

**SECOND ANNUAL CELEBRATION OF
STUDENT SCHOLARSHIP AND CREATIVITY
SLAVIN CENTER, PROVIDENCE COLLEGE**

APRIL 13, 2011

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relationship mechanism surveys research
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Welcome!

Thank you for joining us at Providence College's Second Annual Celebration of Student Scholarship and Creativity. More than sixty undergraduate students, all nominated by faculty from a wide range of academic disciplines, have prepared poster, laptop and other types of presentations to showcase their exciting and innovative research and creative work.

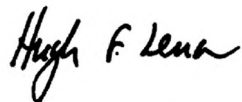
The projects of these students, supported by their faculty mentors, are exemplary because of the depth of commitment and understanding they reflect as well as the high quality of the finished product. We congratulate both the students and the faculty on their outstanding accomplishments. We hope that their enriching experiences serve as the foundation for future academic and professional endeavors.

The Celebration of Student Scholarship and Creativity is supported in part by Providence College's three year *Fostering a Culture of Student Engagement* grant from the Davis Educational Foundation. The purpose of this grant is to strengthen student engagement in learning as a means of fulfilling the College's central mission to promote, sustain and enhance academic excellence. Providence College expresses its deep gratitude to the Davis Educational Foundation for its critical partnership in this effort.

Finally, it is particularly meaningful to note that the United States House of Representatives has designated this week, the week of April 11, 2011 as *Undergraduate Research Week* in recognition of "the importance of undergraduate research and of providing research opportunities for the Nation's talented youth to cultivate innovative, creative, and enterprising young researchers, in collaboration with dedicated faculty." I am sure you will agree that our own Celebration of Student Scholarship and Creativity epitomizes the spirit and intent of this national initiative.

Congratulations to all of the participants in this year's Celebration.

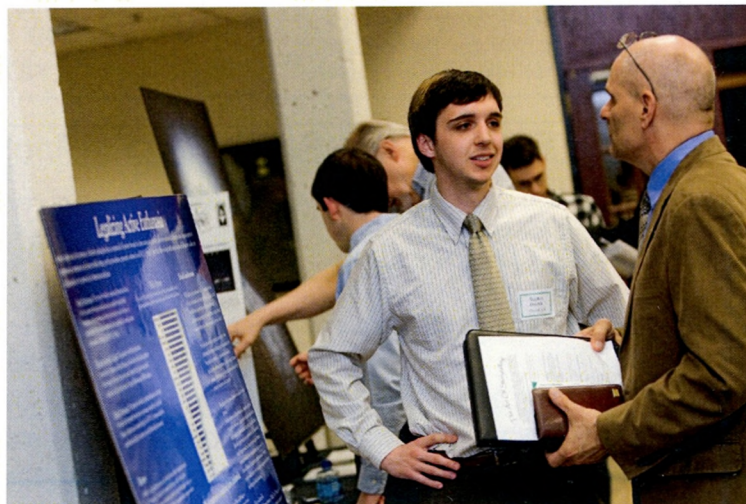
Sincerely,



Hugh Lena, Ph.D.
Provost & Senior Vice President for Academic Affairs

CELEBRATION

2010



PROJECT ABSTRACTS

Parent/Guardian Perceptions of Special Education Services

Lauren Andersen, English, Class of 2011

Faculty Mentor: Zachary Rossetti, Department of Elementary/Special Education

Often, parents/guardians of students with disabilities prefer to work with a special educator who possesses certain qualities and believes in fundamental pedagogies or philosophies. With funding from the PC Committee on Undergraduate Research, researchers created and administered a survey, which asked parents/guardians of students with disabilities to rate the importance of personal and professional characteristics among special educators. The information obtained from this study illuminates the candid beliefs, preferences, and perspectives of parents/guardians of students with disabilities. Supported by Providence College Undergraduate Research Grant.

Artificial Sweetener

Blake Bergeron, English, Class of 2011

Faculty Mentor: Jane Lunin Perel, Department of English/Women's Study Program

Artificial Sweetener is a project aimed at displaying the evolution of a poem through editing and the work's reimagining as a multi-media composition, combining poetry and visual art. The project includes all edited versions of the poem "Gravitation and Tide/Breathing Seaward," including an illustrated display. Finally, the poet will read select new works and discuss poetic inspiration, sound and the process of composition.

