
ACU Undergraduate Research Festival

Hunter Welcome Center

March 28, 2011

From the Provost

Welcome to ACU's third annual Undergraduate Research Festival. Whether you are competing in the Festival, judging entries in the competition or simply viewing and admiring students' work, we welcome you to this event. The Undergraduate Research Festival celebrates some of the very best work of our students – work that highlights their skills and abilities and demonstrates the results of their intellectual curiosity. We celebrate the students' creativity and critical thinking, and we applaud the partnerships with many faculty who have mentored the students in their research. Congratulations to all our undergraduate researchers!

Dr. Jeanine Varner, ACU Provost

From the Director

It is a pleasure for the ACU Office of Undergraduate Research to host the 2011 Festival. Many hours of preparation have gone into making this event a special time to showcase the work of our students who have used their God-given talents to investigate, analyze, probe, test, explore, discover, apply, and create. Increasing numbers of students and faculty are getting involved in such scholarly and creative activities as we build upon a campus-wide culture of innovation. Thank you for participating in the Festival. Thanks also to the McNair Scholars Program and the Honors College for their assistance and support. Enjoy the celebration!

Dr. Greg Powell, Director of Undergraduate Research

Participants, faculty and judges are encouraged to attend the plenary sessions described on the back page.

Paper Presentations

8:00 AM Alumni Conference Room

Evaluating the Combined Effects of RADEX and TASC0-14 on Utilization of Poor Quality Roughages by Small Ruminants – Ashley Simon, Jessica Cosby (Dr. Florah Mhlanga, Agricultural and Environmental Sciences)

Utilizing Tropical Forage Legumes to Supplement Young Goats Fed a Basal Diet of Sudangrass Hay – Tiffany Lutz, Spencer Fox (Dr. Florah Mhlanga, Agricultural and Environmental Sciences)

Population Genetic Study of the Ghost Shrimp *Lepidophthalmus louisianensis* – Amber Deschamps (Dr. Rebecca Hunter, Biology)

8:00 AM LYNAY Room

The Virtuous Entrepreneur – Jess Weeden (Dr. Orneita Burton, Management Sciences)

For the Love of Love: A Rhetorical Analysis of The Bachelor – Amanda Goodall (Dr. Lauren Lemley, Communication)

Learning to Overcome Adversity: A Rhetorical Analysis of Remember the Titans – Nikki Favors (Dr. Lauren Lemley, Communication)

9:00 AM Alumni Conference Room

A Spirituality of Place: Holy Space in Torah and Celtic Christianity – Rebekah Childers (Dr. Rodney Ashlock, Bible, Missions and Ministry)

Plotting Resistance: Mothers and Daughters in American Literature – Kaleigh Wyrick (Dr. Steven Moore, English)

"That Not My Wife": Paranoia in the Invasion of the Body Snatchers Films – Katherine Sinclair (Dr. Shelly Sanders, English)

9:00 AM LYNAY Room

A Better Way to Make a Potential Anti-Cancer Agent – David Kempe (Dr. Greg Powell, Chemistry and Biochemistry)

Microwave-Assisted Synthesis of New Metal Compounds – Jade Yoon Joo Jung (Dr. Greg Powell, Chemistry and Biochemistry)

Behavioral Epigenetics: Reforming an Antiquated Approach to Pastoral Care – Blaine Smith, Evan Jones (Dr. Daniel Brannan, Biology)

10:00 AM Alumni Conference Room

Determining an Interaction Between the Enterococcus Faecalis Enzymes: Acetoacetyl-CoA Thiolase/HMG-CoA Reductase and HMG-CoA Synthase – Holly Perkins (Dr. Autumn Sutherland, Chemistry and Biochemistry)

Influence of Science Experiences Before College Enrollment on Choice of Major – Erin Boyd (Dr. Cynthia Powell, Chemistry and Biochemistry)

Gaining Eden, Losing Eve – Sara Morris (Dr. Shelly Sanders, English)

10:00 AM LYNAY Room

The Pen is Mightier Than the Sword: Bill Mauldin, Willie and Joe on the World War II Battle Line – Emi Alisa Johnson (Dr. Vernon Williams, History)

Charity Volunteer Motivations – Ellen Pfeiffer (Dr. Laura Phillips, Management Sciences)

