

SEVENTEENTH ANNUAL

SYMPOSIUM ON  
UNDERGRADUATE RESEARCH

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UNDERGRADUATE RESEARCH COUNCIL  
COLLEGE OF ARTS AND SCIENCES  
VALDOSTA STATE UNIVERSITY

APRIL 14-15, 2011  
ATRIUM AND AUDITORIUM  
BAILEY SCIENCE CENTER

## THURSDAY, APRIL 14, 2011

**6:00 P.M. – 6:45 P.M. POSTER SESSION I AND RECEPTION**

**7:00 P.M. OPENING PLENARY SESSION**

Welcome Dr. Connie Richards, Dean  
College of Arts and Sciences

Remarks Dr. Phillip Gunter  
Provost and Vice President for Academic Affairs

Invited Address on *Students in the House of the Rising Sun: Some Late Night Reflections*

Dr. Fred Downing  
Department of Philosophy and Religious Studies

Outstanding Student in Arts and Sciences: Jaimie Squardo

Presentation of Arts and Sciences Awards and CUR Certificates  
by Department Heads and Program Directors

## Friday, April 15, 2011

**9:00 A.M. – 10:30 A.M. PAPER SESSION I**

MODERATOR: DR. BARRY HOJJATIE, PHYSICS, ASTRONOMY, GEOSCIENCES, AND ENGINEERING STUDIES

Welcome Dr. Connie Richards, Dean  
College of Arts and Sciences

Remarks Dr. Gretchen Bielmyer  
Chair, Undergraduate Research Council

“Lancelot and His Crisis of Identity”

Gabriella Granda  
Honors Program

Drs. Ellen Friedrich and Ofelia Nikolova, Faculty Advisers

“Anti-Miscegenation Law and the Cherokee”

Dallas Albert Suttles  
Department of History

Dr. Mary Block, Faculty Adviser

“Development of Computational Models for Analysis of Heat Transfer in Ceramic Structures”  
Matthew Vining  
Department of Physics, Astronomy, Geosciences and Engineering Studies  
Dr. Barry Hojjatie, Faculty Adviser

“2009 Federal Spending Across the 50 States”  
Katie Wagnon  
Department of Political Science  
Dr. James LaPlant, Faculty Adviser

“Marijuana: Freedom of Choice Demonized or Peril Personified?”  
Bobby D. Golden  
Department of Sociology, Anthropology and Criminal Justice  
Dr. Wilson Huang, Faculty Adviser

**10:30 A.M. – 11:30 A.M. POSTER SESSION II AND REFRESHMENTS WITH THE PRESENTATION OF BEST POSTER AWARDS BY DEAN RICHARDS**

**11:30 A.M. – 1:00 P.M. PAPER SESSION II**

MODERATOR: DR. ARI SANTAS, PHILOSOPHY AND RELIGIOUS STUDIES

“Infanticide in the Post-Reconstruction South: Racial, Economic, and Social Causes”  
Zachary Reddick  
Department of History  
Dr. Cathy Oglesby, Faculty Adviser

“Pragmatism and Diverse Opinions”  
Alex Lawhorne  
Department of Philosophy and Religious Studies  
Dr. Ari Santas, Faculty Adviser

“Data Security in the Cloud: Challenges and Solutions”  
Kai James Tillman  
Department of Mathematics and Computer Science  
Dr. Sudip Chakraborty, Faculty Adviser

“Historic Preservation in a Digital World”  
Maria Therese Antonetti  
Department of Sociology, Anthropology, and Criminal Justice  
Dr. Melissa Rinehart, Faculty Adviser

“The Bleeding Heart of Arthuriana”  
Richard Rhett Parker  
Department of Modern and Classical Languages  
Dr. Ellen Friedrich, Faculty Adviser

**1:15 P.M. – 2:45 P.M. PAPER SESSION III**

MODERATOR: DR. MARY BLOCK, HISTORY

“Bringing Undergraduate Research to a Journal: Student Research Surviving the Peer Review Process”