The Tunisia Effect: Facebook's Role in a Revolution

Alexandra BetGeorge, Global Studies, Class of 2011

Faculty Mentor: Nicholas Longo, Department of Public & Community Service/Global Studies

This study involves an inquiry into Facebook's role in the current wave of revolution sweeping the Middle East-North Africa region and beyond. These uprisings, motivated by a desire for greater accountability in government, were strongly informed by democratic values. Various features allowing interaction between Facebook users were analyzed to find how their structures affected the ways in which democratic ideas and logistics for organization were spread. Tunisia is the focus for the study, as it was the center for the movement.

The "Double Loss" Effect: Exploring How People React to Another Person's Loss—the Griever's Perspective

Laura Bienashski, Social Work, Class of 2011

Faculty Mentor: Katherine Kranz, Department of Social Work

The "double loss" effect occurs when an individual experiences the loss of a loved one, along the withdrawal of friends amidst the bereavement period. Common manifestations of "double loss" include avoidance, pseudo-care, and stiff-arming. Five interviews focusing on the perceptions of grievers provide further insight into this phenomenon.

PROJECT ABSTRACTS

The Effects of Historical Trauma on Contemporary Native Americans

Amanda Boudria, Psychology, Class of 2011

Faculty Mentor: Mary Harmon-Vukic, Department of Psychology

Native Americans have endured a history of trauma that has led to the loss of vital aspects of culture. The impact of these events continues to affect subsequent generations. The trauma felt by Native Americans is commonly explained as PTSD, but this diagnosis does not address historical trauma and how past events interact with contemporary stressors to cause complex symptoms. A new diagnostic framework is proposed to explain the suffering of Native Americans and to expand cultural sensitivity in the DSM. Supported by Davis Educational Foundation mini-grant.

Fuddy Meers "From Page to Stage"

Ted Boyce-Smith, Theater, Class of 2011

Faculty Mentor: John Garrity, Department of Theater, Dance & Film

Fuddy Meers "From Page to Stage" is a comprehensive look at the process, goals and challenges of producing and directing a play, as well as a look into the collaborative efforts to design a theatrical performance. The presentation will chronicle the process, from selection of the work to be produced and the casting of actors to the incorporation of the different technical elements (set, costume, lighting and sound) that make theatre come to life.

Instrumentation for Water Balance Dynamics at Town Pond

Robert Bretz, Applied Physics, Class of 2012

William Kalinowski, Quantitative Economics, Class of 2011

Faculty Mentor: Stephen Mecca, Department of Engineering-Physics-System

For this project we spent the summer of 2010 building transducer circuits (and stands to support them) to measure the tidal cycles in Town Pond, located in Portsmouth, RI. These devices each contain a circuit, which is connected to a transducer that varies the circuit's output voltage with change in depth. We also plan to utilize a previously made apparatus that would allow us to measure the salinity gradient in the pond. The information on tides and the salinity gradient that we gather will open the door for future studies in this newly formed estuary system.

Do Females Like it Hot?

Sara Buttermore, Biology, Class of 2011

Kelsey Thetonia, Biology, Class of 2011

Faculty Mentor: Maia Bailey, Department of Biology

Approximately 7% of plant species are gynodioecious, including both female individuals that cannot produce pollen and hermaphrodites. Warmer temperatures affect nuclear and mitochondrial functions that determine the sex of the plant. If we find a higher frequency of females in warmer climates, then our theory of the molecular mechanism preventing pollen production is affirmed. This correlation may result in lower overall pollen production, plant population declines, and poor crop yields. Supported by NSF grant.

PROJECT ABSTRACTS

Designing for Technology: Marketing on the Internet

Caroline Caliri, Marketing, Class of 2012

Jordan Emerick, Marketing, Class of 2011

Michelle Pinsonneault, Marketing, Class of 2011

Melanie Richardson, Marketing, Class of 2011

Austin Rotondo, Marketing, Class of 2011

Faculty Mentor: A. Cemal Ekin, Department of Marketing

With an expanding drive to further our technological interests, our team of Providence College students has collaborated with students from the Wharton School of Business to design, develop, and deploy a fully functional Web site for the United Media Entertainment and Sports Society. We have utilized the tools learned in the classroom to take advantage of this opportunity to work with an organization that will provide networking opportunities for students and companies across the country.

