

The first author is listed. For a full list of authors and abstracts, go to www.juniata.edu/academics/research/symposium.html

Day long fun...

► **All day, student art and demonstrations, von Liebig lobby.**

► **11:30 a.m.–12:30 p.m., “A Possible Route to Cheaper Solar Electricity,” Josef Michl, Professor of Chemistry from the University of Colorado, Boulder, BAC A100.**



► **12:00–1:00 p.m., Music, Dance, & More,** our PVC Pipe Ensemble will be performing “Limbo” and other favorites. Each of the ensembles exhibits a direct tie-in to our academic programs. *Detwiler Plaza, Rain Location: Rosenberger Auditorium.*

► **7:30 p.m., Juniata Theatre: Delicious/Vicious** will explore the theme of passion, both in its dark manifestations, and lighter ones. *Suzanne von Liebig Theatre.* Shows will run from April 21-24.

Wednesday, April 21

“Mountain Day of the Mind”



A day-long celebration of student research, project development and performances.

Presentations

8:00 a.m.

von Liebig 1022

Gabriel Castro — Risk and Returns: An Analysis on the Performance of Student-Managed Investment Funds
Steven Liong — Financial Condition of Private Colleges
Andrew Steffen — Social Selling Methods

Neff Lecture Hall

John O'Donnell — Regulators of Ribonucleotide Reductase Inhibit Ty1 Transposition in *Saccharomyces cerevisiae*.
Erin Satterthwaite — Does Fish Predation Affect Metabolic Scaling in The Amphipod *Gammarus minus* Through Its Effects on Growth Rate and Carapace Mass?
Laura Rupprecht — A Putative Diguanylate Cyclase in *Streptomyces* and Its Link to Biofilm Formation

Brumbaugh Academic Center C109

Amanda Broadwell — Planting the Seed: Exploring the Possibility of Organic Farming at Juniata
Franklin Hockenbrocht — Edaphology, Hardwood Trees, and the Nostalgia of the American Chestnut
Joshua O'Brien — A Sediment Analysis of The Three Dog Site, SS21, San Salvador Island, Commonwealth of the Bahamas

Brumbaugh Academic Center C116

Erica Bettwy — A Beginning to the End: The Sharpeville Massacre
Rachel Gressick — Blood for Gold: The Stories of Outlaws of the Alleghenies
Jordan McGowan — Discrimination in America as Seen Through Chicago Sports from 1975-1984

Founders Hall 309

Michael Baker — In Defense of Religious Pluralism
Michael Baker — Value Neutrality and Objectivity: Does Feminist Standpoint Epistemology Maximize Objectivity?
Ken Cherry — Life, The Universe and Everything: How God Created Evolution

Founders Hall 401

Antoinette Correia — The Eleventh Amendment: A Redux of Dual Federalism and Conditions of States' Sovereignty
Jessica Fisher — The Impact of Reaganomics on the Economy of the United States
Johnniersi Harris — A Look at the United States' Immigration Reform

9:00 a.m.

von Liebig 1022

Alexandra Irrera — Kara Walker and the Silhouette: Interpretations of Identity
Stephanie Meruelo — A Prelude to the Postmodern: Imogen Cunningham's Inventive Portrayal of Form
Brandon Wolfe — Vilifying the Villains (While Still Enjoying Nudity and Death in Public)

Neff Lecture Hall

Ryan Johnson — A Genomic Mystery: An Investigation of Two Putative c-di-GMP Metabolizing Genes with Altered Catalytic Sites in *Streptomyces coelicolor*
Kristine Karkoska — Divergence Genetics in Two Members of the *Sebastes* Species Flock
Kristie Hilliard — The Mechanism of Actin Rearrangements in Stimulated Rat Pheochromocytoma PC-12 Cells

Brumbaugh Academic Center C109

Kelly Serfling — An Ecological Assessment of Stream Health and the Impacts by Rural Land Use in Huntingdon County, Pennsylvania
Shannon Smith — Sustainable Attitudes of Incoming Freshmen
Jeffrey Thomas — Leaf Margin Analysis of Central Pennsylvania

Brumbaugh Academic Center C116

Angela Riotto — Failure: An Analysis of the Australian Penal Colony at Port Jackson
Zachary Wakefield — Justice in Hattiesburg: The Murder of Vernon Dahmer and Mississippi's Changing Racial Cultures
Michael Walsh — Uncommon Valor at Iwo Jima

Founders Hall 309

Kenneth Noga — Nietzsche and The Will To Power
David Rekoski — Fight the Power: Non-Cooperation as a Means to Just Politics

Founders Hall 401

Shelby Hodgkins — The Media's Treatment of Women Politicians
Michelle Krug — Conservative Welfare Ideology as Seen in the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)
Jessica Mauch — At What Cost, Justice?