Jeremy Baum and Riland Jones  
Department of Chemistry  
Dr. Thomas Manning, Faculty Adviser

“Martin Amis’s *Time’s Arrow*: Poetics of Representation in Holocaust Fiction”

Lindsey Radcliff  
Department of English  
Dr. Nathan Elliott, Faculty Adviser

“Social Information Effects on Perceived Physical Attractiveness”

Timothy R. Malone  
Department of Psychology and the Honors Program  
Drs. Larry Hilgert and Ofelia Nikolova, Faculty Advisers

“Foreign Language Education in the Elementary School”

Amy Danielle Dandron  
Department of Modern and Classical Languages  
Dr. Amy Aronson-Friedman, Faculty Adviser

**3:00 P.M. – 4:30 P.M. PAPER SESSION IV**

MODERATOR: DR. OFELIA NIKOLOVA, HONORS PROGRAM

“Gay and Lesbian Adoption: Religious, Ethical, and Legal Issues”

Jason Cole Singletary  
Department of Philosophy and Religious Studies  
Dr. Michael Stoltzfus, Faculty Adviser

“Synthesis and Pharmaceutical Testing for a New Breast Cancer Drug: First Steps in a QEP Project”

Ryenne Ogburn and Kaitlyn Ledwitch  
Department of Chemistry  
Dr. Thomas Manning, Faculty Adviser

“The Gospel for those Without, Feminism in Education”

Allan Berrien Celik  
Women’s and Gender Studies  
Dr. Tracy Woodard Meyers, Faculty Adviser

“Egypt: Politics, Constitutional Guarantees, and Rights”  
Max Colby Loudermilch and Brendan Mullin  
Department of Political Science  
Dr. Marc Pufong, Faculty Adviser

## Posters

### BIOLOGY

“A Serosurvey of Various Felid Pathogens in Bobcats in South Georgia and North Florida”  
Laura Simmons  
Dr. Mitch Lockhart, Faculty Adviser

“Analysis of Unique Features of the Seed Coat in Benghal Dayflower (*Commelina benghalensis*)”  
Jordan Cory Jones  
Dr. Russell Goddard, Faculty Adviser

“Effect of Polyethylene Glycol 4000 on *Rickettsia prowazekii*-Mediated Lysis of Mouse Fibroblasts”  
Krystal Garcia  
Dr. Jenifer Turco, Faculty Adviser

“Investigating the Structure of Microbialite Formations Found in Pavilion and Kelly Lakes”  
Andrew Williams  
Dr. James Nienow, Faculty Adviser

“Metal Accumulation from Dietary Intake in the Sea Urchin, *Strongylocentrotus droebachiensis*”  
Brittany Butler, Benjamin Harper, Tayler Jarvis, and Lawrence Rice  
Dr. Gretchen Bielmyer, Faculty Adviser

“Patterns of *Mycobacterium leprae* Infection in a Wild Population of Nine-Banded Armadillos”  
Andrew Williams  
Dr. Jim Loughry, Faculty Adviser

“The Effect of Salinity on Nickel Accumulation in Adult *Fundulus heteroclitus*”  
Renee Terns and Jonathan Brock  
Dr. Gretchen Bielmyer, Faculty Adviser

“The Effects of Salinity on Acute Nickel Toxicity to the Two Euryhaline Fish Species, *Fundulus heteroclitus* and *Kryptolebias marmoratus*”  
Cameron Morris and Thomas Carrigan  
Dr. Gretchen Bielmyer, Faculty Adviser

## CHEMISTRY

“<sup>1</sup>H NMR, <sup>13</sup>C NMR, FT-IR, UV/Vis, TOF-MS, LC-ESI-MS Analysis of the Cu-Taxol Complex”  
Stephanie Patterson, Victoria Jones, Justin Waters, Jimmy Brantley, Chad Collis, and Arjun Adhikari  
Dr. Thomas Manning, Faculty Adviser