11:00 - 11:25 AM Chapel Service LYNAY Room

11:30 AM - 1:00 PM Poster Sessions & Lunch

1:00 PM Alumni Conference Room

Kindergartners Using Technology to Make Learning Come Alive – Tiffany Siegel, Kendra Kleine, Paul Sims (Michelle Faerber, Teacher Education)

Developing NETS-S in a High School Algebra II Class Using iPads – Cavender Campbell (Dr. Billie McConnell, Teacher Education)

Is Mobile Learning Worth It: An Evaluation of the Uses of Mobile Technology – Alexandra Moran (Dr. Stephen Baldrige, Social Work)

1:00 PM LYNAY Room

Mobile Textbook App – Brittany Rae Ellen Kight (Dr. John Homer, School of Information Technology and Computing)

Improving an Existing Game System – Clement Ho (Dr. Brent Reeves, School of Information Technology and Computing)

A Student-Created Textbook Replacement – Courtney Richardson, Courtney Martin (Dr. Mark Phillips, Management Sciences)

2:00 PM Alumni Conference Room

Learning and Growing, The Economic Impact of Higher Education in Abilene – Joseph Austin (Dr. Monty Lynn, Management Sciences)

A Unique Voice: The Political Rhetoric of Women in 16th-Century England and 21st-Century America – Meghan Clark (Dr. Mel Hailey, Political Science)

Would You Jump?: Correlates of Risk-Taking and Openness – Austin Fontaine, Kyle Anderson, Avery Weems (Cherisse Flanagan, Psychology)

2:00 PM LYNAY Room

Why Are You Here?: The Impact of Undergraduate Presence at a National Research Conference – Katie Morgan, Austin Sherwood (Dr. Sheila Delony and Stephanie Talley, Teacher Education)

Survey Use as an Instrument in Attitude Assessment – Spenser Lynn (Dr. Jess Dowdy, Physics)

Problem-Solving with Monty Hall – Sarah Gallaway (Dr. Connie Yarema and Dr. Mark Riggs, Mathematics)

3:00 PM Alumni Conference Room

Progress in Nuclear Power Safety – Tyler Thornton (Dr. Rusty Towell, Physics)

Fission Event Reconstruction for the NIFFTE TPC – Sarvagya Sharma (Dr. Rusty Towell, Physics)

Reinforcement Learning in Virtual and Physical Domains – Nigel Bosch, Emily Phenix (Dr. Ray Pettit, School of Information Technology and Computing)

3:00 PM LYNAY Room

Implementation of FPGAs for Fast Phonon-Image Data Acquisition – Keller Andrews (Dr. Tim Head, Physics)

SeaQuest: Investigating the Structure of the Nucleon – Tyler Hague (Dr. Donald Isenhower, Physics)

The Connected Classroom: A Longitudinal Analysis of Mobile Learning Across Disciplines – Samuel Palomares (Dr. J.D. Wallace, Communication)

Poster Presentations

11:30 AM McCaleb Conference Room C

Effectiveness of Video Technology as a Teaching Method – Brittany Vaughn (Dr. Alan Lipps, Social Work)

French Fry Chemistry: Refining ACU's Biodiesel Production – Rachel Whittaker, Kate Huggins (Dr. Eric Hardegree, Chemistry and Biochemistry)

Goldbach's Conjecture and Relative Goldbach Partitions – Houston Hutchinson (Dr. Jason Holland, Mathematics)

Mobile Devices in a Project-Based Physics Classroom: Developing NETS-S in Students – Stacie McConnell (Dr. Billie McConnell, Teacher Education)

Nutritional Problems of Young Children in Rural Villages in Togo, West Africa – Janna Phifer, Monica Parodi (Dr. Sheila Jones, Exercise Science)

Potential Protein-Protein Interactions in the Mevalonate Pathway – Jonathon Jacobs (Dr. Autumn Sutherland, Chemistry and Biochemistry)

Progress Toward a Better Synthesis of a Potential Chemotherapeutic Agent – Joseph Loh, Sara Shultz (Dr. Greg Powell, Chemistry and Biochemistry)

Risk-Factor Classification of Adolescent Suicide Attempt – Alena Weeks (Dr. Billy Van Jones, Psychology)

