryn Mitchell, Jacob Nelson, & Mark Wenzel

Anaerobic Sequencing Batch Reactor
William Head

Osmium Carbonyl Clusters with Iodine Atoms
James Johnstone

The Roundabout Way to Deal with Traffic
Audrey Kinzinger & Faith Moore

Variation in the cytochrome c oxidase subunit 1 gene among populations of Tadarida brasiliensis
Kimberly Burt, Alyssa Wilder, Charity Weaver, & Michael Ramirez

Phylogeny of rodent genus Thomasomys (Rodentia: Cricetidae) based on the nuclear gene recombination activating gene 1
Amberly Grothe, Cheyenne Cagle, & Marissa C. Home

Analyzing the use of Financial Derivatives to Manage Price Risk for Cattle Feeding Operations
Kevin Coburn & Brody Benge

The Effect of Environmental Stress on Canine (Canis familiaris) Glucocorticoid Levels in Boarding Kennels Versus Domicile Conditions
Anna Curby

Tests of phylogenetic hypotheses in Mentzelia section Bicuspidaria (Loasaceae) using the nuclear ITS and ETS regions
Daisy Gomez & Caleb M. Rhodes

Excavation and Restoration of Tylosaurus Skull
Hannah Seah

Biometrics and Psychometrics in Yahoo! Data
Christy Duke
AFTERNOON SESSIONS

Tuesday, April 5, 1:30 – 2:50 PM

Session C1: International Issues - McCaleb Room Zone A
The Growth and Development of Scottish Nationalism and the Desire for Independence Since the 1950s
Kirby Lemon
Australian Aborigines
Deanna Tuttle
Community-based Social Work in Haiti: Reunifying Homeless Families
Brie Heinrich
Tracking Sanctions Relief: How Iran spends 100 Billion
Sion Alford
Mexico’s Battle Against the Drug Trafficking and Culture
Itzel Garcia De Alba

Session C2: Chemistry, Biochemistry, and Physics Research – McCaleb Zone B
Teaching Introductory Physics through Visual Computational Models
Vicente Rojas
Observing a binary black-hole merger in a matched-filter search
Hannah Hamilton
In Vitro synthesis of mvaE and mvaS in Expression Vector pDUET
Chandler Graf & Amanda McCormick
The Role of H2AZ During the Oxidative Stress Response in Yeast
Julia Taylor & Kelsie Roberts
Oxidation of Hydrated Hydrogen Sulfide
Sarah Floris

Session C3. Nursing and Health Focus - Alumni Conference Room
What You Know and What You Do: The Energy Drink Enigma
Bethany Miracle, Katherine Hager, & Marquita Bugg
Stethoscopes: Instruments of Inspection or Instruments of Infection?
Amy Pinegar, Katherine Conder, & Mykayla Gunderson
Electronic Medical Record’s Influence on Health Care Providers
Jessica Ragan, Sheridan Waugh, & Jacques Diaz
The Possible Health Effects of 12-hour Shifts On Nurses
Megan Styskal & Melanie Chavarria
Elucidating the Mechanism of Cadaverine in the Nitrosative Stress Response of Urnpathogenic Escherichia coli
Kristen Clemmons

Session C4: Theater, Film, and Television - LYNAY Classroom
Happily Ever After is a Choice: A Rhetorical Analysis of Once Upon A Time
Abby Altom
Did We Connect?
Laura Harris
Hands on a Hardbody Dramaturgy
Andrew Bullard
Morality and the Horror Film: Towards a Greater Understanding of the Problem of Evil
James Churchill
Beyond Catharsis: How Theatre Can Affect Real Change
Andrew Gilliland & Alyssa Sacco

Tuesday, April 5, 3:00 – 4:20 PM

Session D1: Mental and Physical Health - McCaleb Room Zone A
An Underserved Population: Rural Mental Health Needs in West Texas
Emily Turner, Alex Lim, Vivian Teoh, Mandy Campos, Megan Verette, & Cassie Dennis
The Personality Spectrum Analysis
Caroline Frey, Allison Kuster, Madison Houston, Destiny Eaton, Blair Davis, Peggy Speetzen, & Daniel Martin
Love is a Battlefield: Experience of Love and Depression
Laura Hill
Nia Tyler
Effects of Fatigue on the Cognitive-Linguistic Features of a Person with TBI
Ashley Raybon

Session D2: Contemporary Communication - Alumni Conference Room
Twitter and Islamic State: Communication Networks and the Rise of Terror States in the Middle East
Grace Rosa, Nick Cartwright, & Kevin Shurtz
Poldark
Kimberly Hauser
The Curious Case of Texas’ Third Party Privilege
Allison Brown
Perceptions of Crime Seriousness
Amanda Stephens

Session D4: Investigating Plants and Animals - AT&T Theater
Phylogenetic relationships and patterns of homoplasy in Mentzelia section Biscutitaria (Loasaceae)
Denise Naude, Christian Hofsmoer, Stephanie Sariles, & Gabriela Simonsen
Relationships between small mammal assemblages and land management in the southeastern Rolling Plains
Catherine Longest, Jamie Thompson, Daisy Gomez, Leneka Hagens, Nathan Neill, Reece Wells, & James Nix
To Vaccinate Or Not To Vaccinate: Discouraging Factors for Pet Owners Taking Their Pets to the Veterinarian for Vaccinations
Ingrid Rojas
Evaluating the Effectiveness of Prostaglandin Injections and Artificial Lighting in Stimulating Off Season Cycling in Mares
Sara Bishop

Tuesday, April 5, 5:30 – 6:30 PM

Awards Dinner in the McCaleb Conference Room Zone C
A special thanks to…

…the co-sponsors of the Undergraduate Research Festival
The Honors College
The Graduate School

…the Director of Undergraduate Research
Autumn Sutherlin

…the Student Worker for the Office of Undergraduate Research
Evan Bridges

…the Undergraduate Research Festival Planning Committee
Stephen Baldridge  Darby Hewitt  Lauren Lemley
Brian Burton  Rebecca Hunter  Suzie Macaluso
Josh Brokaw  Andrew Huddleston  Mark McCallon
Mark Cullum  Jennifer Huddleston  Josh Willis
Kelly Elliot  Ryan Jessup
Matthew Garver  Sarah Lee

…all of our judges:
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Lynette Austin  Larry Henderson  Cynthia Powell
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Megan Cromis  Jesse Luna  McKinley Terry
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33
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