

The University of Oklahoma
Honors College proudly presents:

*Undergraduate
Research Day*



Saturday,
March 31, 2007

The National Weather Center

Session I, 8:30-10:00

Architecture, Humanities, Director's Conference Room

Chaired By Dr. Robert Con Davis-Undiano

- Miranda Barnett, with Dr. Farland Stanley, Jr., "A Chronological Approach to the Burial Methods of the Ancient Romans at Rome"
Daniel Douthit, Ellis Heitzke, Nicole Joslin, Sofia Koutsenko, and Matt Peacock with Dr. Adam Lanman, "Home In a Bag"
Michael Porter, with Dr. Ryan Long, "Transportation of Mexico City"
Erika Serrato, with Dr. Michel Lantelme, "Identity and Education in *Le Gone du Chaâba* by Azouz Begag and *Georgette!* By Farida Belghoul"
Chance Woods, with Dr. Jim Yoch, "The Discarded Play: New Explorations of Shakespeare's *Pericles, Prince of Tyre*"

History, Observation Deck

Chaired by Dr. David Levy

- Rebecca Hall Davis, with Dr. Rob Griswold, "Hope and Glory: The Depiction of the Tokyo Raiders in the American Press"
Eric England, with Dr. James Cane-Carrasco, "*The Motorcycle Diaries* of Ernesto Che Guevara: The Making of a Revolutionary"
Lindsey Flewelling, with Dr. James Hart, Jr., "Making Right the Rose Tree: William Butler Yeats and the Easter Rising of 1916"
R. Thomas Mallett, with Dr. James Cane-Carrasco, "Nationalism and the Veneer of Communism in Bulgaria 1945-1990"
Mike McCarthy, with Dr. Ben Keppel, "The Rhetoric of Ronald Reagan in the 1980 Presidential Campaign"

Engineering I, Room 1350,

Chaired by Dr. M. C. Altan

- Linh Ba, Aaron Dyer, Chris Heape, and Jon Mantooh, with Dr. Kuang-Hua Chang, "Equipment Cart for Emma"
Zachary Butler, Tyler Bunting, Jay Paulsgrove, and Matt Seddelmeyer, with Dr. Kuang-Hua Chang, "Assistive Transfer Arm"
Zehra Habib, with Dr. R. Parthasarathy, "Feasibility Analysis of the Rocketplane XP Conceptual Design"
Andrew Smith, Chris Waters, and Jaclyn Williams with Dr. Kuang-Hua Chang, "Walker Modification"

CEES I, Rm. 2107,

Chaired by Dr. Amy Cerato

- Ashley Edelen, with Dr. David Sabatini, "Interfacial Properties Study of Rhamnolipid Biosurfactant"
Ted Huynh, with Dr. Kianoosh Hatami, "Serviceability and Bearing Capacity of Reinforced Unpaved Roadways"
Ian Toohey, with Dr. Randall Kolar, "Validation of the Ability of the ADCIRC Hydrodynamic Model to Include Baroclinic Effects, Specifically in the Persian Gulf"
Alan Witthoef, with Dr. Kianoosh Hatami, "Parametric Analysis of Compressible Geoinclusion Performance in Reinforced Soil Walls"

Political Issues, Room 2910

Chaired by Dr. Shad Satterthwaite

- Marcus Briggs, with Dr. Clara Sue Kidwell, "The Political Development of the Great Choctaw and Chickasaw Nations"
Kevi Brown, with Dr. Aimee Franklin, "Local Municipal Benchmarking: Comparing Performance Measures for Omaha, Nebraska"
Chris Moody, with Dr. Margaret Ellis, "Analysis of Native American/Minority-focused Political Action Committees and their Effectiveness at the State and National Level"
Whitney Ross, with Dr. Margaret Ellis, "Presidential Power in Times of War: Evaluating George W. Bush and the War on Terror"

Engineering and Meteorology, Room 3910 A,

Chaired by Dr. James Sluss

- John Meier, Tyler Hicks, Redmond Kelley, and Jacob Spring with Dr. Mark Yeary, "Low-cost DSP System Design for a Handheld Biomarker Detection Device"
Robert Nicholas, with Dr. Patrick McCann, "Electrophonon resonance in (110)-oriented PbSe Quantum Wells"
Lee Stauss, with Dr. Jerry Crain, "Monopulse Weather Radar Model"
Matt Van Every, with Dr. Phillip Chilson, "Development and Implementation of A Data Collection System for a Precipitation Monitoring Network"