Illegal Immigration to the US from El Salvador: A Proactive Solution – Lisa White (Dr. Harland Rall, Foreign Languages)

Seeking Solidarity: The Impact of Palestinian Refugees on Neighboring Countries – Travis Green (Dr. Caron Gentry, Political Science)

Poster Presentations

11:30 AM McCaleb Conference Room C

(continued from previous page)

Serious Games in Learning – Michelle Brothers (Dr. Brian Burton, School of Information Technology and Computing)

Sexual Values Across the Lifespan: College Student Perceptions of Parental and Personal Sexual Values – Holley Craft (Dr. Heidi Morris, Sociology and Family Studies)

The (Bumpy) Road to Reliability: A Psychometric Study of Openness and Risk-Taking – Emily Pennington, Mackenzie Kile, Rebekah Hernandez (Cherisse Flanagan, Psychology)

The Efficacy of Oromyofunctional Therapy in the Remediation of the Reverse Swallow Pattern – Alyssa Bowyer, Rebecca Hopkins (Dr. Denise Barnett, Communication Sciences and Disorders)

Turkish Immigration to Germany – Jessica Backfisch (Carolyn Thompson, Foreign Languages)

Video vs. Lecture: A Comparison Study of Teaching Methods – Alexandra Moran, Amanda Wallander (Dr. Alan Lipps, Social Work)

12:15 PM McCaleb Conference Room C

A Coal Plant in Your Backyard? Sweetwater Residents' Attitudes toward Proposed Tenaska Trailblazer Energy Center – Betheny Jones, Kyla Kenyon, Brent Bennett (Dr. Lynette Sharp Penya, Communication)

A Long-Term Comparative Survey of Small Mammal Population in Four Different Microhabitats in Northern Michigan – Erin Boyd, Thomas Lee (Dr. Thomas Lee, Jr., Biology)

A Supervening Study into Insecticide Resistance – Evan Jones (Dr. Qiang Xu, Biology)

Academic Challenge Posed by Abilene Christian University's Teacher Education Program – Janille Stephens (Dr. Sheila Delony, Teacher Education)

Bioethics in El Salvador – Eunice Lara (Dr. Jonathan Camp, Communication)

Biogeography of *Mentzelia thompsonii* – Elizabeth Lurz (Dr. Joshua Brokaw, Biology)

12:15 PM McCaleb Conference Room C

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Extracting Elastic Constants from Phonon Images – Sam Hurley (Dr. Tim Head, Physics)

Green Chemistry Catalysts in Friedel-Crafts Reactions – Nate Hurley (Dr. Perry Reeves, Chemistry and Biochemistry)

Identifying Proteins Involved in Transcription Activation after Recruitment of TBP to the Promoter – Funmilayo Adebesein (Dr. Sarah Lee, Chemistry and Biochemistry)

Media and Its Power to Shape Lives – Jacob Luedecke, Jacquelin Maldonado (Dr. Jennifer Shewmaker, Psychology)

Molecular and Morphological Comparisons of *Mentzelia monoensis* and *M. montana* – Levi Gates (Dr. Joshua Brokaw, Biology)

Necessity and Methods of Historic Preservation – Ashley Wheeler (Kitty Wasemiller, Art and Design)

The Christian Struggle: Discrimination and Violence in the Middle East – Brad Schultz (Dr. Neal Coates, Political Science)

The Significance of Ecological Diversity, Controlled Burns, and Varied Ecosystems on Carbon Sequestration on Ranchland in West Texas – Melinda Brown (Dr. Michael Nicodemus, Agricultural and Environmental Sciences)

Two Year Comparison of Warm Season Legume Production With and Without Drip Irrigation in the Summer in a Semiarid Region of West Texas – Spencer Fox (Dr. Michael Nicodemus, Agricultural and Environmental Sciences)

Plenary Sessions

11:00-11:30 AM LYNAY Room

Chapel Service – Dr. Jim Nichols, Biology

11:30 AM-1:00 PM McCaleb Conference Room C
Lunch

5:30-7:00 PM McCaleb Conference Room A

Dinner, Awards, and Keynote Presentation "The Power of Self-Deception: Advice for Truth-Seekers" – Dr. Russ Roberts, Professor of Economics, George Mason University
