

SIXTEENTH ANNUAL

SYMPOSIUM ON
UNDERGRADUATE RESEARCH



UNDERGRADUATE RESEARCH COUNCIL
COLLEGE OF ARTS AND SCIENCES
VALDOSTA STATE UNIVERSITY

APRIL 15-16, 2010
ATRIUM AND AUDITORIUM
BAILEY SCIENCE CENTER

THURSDAY, APRIL 15, 2010

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
Interim Provost and Vice President for Academic Affairs

Invited Address on *The SARA REU Program: What You Learn About Your Students Late at Night*

Dr. Kenneth S. Rumstay
Department of Physics, Astronomy and Geosciences

Outstanding Student in Arts and Sciences: Jay Prosser

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

Friday, April 16, 2010

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

MODERATOR: DR. YAKOV WOLDMAN, CHEMISTRY

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

Remarks Dr. Mark George
Chair, Council on Undergraduate Research

“The Sublime in *Frankenstein*”
Emily Jane Conheady
Department of English
Dr. Nathan Elliott, Faculty Adviser

“Eliminating the Unfit: America’s Crusade to Forge a Master Race”
W. Jake Newsome
Department of History
Dr. Chris Meyers, Faculty Adviser

“Combining Space Exploration, Nanotechnology and
Science Fiction: Nanosatellites”
Amanda E. Frederiksen, Britney Lane, Mallory Brackin and Tasha Gaylor
Department of Chemistry
Dr. Thomas Manning, Faculty Adviser

“2008 Georgia Senate Runoff: Predictable?”
Tyler Reber Moore
Department of Political Science
Dr. James LaPlant, Faculty Adviser

“Educational Tools: A Vertical Component Seismometer”
Christopher Mirabzadeh
Department of Physics, Astronomy and Geosciences
Dr. Francis Flaherty, Faculty Adviser

10:30 – 11:30 A.M. POSTER SESSION II AND REFRESHMENTS

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

MODERATOR: DR. ARI SANTAS, PHILOSOPHY AND RELIGIOUS STUDIES

“A Comparative Study of VSU’s CIS Curriculum”
Johnna M. Lee
Department of Mathematics and Computer Science
Dr. Chunlei Liu, Faculty Adviser

“Old Dogs and New Tricks: The Constitution and *The Leviathan*”
Timothy R. Malone
Department of Philosophy and Religious Studies
Dr. Ari Santas, Faculty Adviser

“Uncovering the Truth: Exploring University Sexual Assault
Policies and Prevention Programs”
Heather MacLachlan and Nakita Dziegielewski
Women’s and Gender Studies
Dr. Tracy Meyers, Faculty Adviser

“Relations Between Native Americans and European Settlers in Colonial Pennsylvania: William Penn’s Mixed
Legacy”
Phillip Benton Williams
Honors Program and Department of History
Drs. Dixie Ray Haggard and Ofelia Nikolova, Faculty Advisers

“Structure Matters: Examining the Power of Local Parties
in Statewide Elections”
William R. Flanders
Department of Political Science
Dr. Marc G. Pufong, Faculty Adviser

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

MODERATOR: DR. MARK GEORGE , SOCIOLOGY, ANTHROPOLOGY AND
CRIMINAL JUSTICE

“*Goodbye Lenin!* and the Complexities of East German Ostalgie”
Jaimie Lynn Squardo
Honors Program and Department of History
Drs. Charles Johnson and Ofelia Nikolova, Faculty Advisers

“In Search of Conditional Probability Density Functions”
Remigio Padilla-Hernandez
Department of Mathematics and Computer Science
Drs. Andreas Lazari and Jemal Mohammed-Awel, Faculty Advisers

“‘It Belongs in a Museum!’ The Practice of Archaeological Colonization”
Danielle Costello
Department of Philosophy and Religious Studies
Dr. Lavonna Lovern, Faculty Adviser