10:00 a.m.

von Liebig 1022

Jason Fischel — Arsenic Mobilization in the Critical Zone: Oxidation by Manganese Oxides
Zachariah Page — Synthesis of Novel Fullero-Terthiophene A2 Monomers
Benjamin Sheets — Optimizing GC Separation

Neff Lecture Hall

Jonathan Borrelli — Seeking a Mechanistic Link Between Differing Growth Rates and Metabolic Scaling in the Freshwater Amphipod *Gammarus minus*
Ashton Bunce — Development of Informative Genomic Markers for a Population Genetic Study of a Threatened Marine Species
Katherine Manupipatpong — Lost and Found: Discovering Novel Genes that Misplace Chromosomes in a Filamentous Bacterium

Brumbaugh Academic Center C109

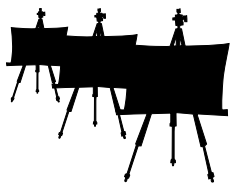
Caitlin Stormont — How We Can Help You Walk the Environmental Career Path
Talia Valencia — Bisphenol-A: Fact Versus Fiction
Arielle Webster — An Analysis of Porcupine Feeding Patterns During the Winter Season in Huntingdon County, Pennsylvania

Brumbaugh Academic Center C116

Cody A. Fulton — John Moberly: Confederate Guerilla or War Opportunist?
Jacob Gordon — Ivor Gurney: An Ending Unwritten
Jordan Yeagley — Art and Identity: The Serbian Orthodox Church and the Bosnian Genocide

Founders Hall 309

Brad Dinardo — Fabrication of Organic Photovoltaics by Spray Deposition
Kenneth Goodfellow — Temperature Dependence of Doppler Broadening for Rubidium-85 Absorption
William Houser — NASA's Mile High Rocket Competition



Founders Hall 401

Maria Naumova — How Newspapers Frame Barack Obama
Bennett Rea — Watchdogs: The Media's Increased Coverage of Political Scandals Following Watergate
Bennett Rea — The Bush Presidency in Film

2:00 p.m.

von Liebig 1022

Julia Bogue — The "Bitch" is Back: Understanding Feminine Political Leadership Through a Metaphorical Criticism of Hillary Clinton
Dustin Gee — Upper-Division College Student Perceptions of Leadership: How do upper-division college students at a small, private liberal arts institution perceive leadership?
John Huffstetler — Different Voices, Same World: The Wachowski Brothers' Directing Style Throughout "The Animatrix"

Brumbaugh Academic Center C109

Andrea Gobble — A Comparison of Cultural Views and Practices of Education between the United States and Ecuador
Patrick McShane — Ethnographic Research: Exploring Culture Through the Self

Brumbaugh Academic Center C116

Noah Denton — Arena: Developing a Flash Game
Shane Gallagher — One App Fits All
Travis Raup — Home Network Security

Brumbaugh Academic Center C225

Steven Goehring — Web-Based Interactions in a Small Publication Business
Tulia Gonzalez Flores — Family Dynamic and TV Viewing as Predictors of Behavior Problems in Preschool Children
Susanna Schober-Schaum — Interactivity on the Web

Founders Hall 309

Blake Colaianne — Transferrable Geospatial Skills in a Liberal Arts Context
Zachary Keach — Lift & Thrust: Two Great Forces That Help Us Get Around On Hovercrafts
Jordan Long — Asymmetries in the Lower Limbs of Irish Dancers

Founders Hall 401

Christopher Bender — Social Economics: An Evolutionary Perspective on Religious Aggression
Rebecca Coleman — What is Critical Thinking?
Jordan Yeagley — Capitalism, Europeanization, and Sex Trafficking in Eastern Europe

3:00 p.m.

von Liebig 1022

Alexander Loughran — Video Games: The Future of Storytelling
Tristan Reid — The Philosophy of Future Information Technology

Brumbaugh Academic Center C109

Sarah Slat — Attitudes and Perceptions of Pre-Service Teachers on Multicultural Education
Kelsey Walakovits — Genetic Testing: Do you owe it to your child?
Summer Weise — Effective Teaching Strategies That Accommodate Diverse Learners