Johnson & Johnson Stock Analysis

Kevin Cassidy, Management, Class of 2011

Mike Daly, Finance, Class of 2011

Peter MacDonald, Finance, Class of 2011

Ryan Powers, Finance, Class of 2011

Faculty Mentor: Liu Wang, Department of Finance

For this project we assumed the role of a security analyst and conducted a thorough analysis of a selected stock, Johnson & Johnson. We performed extensive research about the current economic and industry conditions, the company's background and business activities, and the firm's financial status such as its liquidity, efficiency, capital structure, and profitability. Like a professional security analyst, we advised investors about the company's future prospects, calculated the intrinsic value, and made a professional investment recommendation.

Yeast Bax Inhibitor-1, Bxi1p, is an ER-localized Protein that Links the Unfolded Protein Response and Programmed Cell Death in *Saccharomyces Cervisiae*

James Cebulski, Biology, Class of 2011

Faculty Mentor: Rev. Nicanor Austriaco, O.P., Department of Biology

Bax inhibitor-1 (BI-1) is an anti-apoptotic gene whose expression is up regulated in a wide range of human cancers. Studies in both mammalian and plant cells suggest that the BI-1 protein resides in the endoplasmic reticulum and is involved in the unfolded protein response (UPR) that is triggered by ER stress. Our data suggests that the Bxi1p, like its eukaryotic homologs, is an ER-localized protein that links the unfolded protein response and programmed cell death in yeast. Supported by NSF, NIGMS, and NIH-INBRE grants.

PROJECT ABSTRACTS

The Value of a Dollar: Exploring the Motivational Effects of ESOP Versus Cash as Employee Bonuses

Ben Cerroni, Management, Class of 2011

Faculty Mentor: Karen Whelan-Berry, Department of Management

This study explores the research question: what is the relationship for employees between an Employee Stock Ownership Plan (ESOP) bonus and its motivational effect in comparison to traditional cash bonuses? Data for this study were gathered through 130 surveys of full-time working people. Employee perceptions of the two forms of compensation were examined in relationship to the different motivational output created through the two types of bonuses.

CASH for Success

Casey Chory, Accounting, Class of 2012

Nick Gianitsis, Accounting, Class of 2011

Annie Montemarano, Accounting, Class of 2012

Ryan Portenoy, Accounting, Class of 2012

Carolyn Russo, Accounting, Class of 2012

Matt Swanson, Accounting, Class of 2011

Faculty Mentor: Margaret Ruggieri, Department of Accounting

The CASH for Success Program (College And Students Headed for Success) was established by the Rhode Island Society of CPA's (RISCPA) in 2010. The Program was designed to connect college students and professional CPA's, who can then go in teams to local high schools and speak with students about the importance of financial literacy. A variety of topics (e.g., budgeting basics, credit cards, car loans, etc.) are covered, all with a focus on helping high school students better manage their cash flow.

The Confused Enigma of the Wandering Mind

Paige Clapper, Computer Science, Class of 2013

Faculty Mentor: Jane Lunin Perel, Department of English/Women's Studies Program

In my recent poetry workshop I created a portfolio in which I explore a range of topics – some autobiographical, some fictional – and let my mind wander through the accompanying emotions. In creating the portfolio, I also experimented with free verse, villanelle, sonnet, prose poetry, and concrete poetry to generate a collection that is structurally diverse. Most of the final versions hardly resemble the originals and show how I have developed as a writer and a poet.

PROJECT ABSTRACTS

Edge-Enhancing Speckle Denoising for Ultrasound Images

Helene Duke, Mathematics/Humanities, Class of 2011

Faculty Mentor: Liam Donohoe, Department of Mathematics/Computer Science

Ultrasound images contain pervasive granularity which interferes with human analysis and automated processing of the images. Towards removing this granularity we develop an edge-enhancing, denoising model which treats the granules in ultrasound images as speckle noise. Our partial differential equation based model, derived from a minimizing functional constrained by a new noise equation, is more efficient in removing speckle noise in ultrasound images than the existing models. A corresponding explicit time-stepping scheme from a non-standard finite difference discretization is proven to be stable. We also discuss and evaluate some parameterization techniques.

Bringing the Fairies to London, Bringing London to the Fairies: Victorian Fairy Tales and Images of London

Jennie Eckilson, English Literature, Class of 2011

Faculty Mentor: Elizabeth Bridgham, Department of English

In the nineteenth century, Victorian England experienced an explosion of fairy tales; major writers—from popular authors to social critics—began to rewrite classic European fairy tale narratives and invent their own original tales. In many of these tales, the presentation of London as a symbol for Victorian identity became a major theme. Through analyzing the short fiction of Charles Dickens and Anne Thackeray Ritchie, this paper examines the interaction between traditional fairy tale techniques and modern images of London to construct a distinctly Victorian voice in the international fairy tale tradition.