“The Representation of Pre-Conflict and Civil War Republicans in
Modern Spanish Cinema”
Sydney Rose Earley
Department of Modern and Classical Languages
Dr. Ellen L. Friedrich, Faculty Adviser

3:00 – 4:30 P.M. PAPER SESSION IV

MODERATOR: DR. MARY BLOCK, HISTORY

“Proof of Manhood: Dueling in the 19th Century American South”
V. Jake Graffeo
Department of History
Dr. Mary Block, Faculty Adviser

“Photochemistry at 100,000 feet”
Reinhold Hetzel, Christopher Ryan Shipman, and Kyle Edwards
Department of Chemistry
Dr. Thomas Manning, Faculty Adviser

“The Christian Colonized Congo: Postcolonial Narration in
Kingsolver’s *The Poisonwood Bible*”

Andrea Story

Department of English

Dr. Michael Davey, Faculty Adviser

“Deaf Culture: Feelings of Competence and Self Worth”

Adam Valdez

Department of Sociology, Anthropology, and Criminal Justice

Dr. Matthew Richard, Faculty Adviser

Posters

BIOLOGY

“Agricultural Significance of Seed Dispersal by Migratory Doves”

Taylor Ann Jarvis

Dr. Russell Goddard, Faculty Adviser

“College Students’ Misconceptions of Biological Evolution”

Alan Clinton McGough

Dr. Leslie S. Jones, Faculty Adviser

“Effects of Salinity on Nickel Toxicity to *Kryptolebias marmoratus*”

Carri DeCarlo

Dr. Gretchen Bielmyer, Faculty Adviser

“Floristic Inventory of Three Natural Areas in Tift, Irwin and
Berrien Counties, Georgia”

James R. Sanderson II

Dr. Richard Carter, Faculty Adviser

“Searching for the Presence of Aquaporin Genes in the
Extreme Alga *Stichococcus bacillaris*”

Chelsea Marian Connolly

Drs. Archana Bhasin and James Nienow, Faculty Advisers

“The Effects of N-Ethyl-N-Nitrosourea (ENU) on Embryo
Production of *Kryptolebias marmoratus*”

Ginger L. Moore and Melissa E. Ard

Dr. Brian Ring, Faculty Adviser

“Xenorhabdus bovienii subsp. Jolietii Antimicrobial
Activity and Mutagenesis”

Vidushi Gupta

Dr. Archana Bhasin, Faculty Adviser

CHEMISTRY

“A 48 Hour Marine Science Exercise: An Up-Close, Personal
and Exhausting Exercise with the Ocean”

Mallory P. Brackin, Chelsea M. Connolly, Amanda L. Cravey,
Christina M. Dyson, Kyle Edwards, Timothy W. Feuser, Katlyn M. Fix,
Jamie P. Fulp, Sonya R. Fulp, Rupa R. Gokal, Rashunda J. Jones,
Carissa R. Lannon, Kala L. Miller, Stephanie N. Patterson,
Christopher A. Pyles, and Tiffany N. Stewart

Dr. Thomas Manning, Faculty Adviser

“Applications of Layered Materials as Sensors: A Simple Sensor Technology”

Victoria D. Jones, Siddhi Shah, Erica N. Franklin, and Daniel-Anicet Nde

Dr. Tolulope O. Salami, Faculty Adviser

“Aza-Fullerenes, Nanotubes and Graphene; Nomenclature and Synthesis”

Reinhold Hetzel

Dr. Thomas Manning, Faculty Adviser

“Ferric-Stearic Complexes: A New Group of Ionic Liquids”

Nashada L. Archer, Kyle Edwards, Rupa R. Gokal, Amanda R. Hopkins, Ashley B. January, Rashunda J. Jones, and
Jesse A. Ogden

Dr. Thomas Manning, Faculty Adviser

“Green Chemistry Approach to Marine Natural Products Synthesis”

Carrisa Lannon, Stephanie Evans, Christina Dyson and Audrey Lee Dowis

Dr. Thomas Manning, Faculty Adviser

“Laser Light Scattering and Electron Microscopy Studies of Hemoglobin Aggregates and ‘Nanobacteria’”