“Chemical Education: Using an Erector Set to Build an Atomic Force Microscope”  
Bryce Carter, Jason Ausmus, Lynea Martin, and Siddhi Shah  
Dr. Thomas Manning, Faculty Adviser

“Computational Simulations of Bryostatins Nuclear Magnetic Resonance Data: Comparison to a 500 MHz Experimental Data for <sup>13</sup>C and <sup>1</sup>H in 1 and 2 Dimensions”  
Kate Fix  
Dr. Thomas Manning, Faculty Adviser

“Exfoliated Graphite Produced by Thermally Decomposing Fluorinated Graphite (C<sub>1</sub>F<sub>1</sub>)”  
Daniel Birely, Jia Qi-Li, Kelley Doe, and Stephanie Patterson  
Drs. Thomas Manning and David Penaloza, Faculty Adviser

“Impact of Easily Ionizable Elements on Calcium 422.7 nm Absorbance Line Profile”  
Justin Waters, Jimmy Brantley, Stephanie Patterson, Arjun Adhikari, Chad Collis, and Victoria Jones  
Dr. Thomas Manning, Faculty Adviser

“Lipid Membrane Permeability for Proton and Small Molecules”  
Carolyn B. Newham  
Dr. Yakov Woldman, Faculty Adviser

“Model for an Atomic Force Microscope”  
Amanda Cravey, Justin Waters, Beenish Viqar, and Jimmy Brantley  
Dr. Thomas Manning, Faculty Adviser

“Modeling Graphene Using Computational Methods”  
Kelley Doe, Chad Collis, and Dan Birely  
Dr. Thomas Manning, Faculty Adviser

“Photocurrent Production of Surface-Modified Titanium Dioxide Films”  
Jonathan Lamar Davis  
Dr. Linda de la Garza, Faculty Adviser

“Producing Silver Nanoparticles by Heating Silver Nitrate-Glucose Solutions”  
Sonal Desai, Carissa Lannon, and Ryenne Ogburn  
Dr. Thomas Manning, Faculty Adviser

“Science Education: Correlating Physical, Chemical and Biological Parameters in a 24 Hour Experiment”  
Charles Watts, Chris Rice, Meredith Holton, Trevor Davis, Ujwal Patel, and Chris Perry  
Dr. Thomas Manning, Faculty Adviser

“Science Education: Identifying Fifty Organisms in a Caribbean Marine Environment”  
Josh Salter, Ashley Barnes, Nikki Katzev, Ashlee Johnson, and Rico Roberts  
Dr. Thomas Manning, Faculty Adviser

“Synthesis of Boronic Esters on Silica, Molecular Sieves, and Anhydrous Sodium Sulfate”

Vidushi Gupta and Zach Capland

Dr. John Barbas, Faculty Adviser

“Synthesis of Chiral Imines and Amines on Silica”

Antonija Tangar and Siddhi Shah

Dr. John Barbas, Faculty Adviser

“Synthesis of Graphene from Graphite Intercalated Compounds”

Maheera Farsi, Rebecca Mckinnon, Daniel Nde, and Chad Collis

Drs. Thomas Manning and David Penaloza, Faculty Advisers

“Synthesis of Novel 3-Dimensional Metal Organic Framework Materials for Hydrogen Storage”

Ashley A. Conaway and Victoria D. Jones

Dr. Tolulope Salami, Faculty Adviser

“Synthesis of Silver Nanoparticles Using Thermal Method”

Tek Kim, Antonija Tangar, Kaitlyn Ledwitch, and Victoria Jones

Dr. Thomas Manning, Faculty Adviser

“The Search for Natural Products and Pesticides: Use of a BAC to Study Environmentally and Medically

Significant Species in Florida Bay”

Kaitlyn Ledwitch, Ryenne Ogburn, Tek Kim, Audrey Dowis, Darius Walker, John Harrell, Tim Feuser, Joseph Etheridge,

Vidushi Gupta, Natalie S. Jagroo, and Kellie A. Vickery

Dr. Thomas Manning, Faculty Adviser

“Titrations and UV/Vis Spectroscopy to Understand Marine Sediment”