Gender, Literacy, and Summer Reading for Middle Schoolers

Jennie Eckilson, English Literature, Class of 2011

Faculty Mentor: Carmen Rolón, Department of Secondary Education

What is the connection between gender and literacy? How are school systems using—or not using—research on gender and literacy to better serve all students? This project examines past summer reading programs of three Providence middle schools: Nathanael Greene Middle School, a public school; San Miguel School, a private all-boy's school; and Sophia Academy, a private all-girl's school. They are evaluated by standards suggested in gender-based literacy research, in terms of program structure, genre variety, author representation, and character representation, to determine if these programs are designed to meet the needs of their students.

PROJECT ABSTRACTS

Chromaticism in Composition: Music of the Romantic Era and Beyond

Allison Evans, Music, Class of 2011

Faculty Mentor: Catherine Gordon-Seifert, Department of Music

Many people associate music of the Romantic era with high degrees of emotion and individuality and the idea of Sturm und Drang, or inner turmoil on the part of the composer. One of the primary ways that this effect is achieved is through the use of chromaticism. In this project I outline various compositional techniques that employ chromaticism to give a sense of scope to its usage. Examples are provided through audio and live performance.

Walking the Tightrope: The United States' Policy in Vietnam, 1952-1954

Erin Flynn, History/French, Class of 2011

Faculty Mentor: Margaret Manchester, Department of History

*The purpose of the project is to demonstrate how the Truman and Eisenhower administrations sought to avoid direct intervention in Indochina and halt the spread of communism at the same time. This purpose is achieved through careful analysis of primary and secondary sources, with a particular focus on the primary documentation found in **Foreign Relations of the United States: 1952-1954**. Through examination of these day-by-day recordings and memos, the futility of pursuing the two conflicting aims becomes clear.*

Membership Recharge System for Public Toilets in Ghana

Christopher Fraher, Engineering-Physics-Systems, Class of 2011

Liam McCartney, Engineering-Physics-Systems, Class of 2011

Robert O'Leary, Engineering-Physics-Systems, Class of 2011

Thomas Williams, Engineering-Physics-Systems, Class of 2011

Faculty Mentor: Stephan Mecca, Department Engineering-Physics-Systems

Ghanaian culture is pervaded by petty corruption. A cash payment method of using a public toilet would never work. We developed a system of membership and access recharge. Users buy into a membership and are issued a barcode card. The member can then purchase access to the toilet, which is stored in a database in relation to her identification number. To use the toilet, the member need only present her card to an attendant. This limits the exchange of money and inhibits illegal transactions. Supported by Providence College Undergraduate Research Grant.

PROJECT ABSTRACTS

Racism without Racists: PC Edition

Leah Glass, Global Studies, Class of 2011

Faculty Mentor: Julia Jordan-Zachery, Department of Political Science/Black Studies Program

*This paper assesses the critical "color blind" racist lens Eduardo Bonilla-Silva used to analyze various interviews in his work, **Racism Without Racists**. In this paper, I take these lenses and apply them to my own interviews with Providence College students around "hot button" issues such as affirmative action and interracial relationships. By focusing on three main interviews, my research shows that the lenses Bonilla-Silva found in his work hold true on our campus as well.*

Biological Imaging: Don't Be Afraid to Get Close

Kayla Gontarz, Biology, Class of 2012

Sean McBride, Biology, Class of 2011

Nick Marcello, Biology, Class of 2013

Tim Reed, Biology, Class of 2013

Faculty Mentor: Joseph DeGiorgis and Patrick Ewanchuk, Department of Biology

In the advanced topic seminar course titled "Biological Imaging," digital cameras set on the macro setting, dissecting scopes, and compound microscopes are the tools of the trade for biologists documenting the details of small organisms, tissues, and cells. Here, we display prints of discoveries captured by the lens -- a looking-glass into the miniature world around us. Supported by Davis Educational Foundation mini-grant, NIH-INBRE grant, and NSF grant.