Zoology I, Room 3910 B

Chaired by Dr. Penny Hopkins

- Laura Hurley, with Dr. Heather Ketchum, "A Maggot in Every Pot (forensic entomology)"
Melissa Musser, with Dr. Ola Fincke, "Correlation Between Frequencies and Harassment Levels in Bluet Damselflies"

- Daniel Parker, with Dr. Heather Ketchum, "The Effects of an Insect Repellent and an Insecticide on Post-Mortem Interval and Faunal Succession During Summer Months"
Fidel Quraishi, with Dr. Richard Broughton, "Mitochondrial Genome Sequencing of *Macrhybopsis aestivalis* and Related Species"
Patrick Risch, with Dr. James Thompson, Jr., "Gene X Stress Interactions and Developmental Stability in *Drosophila melanogaster*"

Chemistry I, Room 4140

Chaired by Dr. Ann West

- Matthew Czapl, with Dr. Robert H. Cichewicz, "Bioactive Constituents From Cocoa Powder Protect Cells From Toxicity Associated with Mutant Polyglutamine Expansion"
Gina Griffith, with Dr. Robert Cichewicz, "Assay Development and the Disruption of Prion Propagation in a Yeast Model System"
Megan Kirby, with Dr. Donna Nelson, "Applying Physical Organic Chemistry to Long-term PRODAN-Humic Materials Interactions in Solution"
Cheeyoon Shim, with Dr. Phillip Klebba, "Cloning of Imo2430 Gene in *Listeria Monocytogenes* Genome"
Chuck Smallwood, with Dr. Phillip Klebba, "Effect of Colic in B Binding and Transport on Fluorescein Maleimide-labeling of FepA"

Psychology, Room 5600

Chaired by Provost Nancy Mergler

- Anna Brown, with Dr. Lori Snyder, "Personality Characteristics and Their Effect on Behavioral Observation"
Whitney Haaksma, Kristen Hudec and Ashley Johnson with Dr. Kirby Gilliland, "Reliability and Validity of Computer-based Mood and Performance Testing"
Stephen Neely and Ann Nguyen with Dr. Scott Gronlund, "The Effect of Depth of Anesthesia on Implicit Memory"
Edward Nguyen, with Dr. Sowan Hahn, "Angry Faces: You Can Look, But Do Not Touch"
Marcus Wolf, with Dr. Susan Sharp, "Deviance, Deviant Peers, and Gender-Scripting: The Case of Academic Misconduct"

Physics and Astronomy, Room 5720,

Chaired by Dr. Stewart Ryan

- Christopher Allen, with Dr. Lloyd Bumm, "Deposition and Growth of Flat Gold Nanoparticles"
David Kelle, with Dr. Lloyd Bumm, "Optical Alignment in a Scanning Tunneling Microscope"
Daniel Wasielewski, with Dr. Lloyd Bumm, "SEM-Correlated Near-Infrared Single-Nanoparticle Spectroscopy"

Health and Medicine, Room 5820

Chaired by Dr. Carolyn Morgan

- Juan Diego Alonso, with Dr. Shrikant Anant, "Curcumin Inhibits In Vitro and In Vivo Pancreatic Cancer Cell Growth and Tumor Xenografts"
Fatema Chowdhury, Michael Pitts with Dr. Joel Cramer, "Positioning of Electrodes and Locating Innervation Zone During Surface EMG Recordings in Vastus Medialis Muscle"
Ephraim Jobickson, with Dr. Michael Bemb, "Effects of Vascular Restriction on Muscular Function During Dynamic Exercise"

Zoology II, Room 5930

Chaired by Dr. Don Wilson

- Fernando Alonso, with Dr. Barbara Safiejko-Mroczka, "The Effects of Nicotine on Gingival Wound Healing"
Jeffrey McBride, with Dr. Barbara Safiejko-Mroczka, "Potential Molecular Targets of Short Chain Fatty Acids on Human Gingival Fibroblasts"
Scott Melson, with Dr. Barbara Safiejko-Mroczka, "The Effect of Cotinine on Motility, Migration, and Proliferation of Gingival Fibroblasts in vitro"
Kristin Sander, with Dr. Regina Sullivan, "Ontogenic comparison of the Odor Preference & Odor Aversion Learning at the Piriform Cortex in Rat Pups"
Shilpa Verma, with Dr. Regina Sullivan, "Ontogeny of Learned Fear Expression in Infant Rats: Amygdala and Corticosterone"

