

POSTER PRESENTATIONS

Wednesday, April 7

Constructing the Fermilab E-906 Spectrometer to Investigate Proton Anti-Quark Asymmetry, Mandi Crowder

Faculty Mentor: Dr. Donald Isenhower, Physics

Using Geometry Description Markup Language to Store the Geometry of FNAL E-906, Tyler Hague

Faculty Mentor: Dr. Dr. Rusty Towell, Physics

Optimizing the Fermilab E-906 Spectrometer Design Using GEANT Simulations, Brandon Bowen

Faculty Mentor: Donald Isenhower, Physics

Construction and Testing of a Tunable Infrared Diode Laser, Nathaniel Pickle, Colter Lane

Faculty Mentor: Dr. Timothy Head, Physics

Student/Teacher Communication Through Various Forms of Media, Alison Austin, Kaleigh Wyrick, Anahi Castillo

Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

Expression, Purification, and Characterization of 3-Hydroxy-3-methylglutaryl Coenzyme A Synthase Double-mutant Enzyme A110G/E79A and the Characterization of HMGS Mutants D184A, D184N and S308A from *Enterococcus faecalis*, Holly Perkins

Faculty Mentor: Dr. Autumn Sutherland, Chemistry and Biochemistry Department

Oxidative Addition Reactions of Triosmium Carbonyl in a Microwave Reactor, Jonathan Sims

Faculty Mentor: Dr. Greg Powell, Chemistry and Biochemistry

Thursday, April 8

3D Filmmaking from 2003 into the near future: The technology and business behind 3D's recent revival, Robert Rogers

Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

The World Wide Word: How the Web is Giving Free Speech to Those Without It, Lawson Soward

Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

Listening to the Trends: Vinyl Sales for Profit or Pleasure?, Casey Oliver

Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

Modern Pirates: Illegal Music Downloading, David Griffith

Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

An Analysis of the Blogging Trends of 18-25 Year Olds and How This Affects the Future of Blogs, Sandra Amstutz

Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

Utilization of Tropical Forage Legumes (*Lablab Purpureus*, *Vigna unguiculata* and *Vigna radiata*) to Supplement a Sudangrass Diet Fed to Growing Small Ruminants, Melanie S. Shinsky

Faculty Mentor: Dr. Florah N. Mhlanga, Agricultural and Environmental Sciences

Comparison of Warm Season Legume Production Under Drip Irrigation in the Summer in a Semiarid Region of West Texas, Colton Laws

Faculty Mentor: Michael Nicodemus, Agricultural and Environmental Sciences

Friday, April 9

A comparison of gender differences and amount of media exposure, Grace Lozano

Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

iPhone/iPod Touch Effects on ACU Campus, Amanda Keany, Sarah Kratzer

Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

Searching for Environmentally Friendly Chemical Reactions, Grant Askins

Faculty Mentor: Dr. Perry C. Reeves, Chemistry and Biochemistry

Sexualization in the Media and its Effects on Self-Esteem, Jacob Luedecke, Rachel Jinkerson

Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

The Effects of Small Group Versus Individual Reading Interventions on Letter Naming Fluency and Phonetic Segmentation Fluency, KrisAnn Christian, Ashley Utzman, Ryan Gertner

Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

The Human Oreo, Kristen Lewis

Faculty Mentor: Dr. Cherisse Flanagan, Psychology

Variation in Populations of *Mentzelia* Plants, Alexandra Verrillo

Faculty Mentor: Dr. Joshua Brokaw, Biology

Improving Infection Control through Evidence-Based Design Strategies for a Community Hospital, Tammy Trylko

Faculty Mentor: Kitty Wasemiller, Art and Design



FROM THE PROVOST

Welcome to ACU's second annual Undergraduate Research Festival! Whether you are competing in the Festival or 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 showcases 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 new ACU Office of Undergraduate Research to join with others in hosting the Festival this year. 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, create and produce. Increasing numbers of students and faculty members 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. Enjoy the celebration!

Dr. Greg Powell, Director, Office of Undergraduate Research

PAPER PRESENTATIONS

Monday, April 12
Hunter Welcome Center, Rooms B and C

8:00

How Microwave Heating Can Improve the Synthesis of an Anti-Cancer Agent, Jade Jung **B**
Faculty Mentor: Dr. Greg Powell, Chemistry & Biochemistry

Online Gaming and Life Satisfaction: A Social Study of World of Warcraft, Barrett Lawson, Jordan Traub **C**
Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

8:15

Microwave Assisted Reaction of Alcohols with Osmium Carbonyl, Kayla Jean Pyper **B**
Faculty Mentor: Dr. Greg Powell, Chemistry and Biochemistry

Bridging Communities with Local Food: Perceptions from Abilene-Area 'Locavores', Samuel Palomares, Elizabeth Kaszynski, Chris Stephenson **C**
Faculty Mentor: Dr. Jonathan W. Camp, Communication

8:30

Discrete Logarithm Problem over Composite Moduli, Marc Mace **B**
Faculty Mentor: Dr. David Hendricks, Mathematics

Book selection: Implications for readers and reading instruction, Katie Morgan, Ashleigh DeVoe **C**
Faculty Mentor: Dr. Sheila Delony, Education

9:00

Vertex and track reconstruction for the NIFFTE TPC, Sarvagya Sharma **B**
Faculty Mentor: Dr. Rusty Towell, Physics