Burnout Prevalence and Prevention in a State Child Welfare Agency

Molly Heverling, Social Work, Class of 2011

Faculty Mentor: Katherine Kranz, Department of Social Work

This study addressed the prevalence of burnout and coping strategies on forty child welfare workers. Surveys were distributed to measure the level of burnout in three areas: emotional exhaustion, depersonalization, and personal accomplishment. Results revealed a group of dedicated workers who are under stress due to the urgency of their work. Workers described a wide array of positive and negative coping methods as means to address work related stress.

PROJECT ABSTRACTS

Applied Research in Student Affairs: Assessing the Needs of International Students in a Higher Education Setting

Shannon Hoey, Sociology/Dance, Class of 2011

Faculty Mentor: Josephine Ruggiero, Department of Sociology

In the RISD Student Affairs Office, I conducted interviews and research on how colleges handle issues regarding international students. I created a feedback survey for RISD's orientation program, formulated schedules for next year's orientations, and created a website for RISD's new Office of International Student Services. At RISD, as well as other schools, the percentage of students from other countries is increasing, and my research will help RISD to better accommodate this international student population.

"No Affiliation": An Urban Youth Music Program

Christopher Horn, Public & Community Service, Class of 2012

Benjamin Kreczko, Finance, Class of 2012

Faculty Mentor: Keith Morton, Department of Public & Community Service

"No Affiliation" is a Providence-based, safe-space initiative rooted in the concept of emotional expression through musical and lyrical production. This program works closely with at-risk youth in Rhode Island to provide guidance, support, and a sense of self-worth through musical recording sessions. NA works closely with the Institute for the Study and Practice of Non-Violence and Providence College to promote Martin Luther King Jr.'s principles of Non-Violence and developing a beloved community.

A Pedagogical Model of the Smart Grid

Michael Kriner, Global Studies: Business Economics, Class of 2011

Faculty Mentor: Stephen Mecca, Department of Engineering-Physics-Systems

This project documents the creation of a pedagogical model of the smart grid system to demonstrate its potential value. In order to demonstrate the potential benefits of the smart grid, a hypothetical country with four different regions based on four US states (Rhode Island, Washington, Nevada, and Florida) has been created. The goal of the model is to enable users to understand the major advantages of the smart grid and to build scenarios to observe the impact of changing basic elements of the system. Supported by Providence College Undergraduate Research Grant.

Tunisia, Transitional Justice and Democracy: Which Way Ahead?

Danielle Ladd, Political Science, Class of 2012

Faculty Mentor: Paola Cesarini, Department of Political Science

This project analyzes the human rights abuse record of Tunisia's former repressive authoritarian regime and explores the country's available transitional justice options in the aftermath of President Ben Ali's recent overthrow. A poster will display the recommended transitional justice option for Tunisia and feature a comparative analysis of relevant transitional justice cases (namely, Morocco and Kyrgyzstan). A handout and PowerPoint file will summarize recommendations.

PROJECT ABSTRACTS

Filamentation Protects *Candida albicans* from Amphotericin B-Induced Programmed Cell Death via a Mechanism Involving the Yeast Metacaspase, MCA1.

David J. Laprade, Biology, Class of 2011

Faculty Mentor: Rev. Nicanor Austriaco, O.P., Department of Biology

Apoptosis, or programmed cell death, is a controlled form of cell suicide that occurs when *C. albicans* cells are exposed to fungicidal drugs like amphotericin B and to other stressful conditions. We now provide evidence that programmed cell death is cell-type specific in yeast: filamentous *C. albicans* cells are more resistant to amphotericin B-induced apoptosis than their blastospore counterparts. Finally, our data suggests that this phenomenon is mediated by a mechanism involving the yeast metacaspase, MCA1. Supported by Providence College Undergraduate Research Grant, NSF, NIGMS, and NIH-INBRE grants.

Picosecond X-ray Absorption Measurements of the Ligand Substitution Dynamics of $\text{Fe}(\text{CO})_5$ in Ethanol

Elizabeth Lunny, Chemistry, Class of 2012

Faculty Mentor: Christopher Laperle, Department of Chemistry

It has previously been shown that approximately 90% of all $\text{Fe}(\text{CO})_5$ molecules in an ethanol solution form a weakly bound hexacoordinated complex with a single solvent molecule at ambient conditions. The formation of this complex impacts the photoinduced ligand substitution mechanism by removing the need for a diffusive encounter with a solvent molecule. Ultrafast x-ray absorption measurements indicate the formation of a singly substituted $\text{Fe}(\text{CO})_4\text{etOH}$ product within 40 ps.