Session II, 10:15-11:45

Zoology III, Director's Conference Room,

Chaired by Dr. Barbara Safiejko-Mroccka

- Florence Deunk Garman, with Dr. Rosemary Knapp, "Distribution of Neurons Containing Arginine Vasotocin in Male and Female Sunfish"
- Yihao Jiang, with Dr. Han Wang, "Regulation of cry2a gene expression by CLK, BMAL and PER (period protein) in Zebrafish"
- Sarah Kern, with Dr. Ingo Schlupp, "Feeding Competition Between Surface and Cave Mollies (*Poecilia mexicana*)"
- Melissa Musser, with Dr. David McCauley, "Development of Trunk Neural Crest in the Sea Lamprey"
- Edward Nguyen, with Dr. Ari Berkowitz, "Motor Pattern Blends of Scratching and Swimming in the Turtle Spinal Cord"
- Ryan Rorie, with Dr. Han Wang, "Identification and Expression of Nocturnin in the Zebrafish (*Danio rerio*)"

Anthropology, Observation Deck

Chaired by Dr. Karl Rambo

- Helena Cohen, with Dr. Misha Klein, "Growing Up Jewish and Female in the Midwest"
- Missy Daniels, with Dr. Patricia Gilman, "Obsidian Analysis At Powers' Ranch"
- James Eldridge, with Dr. Misha Klein, "Re:Definition, The Culture and Meaning of Graffiti in Oklahoma"
- Jensen Mecca, with Dr. Peter Cahn, "Abrahamic Higher Power Concepts"

Engineering II, Outreach Room

Chaired by Dr. Matt Nollert

- Bryce Ballard, with Dr. Chandra Rai, "Quantitative Mineralogy Analysis of Reservoir Rocks Through Fourier Transform Infrared Spectroscopy"
- James Carmer, with Dr. Dimitrios Papavassiliou, "Heat Transfer in Carbon Nanotube Composites"
- T. Gregory Easley, with Dr. Richard Sigal, "Thermogravimetric Analysis of Shale Gas Reservoir Samples"
- Linden Hefflin and Carrie Street, with Dr. Edgar O'Rear, "Computational Fluid Dynamics Investigation of Blood Flow Through Renal Artery Stenosis"

Dance, Art, Room 1350

Chaired by Dr. Susan Caldwell

- Brooke Cavanagh Benton, Jacquelyne Boe, Yoonjung Choi with Dr. Austin Hartel, "All the Lame People Walk"
- Brooke Benton, Jacquelyne Boe, Yoonjung Choi with Dr. Austin Hartel, "Conception"
- Stephanie Orr, Kalin Morrow, Xavier Garcia, Diana Herrera, and Nicole Padilla, with Dr. Steve Brule, "Unknown at ThisTime"
- Carolyn Rossow, with Dr. Todd Stewart, "Who's Throwing Rocks at Daddy?"
- Allison Truax, with Dr. Jeremy Lindberg, "On the Edge of Black and White"

Music, Room 2107

Chaired by Dr. Randy Lewis

- Jason Busniewski, with Dr. Sarah Reichardt, "Negotiation of Musical Identity in Smetana's Ma vlast"
- Wade DeJager, with Dr. Amanda Minks, "Harp and Lyre for Hire: Culture and Career in the Christian Music Industry"
- Christopher Krycho, with Dr. Sarah Reichardt, "Modal Composition in the 21st Century: *Modal Suite for Modern Trio*"
- Candice Stack, with Dr. Amanda Minks, "Let's Get Ready to Rumble: The Effects of Music in the Athletic Arena"

Europe, Room 2910,

Chaired by Dr. Margaret Ellis

- Mykaila Foley, with Dr. Mitchell Smith, "Scotland: The Movement for Independence"
- Lindsay Holmes, with Dr. Mitchell Smith, "Consumerism in Postwar Italy"
- Shannon Kay, with Dr. Mitchell Smith, "The Role of the Catholic Church in the Holocaust"
- Sarah Steece, with Dr. Suzette Grillot, "Political Attitudes and National Identification Expressed in German Literature"