Jeramy Baum and Riland L. Jones

Dr. Thomas Manning, Faculty Adviser

“Nomenclature System for Planar, Spherical and Tubular Structures”

Rupa Gokal

Dr. Thomas Manning, Faculty Adviser

“Periodic Puzzles: An International Science Education Activity”

Kaylie Sutter

Dr. Thomas Manning, Faculty Adviser

“Synthesis, Characterization, Thermal Study and Crystal Structure of a New Layered Alkaline Earth Metal Sulfonate
Sr[C₂H₄(SO₃)₂]:VALD-1”

Stephanie N. Patterson and Victoria D. Jones

Dr. Tolulope O. Salami, Faculty Adviser

HONORS

“Capital Punishment and the Roman Catholic Church”

Helen Burkett

Drs. Michael Stoltzfus and Ofelia Nikolova, Faculty Advisers

“Evolution in the States: Teaching Through the Controversy”

Chelsie Norton

Drs. Donna Sewell and Ofelia Nikolova, Faculty Advisers

“Expressions of Beauty Across Cultures”

Bianca LaTorre Apuya, Danielle McNeil, and Shelley Smith

Dr. Ofelia Nikolova, Faculty Adviser

“Family Life: A Contrast of Greek and American Culture”

Jacob Jones, Katlyn Fix, Alex Perryman, and Gina-Marie Guyette

Dr. Ofelia Nikolova, Faculty Adviser

“Oktoberfest”

Joshua Adam Vaughn, Jonathan Ross, Steven Beteag,

and Zachary Garrett Johnson

Dr. Ofelia Nikolova, Faculty Adviser

“Paleobiology, MicroRNA and Breast Cancer Research: Why the Study of Nematode Worms and the Cambrian
Explosion Might Help Unravel the Mystery of Breast Cancer”

Stephana Kathryn Grant

Drs. Michael E. Smith and Ofelia Nikolova, Faculty Advisers

“The Celebration of *Dia de los Muertos*”

Rayhanatou Barry, Erin Jenell Johnson, Lauren Linahan, and Jessica Tucker

Dr. Ofelia Nikolova, Faculty Adviser

“The Impact of an Intergenerational Video Game Experience on
Young Adults’ Perceptions of Aging and Older Adults”

Meagan Michelle Wood

Drs. Ofelia Nikolova and Steven J. Kohn, Faculty Advisers

“The Modernization of NASCAR”
Audrey Lee Dowis
Drs. Donna Sewell and Ofelia Nikolova, Faculty Advisers

MATHEMATICS AND COMPUTER SCIENCE

“A Comparative Study of Vulnerabilities in Different Operating Systems”
Garrett Myers and Andrew MacLaren
Dr. Sudip Chakraborty, Faculty Adviser

“Battlefield Simulation: Integration of ASP.NET, Java,
and MySQL Using Design Patterns”
Joshua A. Saunders
Dr. Dave Gibson, Faculty Adviser

PHILOSOPHY AND RELIGIOUS STUDIES

“Us vs. Them: Subject/Object Dualism and the Use of Animals
in Scientific Testing”
Justin DeVane
Dr. Ari Santas, Faculty Adviser

“What Qualifies as a Cult? A Social and Cultural Survey”
Benjamin Scott
Dr. Lavonna Lovern, Faculty Adviser

PHYSICS, ASTRONOMY, GEOSCIENCES AND ENGINEERING STUDIES

“A Statistical Analysis of Monthly Temperature Data from Automated
Weather Stations and National Weather Service Cooperative Observer
Network Weather Stations in Georgia”
Jeromy McElwaney
Dr. Jason Allard, Faculty Adviser

“Anthropogenic Alteration of Streamflow Through Introduction
of Treated Wastewater Effluent”
Michael Robert Johnson
Dr. Judith Grable, Faculty Adviser

“Dating Remains of *Epicyon Haydeni* Using Rare Earth Element Analysis”
Christina West
Dr. Mark Groszos, Faculty Adviser