Solution Dynamics of Iron Pentacarbonyl in Investigations of Solvent-Dependent Structural and Chemical Reaction Dynamics of the Group VIII Transition Metal Pentacarbonylster and Arene Solvents

Thomas McDonough, Chemistry/Mathematics, Class of 2012

Faculty Mentor: Christopher Laperle, Department of Chemistry

It has been shown that approximately 60-90% of iron pentacarbonyl (IPC) and ruthenium pentacarbonyl (RPC) molecules form a weak hexacoordinated complex with a single solvent molecule under ambient conditions in certain alcohol and arene solvents. The pre-assembly of the MPC-solvent complex is likely to affect the mechanism of photo-assisted MPC ligand substitution. This mechanism is measured via UV-pump X-ray probe experiments, while the effect of the complexation dynamic on the yield or rate of characteristic MPC reactions is also explored.

PROJECT ABSTRACTS

The Effects of Political Correctness, Fatigue and Disabled vs. Disability Humor on Attitudes Toward Disabled Persons

Julia Neyen, Psychology, Class of 2011

Faculty Mentor: Shannon Rauch, Department of Psychology

This project aimed to develop a deeper understanding of the potentially harmful effects of disability humor, which includes jokes, media, and other intentionally denigrating humor regarding persons with disabilities. The research investigated the relationships between individual levels of prejudice and political correctness, the humor found in purposefully comedic video clips that depicted a person with a disability, and individual attitudes toward disabilities. Analyses and results will be presented and explained. Supported by Providence College Undergraduate Research Grant.

Theological, Practical and Musical Applications of the Roman Missal, Third Edition

Anna O'Connell, Music Education, Class of 2012

Faculty Mentor: TJ Harper, Department of Music

This project addresses the ways in which the Roman Catholic Liturgy is changing in the next liturgical year beginning Advent 2011, and how these changes will affect liturgical musicians, including cantors and choir directors. I have compiled and annotated resources for parish musicians to refer to in the coming months, which will augment and expand upon what they may already know about the changes, so that they may present these to their parishes. Supported by Providence College Undergraduate Research Grant.

Gutters from Garbage and Storage from Sweat

Robert O'Leary, Applied Physics, Class of 2011

Thomas Quinn, Applied Physics/Mathematics, Class of 2012

Faculty Mentor: Stephen Mecca, Department Engineering-Physics-Systems

This project is to design a low cost, sustainable water harvesting system to help meet the water needs of families in the developing world. It involves an innovative idea to use discarded water bottles and wire from old coat hangers for gutters and on-site constructed cement barrels for storage. The project began in fall 2010 and is expected to continue to a final integrated system documented to allow fabrication by a villager in Ghana. Supported by Providence College Undergraduate Research Grant.

PROJECT ABSTRACTS

Paternity Tests for Wasps

Kaitlyn Order, Biology, Class of 2012

Faculty Mentor: Elisabeth Arévalo, Department of Biology

Paper wasps of the genus Polistes have evolved interesting eusocial behaviors in which reproduction is monopolized by one or few queens in the nest. In this project we seek to explain these behaviors of Polistes by using genetic markers called microsatellites. These short sequences of DNA are perfect for distinguishing between close kin. The goal of this paternity test for wasps is to find the relatedness among individuals of a nest as a reason for this reproductive conflict. Supported by Providence College Undergraduate Research Grant.

Perceptions and Misconceptions of Youth Violence: A Comparative Study of Youth Violence and Urban Policing in Nicaragua, Argentina, and Providence, Rhode Island

Sonia Penso, Global Studies/Spanish, Class of 2011

Faculty Mentor: Nicholas Longo, Department of Public & Community Services/Global Studies

My research in Nicaragua and Argentina on youth violence revealed the perceptions and misconceptions that the youth and police had of one another, thereby fostering a violent relationship. My senior thesis focuses on this issue in our community of Providence, documenting youth perceptions of the local police and vice versa. I then provide suggestions on how to deter youth violence by building relationships and reintegrating marginalized youth back into society with access to opportunities.

Let's Move!: From DC to PC

Christine Perrotti, Public & Community Service/Political Science, Class of 2011

Faculty Mentor: Richard Battistoni, Political Science/Public & Community Service

As an intern for the Office of the First Lady, I worked extensively on Mrs. Obama's Lets Move! initiative. For my senior thesis, I followed up with original research on the local level. By doing a pre-and post-test survey in two Providence charter schools, I analyzed 592 elementary school students' (K-5) attitudes toward living a healthy lifestyle. Between the pre- and post-tests, I developed and implemented a series of educational "interventions" designed to provide information to students and their parents about the benefits of healthy eating and exercise.

