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 – McCabe 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 salmonicida 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 plexippus 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 Thomasonys (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 Shakespearean 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
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
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