Kaitlyn Ledwitch, Bobby Ifeobu, Justin Waters, Walker Johnson, Ansley Thompson, Annsley Matthews,

Joey Krull, and Daniel Nde

Dr. Thomas Manning, Faculty Adviser

## HONORS

“Border Burdens: The Illegal Immigration Issue”

Jennifer Rose Stakich

Drs. Donna Sewell and Ofelia Nikolova, Faculty Advisers

“Flooding in Pakistan”

Cassie L. Taylor

Drs. Mark Groszos and Ofelia Nikolova, Faculty Advisers

“Genetic Enhancement of Human Memory and Cognition”

Chelsie Norton

Drs. Dennis Bogoyo and Ofelia Nikolova, Faculty Advisers

“Increasing the Number of Minorities in Honors Education”

Erica L. Garcia

Dr. Ofelia Nikolova, Faculty Adviser

“Liberation Movements”  
Adrenis Hooks  
Drs. Jim Peterson and Ofelia Nikolova, Faculty Advisers

“Pollution and its Effects on Chinese Citizens and Food Production”  
David B. Demeritt and Tanner T. Blue  
Dr. Ofelia Nikolova, Faculty Adviser

“Study Abroad Opportunities”  
Amy Danielle Dandron  
Dr. Ofelia Nikolova, Faculty Adviser

“Women and the Glass Ceiling in the Media Industry”  
Helen Burkett  
Dr. Ofelia Nikolova, Faculty Adviser

#### **MODERN AND CLASSICAL LANGUAGES**

“The Pursuit of Citizenship”  
Mandela E. Littleton  
Dr. Miryam Espinosa-Dulanto, Faculty Adviser

“The Sound of Arthuriana”  
Christian Hope Carter  
Dr. Ellen Friedrich, Faculty Adviser

#### **PHILOSOPHY AND RELIGIOUS STUDIES**

“A Brief Historical Account of the Dominican Republic”  
Nevin Shennett  
Dr. Lavonna Lovern, Faculty Adviser

“Blessings Behind Bars: Examining the Role of Religion in Prison”  
Amanda Jayne Owens and Alison McKensie Vickers  
Dr. Michael Stoltzfus, Faculty Adviser

“Existentialism in Part One of *Notes from the Underground*”  
Zackary Hugh Staland  
Dr. Lavonna Lovern, Faculty Adviser

“How the Pandemic of the Fall Still Resides Today”  
Taylor Dayne Naros  
Drs. Michael Stoltzfus and Christine James, Faculty Advisers

“Moon Time: Lunaception and the Effects of Artificial Lighting”

Victoria King

Dr. Lavonna Lovern, Faculty Adviser

“Tools of War”

Brandi Steedley

Dr. Lavonna Lovern, Faculty Adviser

“Towards a Theory of Animal Rights Civil Disobedience”

Amanda Jayne Owens

Dr. Ari Santas, Faculty Adviser

### **PHYSICS, ASTRONOMY, GEOSCIENCES, AND ENGINEERING STUDIES**

“3-D Printing: Rapid Prototyping in the Manufacturing Industry”

T. Brayden Martin and J. Scott Barron

Dr. Barry Hojjatie, Faculty Adviser

“A Study of the Change in Forest Cover in Georgia North of Fall Line”

Seth Knowles Novak

Dr. Paul Vincent, Faculty Adviser

“An Analysis of Freshman Attitudes Towards the Study of the Geosciences”

Ashley Cobb

Dr. Paul Vincent, Faculty Adviser

“Application of 3-D Prototyping in Engineering and Dentistry”

William Bartholomew

Dr. Barry Hojjatie, Faculty Adviser

“Characterization of Damaged Zone in Biological Tissue by Ultrasound”

Kojo Dadzie

Dr. Hasson Tavossi, Faculty Adviser

“Cholera in Haiti: Consequences of the 2010 Earthquake”