Life as It Should Be: Images from Bakersfield, CA

Kelly Phillips, Studio Art: Photography, Class of 2011

Faculty Mentor: Eric Sung, Department of Art/Art History

Bakersfield, California is a suburban city, population 400,000, with no downtown high rises. A series of 1000 postcards has been printed to document the city as seen by a Bakersfield native. The three major oil refineries located within its borders, paired with several abandoned developments (the result of the recent housing bubble burst), creates a unique tension between residential and industrial zones.

PROJECT ABSTRACTS

In Search of the Missing Sperm

Megan Reidy, Biology/Health Policy and Management, Class of 2012

Faculty Mentor: Elisabeth Arévalo, Department of Biology

Genetic conflict is a key issue in the study of sociality in the paper wasp *Polistes*. Colonies are conformed by two castes, queens and workers. Both groups are reproductively capable. However, in order to ensure the success of the colony, reproduction relies on one or few queens, creating conflicts of interest between castes. Our goal is to determine which females are monopolizing the colony's reproduction. We are using the confocal microscope to detect the presence of sperm in a structure called "spermathecae" in which queens store sperm. Supported by Providence College Undergraduate Research Grant.

Negative Likeness

Jenna Rerucha, Studio Art: Photography, Class of 2011

Faculty Mentor: Eric Sung, Department of Art/Art History

Using developed strips of black and white film negatives that others have exposed, I have constructed hanging sculptures, with a central light source, casting shadows of the images on the film strips to the areas surrounding. A series of portraits, composed and photographed by myself, are projected on the walls. By using sculpture and photography, I hope to explore the boundaries of how well we can know one another. Supported by Providence College Undergraduate Research Grant.

Paradigmatic Portraits from Weimar Germany: Martha Dix, Sylvia von Harden, and Anita Berber According to Otto Dix

Althea Ruoppo, Art History, Class of 2011

Faculty Mentor: Deborah Johnston, Department of Art/Art History

The focus of this paper is the investigation of the portrayal of women during the Weimar Republic (1919-33) -- in particular, through the work of the German artist, Otto Dix. How do his female portraits reflect the changes to women's status during the 1920s? Moreover, is Dix alluding to his society's anxiety about these changes, or are they personal reflections? Supported by Providence College Undergraduate Research Grant.

PROJECT ABSTRACTS

It's Not Easy Being Green: An Exploration of Employees' Espoused Versus Enacted Environmental Values

Keryn Sartanowicz, Management, Class of 2011

Faculty Mentor: Karen Whelan-Berry, Department of Management

As a major player in the ecological crises, the modern business industry can make a change for the better if its employees support its green initiatives and enact green values. Although employees have good intentions when they express a devotion to greenness, true change can only come if employees follow through on their beliefs in their enacted practices. This research project will explore the research question: what is the degree of consistency between employees' espoused green values and their enacted green workplace practices, and what personal and organizational factors effect enactment of green values?

Children's Superstitious Tendencies: Preschoolers' Illusory Associations on a Touch-screen Task

Kelly Sheehan, Psychology, Class of 2011

Faculty Mentor: Jennifer VanReet, Department of Psychology

This experiment studied children's tendencies to associate unconnected stimuli. Three to five-year-old children tapped a touch-screen monitor to make a smiley face appear, sometimes in the presence of a butterfly. Children showed a tendency to associate the butterfly with the appearance of the smiley face although no relationship existed. Results suggest that children may be susceptible to perceiving inaccurate causal relationships in their environment. Supported by Providence College Undergraduate Research Grant.

Peaceable Savages

Rachel Sheehan, English, Class of 2011

Faculty Mentor: Robert Hackey, Department of Health Policy and Management

The idolized physiques depicted by Hollywood encourage women to conform to meet certain expectations, so women try to deny the process of aging and "reverse the clock" at all costs. The degradation of the female image that drives women to seek out professional alterations to their bodies suggests an unfortunate decline in female self-esteem and confidence. Ironically, women turning to surgical procedures to achieve the ideal body will never be satisfied, because there is no final goal with which to be content.