Brumbaugh Academic Center C116

Doug Roth — Malware: History, Trends, and Best Practices
Carly Thomas — Digital Forensic Tools
Timo Volker — Introduction to Advanced Encryption Standard (AES)

Brumbaugh Academic Center C225

Malea Hetrick — Mayan Identity and Pan-Mayanism in Guatemala: Textiles
Luke Rodgers — The Missing Head of Global Politics

Founders Hall 309

Anthony Damiano — Property Rights in America
Trevor Serine — Democracy's Paradox
Allison Strausberg — Theatre as a Development Program

Founders Hall 401

Ashley Fisher — Assessing Your Organization From the Inside Out
Amidia Frederick — The Plight of the Ganges: A Metaphor of India's Struggle between Modernization and Spiritual Traditions
Kate Slider — An Exploration of Rape Myth Acceptance Among Juniata College Men

4:00 p.m.

von Liebig 1022

Matthew Baker — Biodiesel Production and Its Alternative Uses
Emily Boyd — Raystown Lake Deer Density Analysis
Amanda Broadwell — Carbon Footprint

Neff Lecture Hall

Abigail Kress — Intro to Hispanic Literature Theater Project: "El nietecito"—one hour for screening of students' performance of the play followed by discussion

Brumbaugh Academic Center C109

Kendall Markel — Slave Narratives of the West Indies
Erica Quinn — Predatory Imagery in the Poetry of Sylvia Plath
Ellen Santa Maria — In Pursuit of Truth: My Search for Divinity

Brumbaugh Academic Center C116

Sandra Gehman — Sheep; The Good, The Bad and The Ugly: Cooperation in a Predator-Prey Model
Li Kou — Distributing Profit Fairly: The Shapley Value of a Network Flow Game
Sam Williams — Beyond Evil and Odious Twins

Founders Hall 309

Timothy J. Breyer — French Integration Policy: Multiculturalism v. Universalism
Joelle Caporaso — Information Flows in Leninist Systems: A Comparison Between Perestroika and the Hundred Flowers Movement

Rosby Carr — How United States' Policy Taken During the Cold War Have Affected American-Nicaraguan Relations

Founders Hall 401

Zachariah Page — Culture from a Chemist
Lauren Richardson — Integrating Education in Northern Ireland
Yuanding Wang — Development of Real Estate Market in Chengdu

Posters

8:00 a.m.-5:00 p.m.

Library

Posters will be on display from 8:00 until 5:00. Students will be stationed at their posters at the times listed below.

8:00 a.m.

Shane Gallagher — Security Engineering Presentation
Eric Hill — Securing Information Through Hashing
Zachary Jensen — The Future of War
Travis Raup — Mutual Benefit Group
Scott Sloat — Losing Somalia: An Assessment of the United States, the United Nations and Humanitarian Intervention in the Horn of Africa

9:00 a.m.

Wenli Chen — Information Security
Brittany Gregory — Community Art in Urban Spaces
Andrew Murdock — Web Application Security
Sara Pilchman — A Fungus Among Us: A Tale of Two Feet
Doug Roth — Securing Your Home Network

10:00 a.m.

Manal Daher-Mansour — Comparing the Current Economies of Post Colonies: French vs. British
Dustin Drake — Cell Phone/PDA Security
Philip Legros — Viruses: The In's and Out's and What You Can Do About It
Sheleisha Salmon — Sexual Health in Older Adults
Ellen Santa Maria — Playing With Fire: How Customizing Human Life is our Modern-Day Pandora's Box
Jonathan Tundel — Viability Analysis of Corporate Application Whitelisting

2:00 p.m.

Martin Cech — Encryption and Decryption
Lauren Cline — Storytelling Service Learning Project
Jared Edgerton — The Dominant Strategy Equilibrium Applied to John Rawls' Original Position
Greg Kilbride — I4I – NABET
Kenneth Noga — Change In Social Attitudes In A Liberal Arts Environment
Matthias Wellmeyer — Firewalls: Why and How to Use It

3:00 p.m.

Kirk Baumgarten — Encryption and the RSA Signature
Ivan Glesk — Sharepoint Workflows in a Corporate Environment
Greg Kilbride — Mobile Phone Applications
Emily Mayernik — Comparison of Two Three-Factor Authoritarianism Scales

4:00 p.m.

Dana Butler — I4I – Digital Solution Inc. Sharepoint Project
Erica Harp — Deodorant and Dominance as Directives for Masculinity
Samantha Morgan — Male and Female Perceptions on Gender Specific Professions
Carly Thomas — Using Virtualization Technology to Implement a Testing Environment

Sill Board Room & Pheasant Lounge

Posters will be on display from 8:00 until 5:00. Students will be stationed at their posters at the times listed below.