Courtney DeCoster

Dr. Michael Noll, Faculty Adviser

“Cotton Yields Dependent on Soil Variables”

John A. Phillips

Dr. Paul Vincent, Faculty Adviser

“Diversion of Vychegda and Pechora Rivers in Russia”

Grigory Kashkin

Dr. Donald Thieme, Faculty Adviser

“Economical Design Improvement to Make Poultry Windrowing More Efficient”  
Matthew Rewis  
Dr. Barry Hojjatie, Faculty Adviser

“GIS Analysis of Surficial Groundwater Withdrawal Features in the Brunswick, Georgia, Area”  
Keri E. Long  
Dr. Mark Groszos, Faculty Adviser

“Geochemical and Petrographic Analysis of Several Felsic Gneisses in the Mulberry Rock Area”  
Adam Ricky Aspinwall  
Dr. Mark Groszos, Faculty Adviser

“GPR Investigations of Buried Karst Features Along the Withlacoochee River”  
Jesse Haag  
Dr. Can Denizman, Faculty Adviser

“Identification of Unmarked Graves, Sunset Hill Cemetery”  
Jason Giddens  
Dr. Donald Thieme, Faculty Adviser

“Petrographic, Geochemical, and Structural Analysis of the Keithsburg Facies within the  
LaFarge Rock Quarry, Ball Ground, Georgia”  
Chris Lowe  
Dr. Mark Groszos, Faculty Adviser

“Short Cores in Mission Lake, Moody Air Force Base”  
Michael Burton  
Dr. Donald Thieme, Faculty Adviser

“The Deepwater Horizon Oil Spill”  
Ivy Maria Still  
Dr. Michael Noll, Faculty Adviser

“Trends in Maximum and Minimum Temperature Extremes in Georgia from 1905 to 2000”  
Charles Thomas  
Dr. Jason Allard, Faculty Adviser

## **POLITICAL SCIENCE**

“The Effects of Economic Indicators on Voter Turnout”  
Josh Stubblefield  
Dr. James LaPlant, Faculty Adviser

“The Factors that Predict Democratization Across the Globe”  
Bruce George  
Dr. James LaPlant, Faculty Adviser

## **UNDERGRADUATE RESEARCH COUNCIL**

The Undergraduate Research Council of the College of Arts and Sciences at Valdosta State University was organized Fall Quarter 1994. Membership includes one faculty representative from each of the 10 departments of Arts and Sciences, a representative of African American Studies, General Studies, Women's and Gender Studies, the Honors Program, and a liaison from the National Council on Undergraduate Research. The Council is charged with promoting undergraduate students' interest in research, with seeking ways to promote undergraduate students' involvement in research activities, and with helping faculty identify opportunities to involve undergraduates in research.

## **COUNCIL MEMBERS 2010-2011**

### **DEPARTMENTS:**

Dr. Gretchen Bielmyer, Biology, Chair  
Dr. Yakov Woldman, Chemistry  
Dr. Nathan Elliott, English  
Dr. Mary Block, History  
Dr. Jemal Mohammed-Awel, Mathematics and Computer Science  
Dr. Ericka Parra, Modern and Classical Languages  
Dr. Ari Santas, Philosophy and Religious Studies  
Dr. Barry Hojjatie, Physics, Astronomy, and Geosciences, Chair  
Dr. Marc Pufong, Political Science  
Dr. Mark George, Sociology, Anthropology, and Criminal Justice

### **PROGRAMS:**

Dr. Tom Aiello, African American Studies  
Dr. Ofelia Nikolova, Honors  
Dr. Miriam Espinosa-Dulanto, Women's and Gender Studies

### **LIAISON TO THE NATIONAL COUNCIL ON UNDERGRADUATE RESEARCH:**

Dr. James LaPlant, Political Science

### **COLLEGE OF ARTS AND SCIENCES:**

Dr. Connie Richards, Dean  
Dr. James LaPlant, Associate Dean

The Undergraduate Research Council would like to extend special thanks to Mr. Mark Mears for his generous assistance in organizing the symposium.