Across the Universe—or the Atlantic, at least: A Comparative Study of American and Western European Mass Communications, Laura Acuff **C**
Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

9:15

An Analysis of The Correlations Between The Popularity of Facebook and Its Reasons For Use, Sandra Amstutz, Ben Word **B**
Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

Considering Age and Gender: A Comparative Content Analysis of the Sexualization of Teen Celebrity Websites, Kyree Matthews, Ashley Small **C**
Faculty Mentor: Jennifer Shewmaker, Psychology

9:30

Instances of Anger: The Tool of Anger in Little Women, Allison Fowler **B**
Faculty Mentor: Dana McMichael, English

iPhone and iPad Research, Brittany Rae Ellen Kight **C**
Faculty Mentor: Brian Burton, iSchool

10:00

The effects of light on the symbiotic relationship between Aiptasia pallida and Symbiodinium with respect to the phototaxic behavior of the host organism, Amber Deschamps **B**
Faculty Mentor: Dr. Tom Pirtle, Biology

The Authoritarian Voice in the Speech of College-Aged Women, Erin Halstead **C**
Faculty Mentor: Nancy Shankle, English

10:15

Return of the Thought Police: 1984 or 2010?, Joel Dallas **B**
Faculty Mentor: Dr. Laura Carroll, English

Simulations of the NIFFTE Time Projection Chamber, Tyler Thornton **C**
Faculty Mentor: Rusty Towell, Physics

10:30

“Literally” Speaking: Reason, Metaphor, and Exaggeration in Conflict, Joshua Alkire **B**
Faculty Mentor: Dr. Bill Carroll III, English

Altering Beamline Components to Reduce the Cost of Prostate Cancer Treatment, Timothy Jones **C**
Faculty Mentor: Wayne D. Newhauser, Radiation Physics at UT M.D. Anderson Cancer Center

11:00

Undergraduate Research Festival Chapel with Dr. Richard Beck, Psychology **B**

11:30-12:30

Luncheon **A**

1:00

An Examination of the Relationships Between Parental Closeness, Media Exposure and Adolescent Female Sexualization, Brit'ny Spain, Brittany Banks, Hilary Standish **B**
Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

Enterococcus Faecalis 3-Hydroxy-Methylglutaryl HMG-CoA Synthase: Mutagenesis, Purification and Characterization of Mutant Enzymes A110G/D184A and D181N, Funmilayo Adebesein **C**
Faculty Mentor: Dr. Autumn Sutherlin, Chemistry and Biochemistry

1:15

Energy Transfer, Fragmentation and Chemical Reactivity of Peptides with Modified F-SAM Surfaces, Kelsey Young **B**
Faculty Mentor: Dr. Eric Hardegree, Chemistry and Biochemistry

I Am Girl, Hear Me Squeak, Megan Faver Hartline **C**
Faculty Mentor: Dr. Bill Carroll, English

1:30

Improving the Accuracy of Neutron Multiplicity Counting, Scott Stewart **B**
Faculty Mentor: Dr. Rusty Towell, Physics

Effects of Religiosity and Media Use in Adolescents, Sarah Kratzer **C**
Faculty Mentor: Dr. Jennifer Shewmaker, Psychology

2:00

Japanese Relocation in World War II: The Jerome and Rohwer Experience, Margaret Moore **B**
Faculty Mentor: Dr. Vernon Williams, History

2:15

Difference of Opinion: A History of Editorial Writing in the Optimist, Chelsea Hackney **B**
Faculty Mentor: Dr. Kenneth Pybus, Journalism and Mass Communication

Use of a Naturally Occurring Source of Sulfur to Control Gastrointestinal Nematodes in Small Ruminants, Jason C. Davis **C**
Faculty Mentor: Dr. Florah N. Mhlanga, Agricultural and Environmental Sciences

2:30

The Importance of Effective Professional Development, Michelle Woods, Ashley Henderson **B**
Faculty Mentor: Dr. Sheila Delony, Education

Quality Control of the PHENIX Resistive Plate Chambers being Produced for Particle Detector Upgrade, Ryan Wright **C**
Faculty Mentor: Dr. Rusty Towell, Physics

3:00

The Monster Within: The Role of Roman Catholic Concepts of Sin in The Picture of Dorian Gray, Katherine Sinclair **B**
Faculty Mentor: Dr. Bill Carroll, English

Teenage Dating Online, Jamalin Harp, Sam Wright, Ashley Wheeler **C**
Faculty Mentor: Dr. Susan Lewis, Journalism and Mass Communication

3:15

Baptism, Repentance, and the Forgiveness of Sins: Resolving the Issues of Acts 2:38, Morgan E. Philpott **B**
Faculty Mentor: Dr. Curt Niccum, Bible, Missions and Ministry

Dig-ga Dut Dut Dig-ga Dut Dut: Drumming with Steve Reich, David Degge **C**
Faculty Mentor: Staci Spring, Music

3:30

Archiving QC Tests in the PHENIX RPC Assembly Facility, Keller Andrews **C**
Faculty Mentor: Dr. Rusty Towell, Physics

6:00-8:00

Undergraduate Research Festival Banquet **B,C**
Speaker: Dr. Kevin Gardner, Professor of Biochemistry and Pharmacology in the Graduate School of Biomedical Sciences at UT Southwestern Medical Center
Topic: “Why Knowing How Plants See Tells Us Something Important about Cancer: Biophysics as a Tool for Understanding how Biology Works”