8:00 a.m.

Natacha Bohin — Mapping the IgA-Binding Domain of an IgA-Binding Protein of Streptococcus Pyogenes
Heather Kostick — Effects of Fish Predation and Precopulatory Guarding on Clinging Behavior in the Freshwater Amphipod Gammarus minus
Allison Mitchell — Skyshine Contribution to Gamma Ray Background Between 0 and 4 MeV
Matthew Vesper — Synthesis and Characterization of Transition Metal Complexes for Asymmetric Catalysis
Mark Weir — Beware the IdeS of April: A Molecular Characterization of an Immunoglobulin-Degrading Enzyme of Streptococcus

9:00 a.m.

Austin Ankney — Muon Detection and the Correlation with Atmospheric Pressure
B. Duncan Black — Does Whole Milk or Milk Replacer Promote Better Growth in Dairy Calves?
Andrea Burton — Development of Polymorphic Microsatellite Markers in Boccaccio Rockfish from Anonymous Genomic Regions
Andrew Ickes — The Use of Model Compound, 3-Methylcatechol, to Determine How Urushiol, the Active Component in Poison Ivy, May Complex with Various Metals to Form Compounds
Andrew Melber — Characterization of the Mutant Allele rtt105: Tn3 in Saccharomyces Cerevisiae

Nathan Miller — Effects of Water Temperature and Day-Length on Nitrate Removal in a Mitigation Wetland

John Whitehead — Bioinformatics Analysis of Phosphodiesterase c-di-GMP Protein in Streptomyces Coelicolor

10:00 a.m.

Alexander Barnes — A Non-Mathematical Approach to NMR Theory
Anna Bloom — Trace Analysis of Organochlorine Pesticides in Biodiesel

Zachary Cupler — Black Walnut and Juglone Toxicity: How strong is the evidence for the paradigmatic example of allelopathy?
Molly Dendas — Patterns in the Copper Isotopic Composition of Minerals in Porphyry Copper Deposits in Southwestern United States

Alyssa Kress — Synthesis of 1-Indanone via the Base-Catalyzed Condensation Reaction of O-Phthaldialdehyde with Malonic Acid

Ceth Parker — Non-Motile Streptomyces Coelicolor GGDEF Domain Protein Expressed In Motile Escherichia Coli

Paul Patitsas — Response of Daphnia to Soaps

2:00 p.m.

Nicholas Bauer — The Biomagnetic Field and a Physical Basis for Energy Medicine

Caitlyn Bowman — Characterization of Anthracene-Based Ag(I)-Selective Fluoroionophores for Ethylene Detection Purposes

Jake Hartberger — Mercury Deposition and Morphological Effects on Salvelinus Fontinalis

Rachel Jester — The Feeding Habits of Woodpeckers around Raystown Lake

Alyssa Kress — A Preliminary Evaluation of Portable and Standoff Laser-Induced Breakdown Spectroscopy (LIBS) Units for the Identification of Hazardous Materials by First Responders

Chesney Richter — Student-Run Organic Garden

Anne Staudenmaier — Lizard Tails and Lost Eggs: Fitness Consequences of Somatic Regeneration

3:00 p.m.

Jeremy Boback — To Infinity and Beyond: Taking Images of Space

Kathleen Connolly — Synthesis of the IDES Inhibitor Z-LVG-CHN2

Quizhe Ji — Juniata College Biodiesel Project

Allison Johnson — The Effects of Human Cystatin C on the Interaction Between IdeS and IgG

Ashley Seroskie — Shell Preference of Hermit Crabs

Andrew Schuchart — Guanine 3-N-oxide Copper Complexes as Anticancer Medications?

Katie Steinour — Bioinformatics Identification of Downstream Targets of Cyclic-di-GMP in Streptomyces

4:00 p.m.

Aaron Bray — Assessment of Conceptual-Based Instruction in Introductory Physics

Matthew Fernandez — Synthesizing Copper Ligands For Hospital Imagery

Nikolai Klana — A Mutational Analysis of EAL/GGDEF Protein Encoding Genes in Streptomyces Coelicolor

KaLynn Kline — Effect of Dairy Farming on Local Stream Nitrate Levels

Cameron Stevens — Lithium Specific Fluoroionophores

Mark Weir — The Characterization of RTT105, a Regulator of Ty1 Transposition in Saccharomyces Cerevisiae