Botany, Microbiology, Room 3910 A

Chaired by Dr. David Nagle

- Fatema Chowdhury, with Dr. Tyrrell Conway, "Hierarchy of Nitrate Reductases in *Escherichia coli*"
- Cherilyn Ewert, with Dr. Bradley Stevenson, "Characterization of an Epibiotic Bacterium which Forms an Attached Symbiosis with *Anabaena* sp SSM-00"

James Matthew Jones, with Dr. Jia Li, "Functional Analysis of Leucine-Rich Repeat Receptor-Like Kinase (LRR-RLK) Subfamily IV in *Arabidopsis thaliana*"

Tina Lee, with Dr. Jia Li, "Functional Analysis of LRR-RLK subfamily XIV in *Arabidopsis thaliana* by T-DNA Insertion and SDM"

Huyen-Tran (Cecilia) Nguyen, Sean Summers with Dr. Tyrrell Conway, "Global Transcriptional Regulation of Metabolic Processes by ppGpp in *Escherichia coli*"

CEES II, Room 3910 B

Chaired by Dr. Kyran Mish

- Amanda Adams, with Dr. Amy Cerato, "Sulfate Induced Heave As A Result of Lime Stabilization"
- Russell Buhler, with Dr. Amy Cerato, "Stabilization of Oklahoma Expansive Soils Using Lime and Class C Fly Ash"
- Steven Rice, with Dr. Mark Nanny, "Humate-Enhanced Remediation of Crude Oil Contaminated Surface Soil"
- Rory Victor, with Dr. Amy Cerato, "Vibration Effects (Dynamic Loading) on Helical Anchors"

Education Issues, Room 4140

Chaired by Dr. Susan Laird

- Kwame J. Agyemang, with Dr. Gerald Gurney, "Academic Reform in College Athletics"
- Richard Thomas Hornbeek, with Dr. Donna Nelson, "Do Our Science Programs Inspire Students to Enter or Leave Science? A Look at the Data"
- Katherine Martin, with Dr. Donna Nelson, "The Demographics of Biological Sciences Faculty at the 'Top 100' Research Universities"
- Jonathan McFadden, with Dr. Aparna Mitra, "Correspondence Testing of Racial Discrimination in Oklahoma Labor Markets"
- Amanda Yuen, with Dr. Joyce Brandes, "Response to Explicit Research-Based Literacy Interventions with Physical Activity"

Linguistics, Room 5600

Chaired by Dr. Teresa Bell

- Justin Dvorak, with Dr. Dylan Herrick, "Human Ocular Anatomy and Its Implications for Color Words: A Cross-Linguistic Survey"
- Tim Graf, with Dr. Dylan Herrick, "Phonological Analysis of Nonsense Utterances"
- Ken Oswald, with Dr. Stephen Ellis, "Linguistic Evolution"
- Chase Russell, with Dr. Dylan Herrick, "Issues in Bible Translation"
- David Shook, with Dr. Dylan Herrick, "A Suprasegmental Analysis of English-language Question Jokes"
- Lauren Titus, with Dr. Marcia Haag, "Deferral of Authority in Storytelling and Myths: Indicator of Cultural Weight?"
- Raychel Winstead, with Dr. Dylan Herrick, "Hello, Handsome!": Examining Sex and Pitch"

Chemistry II, Room 5720

Chaired by Dr. Robert Cichewicz

- Brett Anderson, with Dr. Robert P. Houser, "Reduction of Copper (II) By a Thioether: Relevance to the Beta-Amyloid Peptide (AB) of Alzheimer's Disease"
- Sini Babu, with Dr. Ann West, "Expression and Purification of the Response Regulator Protein SSK1 from the Opportunistic Human Pathogenic Yeast *Candida albicans*"
- Jay Doyle, with Dr. Paul Cook, "Spectroscopic Physical Characteristics of Saccharopine Reductase"
- William Harrison, with Dr. Charles Rice, "Suspension of Metallic Nanoclusters in Acrylamide Gels"
- Nicholas Huffmaster, with Dr. Helen Zgureskaya, "Site-directed Mutagenesis of MacA, the Functional Subunit of Drug Efflux Transporter MacAB"
- Amanda Ward, with Dr. Ann West, "Phosphorelay Signaling Protein SSK1 in Yeast *Saccharomyces Cerevisiae*"

Engineering III Room 5820

Chaired By Dr. Kuang-Hua Chang

- Felix DeLaCruz, with Dr. M. C. Altan, "Effective Through-the-thickness Moisture Diffusivity Constants for Polymeric Nanocomposite Laminates"
- Lawrence Kincheloe, with Dr. Dean Hougen, "Robotics Testbed"
- Zac White, with Dr. David Miller, "Control and Operations for a Long Duration Solar Powered Mars Rover"

Zoology IV, Room 5930

Chaired by Dr. James N. Thompson, Jr.