PROJECT ABSTRACTS

Sorting on CUDA

Ayushi Sinha, Mathematics/Computer Science, Class of 2011

Faculty Mentor: Liam Donohoe, Department of Mathematics/Computer Science

The traditional sorting technique, sequential sorting, is inefficient with increasing amounts of data that can be stored on computers. Researchers looking for faster sorting techniques have turned to parallel computing to address the limitations of sequential sorting. This project involves the implementation of three parallel sorting algorithms on CUDA, a parallel computing architecture which implements algorithms on Graphics Processing Units (GPUs).

The Human Rights of the Mentally Disabled

Caroline Thibeault, Political Science, Class of 2012

Faculty Mentor: Paola Cesarini, Department of Political Science

In this project, I argue that the human rights regime ought to make a clearer distinction between the physically and the mentally disabled. This is because the mentally disabled are faced with fundamentally different challenges in life. Indeed, the particularly vulnerable position of the mentally disabled requires that the human rights regime address the situation.

Uniting Chinese and Western Choral Practice

Nhung Truong, Music Education, Class of 2012

Faculty Mentor: TJ Harper, Department of Music

A current struggle in choral music is how choirs approach repertoire outside of their native language and background. Chinese and Western choral musicians are exemplary in accepting this challenge, while also trying to fuse the choral practices distinct to each. This presentation will focus on comparing Chinese and Western choral practices, approaches to language, overall sound and performance, and the attempts to unite the two traditions, creating a new realm of choral music. Supported by Providence College Undergraduate Research Grant.

Tellervo

Marisa Woods, Studio Art: Drawing, Class of 2011

Faculty Mentor: Lynn Curtis, Department of Art/Art History

My senior drawing thesis began with an investigation of my childhood and experience abroad, during which I discovered and explored forest spaces. I started working on large scale paper, using only charcoal and eraser as my tools. By adding and subtracting my mark making, I was able to create an illuminated and expansive forested space for viewers to encounter. The piece exhibited here was the first that I created for the thesis and served as a spring board for my show in the Hunt Cavanagh gallery.

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Celebration of Student Scholarship and Creativity Planning Committee

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Julia M. Camp

Fred K. Drogula

Charles J. Haberle

Tara Heinemann (Graduate Assistant)

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Paul Bienvenue

Mark Caprio

Wendy Coutu

Amy Goggin

Susan Hanoian

Chris Landry

Joseph Paola

Diane Smith-Wilks

Susan Valenti

Funding Opportunities for Student Engagement and Undergraduate Research Projects

Student Engagement Mini-Grants-Spring 2011

Application Information and Deadlines: <http://www.providence.edu/cte/studentengagement.html>

Eligibility

Faculty, staff, and academic or administrative units are invited to submit proposals. Students can be involved in group or collaborative projects. Part-time faculty, including those teaching in the College's SCE or graduate programs, are eligible to apply for funds. Each project needs a lead applicant who is a full time employee of the College. Projects that are interdisciplinary in nature are especially encouraged.

Funding Amounts

Typical grant awards for individuals are expected to range up to \$3,000, while awards for multidisciplinary or cross-departmental projects may be up to \$5,000. Some projects, especially those that may impact a greater number of individuals, may be awarded additional funds. All projects must clearly identify links between proposed activities, expenditures, and the goals of increasing student-faculty interaction, promoting active and collaborative learning, and/or enriching educational experiences.

Undergraduate Research Grant Program – Fall 2011

Application Information and Deadlines: <http://www.providence.edu/Academic+Affairs/>

Eligibility/Priority

- Full-time undergraduates with a cumulative GPA of at least 3.0
- Junior or senior standing
- Students from all academic disciplines are encouraged to apply
- Preference will be given to students enrolled in a credit earning research course during the Fall semester
- Mentor must be a full-time faculty member at Providence College

Funding for Undergraduate Research

Funds are intended to cover costs related to conducting individual research. Most awards are expected to be up to \$500, although funding may be granted up to a maximum of \$1,000 if the student's project warrants greater support and funds are available. Items that may be funded (if not already supported through other sources) include:

- General, lab, or media supplies, or other expendable materials related to research;
- Archival copying, photocopying, printing, postage, telephone or communication expenses related to research project or presentation of findings;
- Software, data sets, books, and small equipment, if necessary to conduct research and otherwise unavailable;
- Travel to libraries, archives, museums, field or research sites, laboratories, research centers, or approved educational institutions to conduct research.



FOSTERING A CULTURE OF STUDENT ENGAGEMENT
AT PROVIDENCE COLLEGE