“Development of a 3-D Finite Element Model for Analysis of Deformation
in Container Board Materials”
Carlos E. Hearn
Dr. Barry Hojjatie, Faculty Adviser

“Glacial Wasting Resulting from Climatic Extremes in the Early Part
of the Twentieth Century (1900-1940)”
Melissa Ann Royal
Dr. Edward Chatelain, Faculty Adviser

“Opportunities in Chemical Engineering in the South Georgia/North Florida Areas: Producing Biodiesel from Algae”
John Croy
Dr. Barry Hojjatie, Faculty Adviser

“Pathogens Today, Pandemics Tomorrow: A Modern Study
of Disease Diffusion”
Clint Thompson
Dr. Michael G. Noll, Faculty Adviser

“Photometry of Peculiar Type Ia Supernova SN2005hk”
Jessica C. Carter
Dr. Martha Leake, Faculty Adviser

“Possible Wind Farm Off the Coast of North Carolina”
Christina Page Blackley
Dr. Jason Allard, Faculty Adviser

“Sizing of Inhomogeneity in Poroelastic Composite Materials
by Ultrasonic Waves”
Christopher A. Mirabzadeh
Dr. Hasson Tavossi, Faculty Adviser

“Structural Analysis of Joints in Limestone Exposures at Florida
Caverns State Park, Marianna, Florida”
Eli Lanier Bundrick
Dr. Mark Groszos, Faculty Adviser

“The Climatic Impact of Jet Airplane Condensation Trails (Contrails)
in the Northeast United States”
Charles Allan Hall
Dr. Jason Allard, Faculty Adviser

“Thermal Conductivity: Calculating the Thermal Conductivity of a Polycrystalline Diamond Heat Spreader”
Anthony Jones and Keith Dixon
Drs. Barry Hojjatie (VSU) and Wei Qui (Valdosta Optics Inc.),
Faculty Advisers

“Thermal Tempering of Ceramic Materials: Numerical Solutions by Laplace Transformation Using MATLAB”
Anthony Jones
Drs. Barry Hojjatie and Jemal Mohammed-Awel, Faculty Advisers

“Trace Mineral Composition of the Cochran Pegmatite, Ball Ground, Georgia”
Richard R. Arnett
Dr. Mark Groszos, Faculty Adviser

POLITICAL SCIENCE

“Exploring Teen Pregnancy Rates in the United States”
Sean Christopher Taulman
Dr. James LaPlant, Faculty Adviser

“High School Graduation Rates in the United States”
Amanda Owens
Dr. James LaPlant, Faculty Adviser

“North Carolina: Prototype for Progressivism in the South”
Keith Edward Lee
Dr. James LaPlant, Faculty Adviser

SOCIOLOGY, ANTHROPOLOGY AND CRIMINAL JUSTICE

“A Comparison of the English and the United States Juvenile Justice System”

Bryan Andrew Reno

Dr. Shani Gray, Faculty Adviser

“Decriminalizing Drugs in America”

Ednel Saint Jean

Dr. Shani Gray, 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 2009-2010

DEPARTMENTS:

Dr. Mark George, Sociology, Anthropology, and Criminal Justice, Chair

Dr. Gretchen Bielmyer, Biology

Dr. Yakov Woldman, Chemistry

Dr. Nathan Elliott, English

Dr. Mary Block, History

Dr. Jemal Mohammed-Awel, Mathematics and Computer Science

Dr. Randy Gladwin, Modern and Classical Languages

Dr. Ari Santas, Philosophy and Religious Studies

Dr. Barry Hojjatie, Physics, Astronomy, and Geosciences, Chair

Dr. Marc Pufong, Political Science

PROGRAMS:

Dr. Calvin Walker, African American Studies

Ms. Marsha Walden, General Studies

Dr. Ofelia Nikolova, Honors

Dr. Kathryn Schmidt, Women’s and Gender Studies

LIAISONS 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.