- Amaka Ajalla, with Dr. Penny Hopkins, "Binding and Heterodimerization of Retinoid X Receptor"
- Dylan Barnes, with Dr. Donald Wilson, "Odor Habituation"
- Nora Graves, with Dr. Penny Hopkins, "Binding Affinity of RXR Isoform"
- Kitty Lee, with Dr. David Durica, "Larval Expression of an Ecdysteroid-responsive Gene, E75, in the Fiddler Crab, *Uca pugnator*"

University of Oklahoma Honors College

UNDERGRADUATE RESEARCH DAY

- Registration -

Participants and Session Chairs may pick up their registration packets at the registration table.
Please register at least 10 minutes prior to the beginning of your session.

ROOM	Director's Conference	Observation	Room 1350	Room 2107	Room 2910	Room 3910A	
Session I 8:30 am - 10:00 am	Architecture, Humanities <i>Chaired By Dr. Robert Con Davis-Undiano Dean, Honors College</i>	History <i>Chaired By Dr. David Levy Professor Emeritus History</i>	Engineering I <i>Chaired By Dr. M. C. Altan Professor Aerospace & Mechanical Eng.</i>	CEES <i>Chaired By Dr. Amy Cerato Assistant Professor Civil Eng. & Environmental Sci.</i>	Political Issues <i>Chaired by Dr. Shad Satterthwaite Assistant Professor Political Science</i>	Engineering & Meteorology <i>Chaired By Dr. James Sluss, Jr. Academic Director Electrical & Computer Engineering</i>	
	Room 3910 B	Room 4140	Room 5600	Room 5720	Room 5820	Room 5930	
	Zoology I <i>Chaired By Dr. Penny Hopkins Professor Zoology</i>	Chemistry I <i>Chaired By Dr. Ann West Professor Chemistry/Biochem</i>	Psychology <i>Chaired By Provost Nancy Mergler Sr. Vice President & Provost</i>	Physics and Astronomy <i>Chaired By Dr. Stewart Ryan Assistant Professor Physics & Astronomy</i>	Health & Medicine <i>Chaired By Dr. Carolyn Morgan Associate Dean Honors College</i>	Zoology II <i>Chaired By Dr. Don Wilson Asst Academic Chair Zoology</i>	
ROOM	Director's Conference	Observation	Outreach	Room 1350	Room 2107	Room 2910	
Session II 10:15 am - 11:45 am	Zoology III <i>Chaired By Dr. Barbara Safiejko-Mroczka Assistant Professor Zoology</i>	Anthropology <i>Chaired By Dr. Karl Rambo Assistant Professor Anthropology</i>	Engineering II <i>Chaired By Dr. Matt Nollert Associate Professor Chemical, Bio & Materials Eng</i>	Dance, Art <i>Chaired By Dr. Susan Caldwell Academic Asst Director Art</i>	Music <i>Chaired By Dr. Randy Lewis Associate Professor Honors</i>	Europe <i>Chaired By Dr. Margaret Ellis Assistant Professor Political Science</i>	
	Room 3910A	Room 3910 B	Room 4140	Room 5600	Room 5720	Room 5820	Room 5930
	Botany, Microbiology <i>Chaired By Dr. David Nagle, Jr. Associate Professor Botany/Microbiology</i>	CEES II <i>Chaired By Dr. Kyran Mish Professor Civil Eng & Environmental Sci.</i>	Education Issues <i>Chaired By Dr. Susan Laird Associate Professor Ed Leadership & Pol</i>	Linguistics <i>Chaired By Dr. Teresa Bell Assistant Professor Modern Languages & Lit.</i>	Chemistry II <i>Chaired By Dr. Robert Cichewicz Assistant Professor Chemistry/ Biochem</i>	Engineering III <i>Chaired By Dr. Kuang-Hua Chang Professor Aerospace & Mechanical Eng.</i>	Zoology IV <i>Chaired By Dr. James N. Thompson, Jr. Professor Zoology</i>

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