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THURSDAY, APRIL 3 • UNIVERSITY COMMONS

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Mission and Core Activities

The Office of Sponsored Programs (OSP) provides assistance and support to WPUNJ faculty and staff who seek external grant or contract support for research, teaching, service, public programs, creative endeavors, conferences and other types of projects from government agencies, grantmaking public charities, and some private and corporate foundations. The OSP also supports the efforts of the WPUNJ Institutional Review Board for Human Subject Research. Please contact the OSP with any questions regarding external funding or the use of human subjects in research.

The OSP concentrates its activities in three broad areas:

Pre-Award Services: Activities leading up to the submission of a funding request, including idea development, funder identification, proposal writing, photocopying, mailing, and more. The OSP maintains extensive databases and reference resources on funding programs and agencies, distributes information to the WPUNJ community, provides individualized assistance to applicants to develop high quality proposals, manages the proposal review process, and obtains required signatures among other activities

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Compliance: The OSP works to insure that State, Federal, and University policies, regulations and procedures related to grant and contract funding are fulfilled. The OSP provides administrative support to the Institutional Review Board for Human Subject Research.

The OSP reports to Dr. Nina Jemmott, Associate Vice President and Dean for Graduate Studies and Research in the Office of the Provost and Senior Vice President for Academic Affairs.

The OSP is located in Raubinger Hall, Room 107.

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William Paterson University

University Research & Scholarship Day 2008

Program and Schedule of Activities

Morning Individual and Group Presentations, Room UC168A

- 9:30 *Women of the Emirates: How their Lives Have Changed*
Tina Leshner, Communication
- 10:00 *Immigration and Life Course Planning: The Implication of Children's Future on Korean Women's Life Course Renegotiation*
Keumjae Park, Sociology
- 10:30 *Christians in Japanese Society: Catholics and Protestants*
Hideo Watanabe, Languages and Cultures
- 11:00 *The Myth Of Lost Sales: The Impact Of Disk Copying On The Music Industry*
Stephen C. Betts, Marketing & Management
- 11:30 *Communication Problems in Utilizing a Native Informant for Cultural Knowledge*
Sue Godar, Marketing & Management
Inta Rimsane, Rezeknes Augstskola, Rezekne, Latvia
- 12:00 *The Lost Cinema*
Jamsheed Akrami, Communication

Morning Individual and Group Presentations, Room UC168B

- 9:30 *Binary Vector Development for GmGRP Silencing in Soybean*
Luis Posadas, Biology Undergraduate Student
David H. Slaymaker, Faculty Sponsor
- 10:00 *Culture Care Theory: A Framework for Expanding Awareness of Diversity and Racism in Nursing Education*
Kathy Lancellotti, Nursing
- 10:30 *The Inner Life at the End of Life*
Christina B. McSherry, Nursing
- 11:00 *What to do about the Big Bad Wolf: Narrative Choices and the Moral of a Story*
Burton Weltman, Secondary and Middle School Education

11:30 *How Do You Say "Technology Integration" in Namlish? A Report on the Technology Literacy and Integration Efforts in Namibia's Pre-service and In-service Teacher Education Programs.*

Hilary Wilder, Educational Leadership and Professional Studies

Perien Boer, graduate student at Teachers College Columbia University

12:00 *College of Arts and Communication Website Redesign*

Lauren Razzore, Art

Poster Session and Lunch, 12:30-1:45, Room UC168A

Lack of Education and Its Correlation with Criminal Behavior

Paulaska Ramirez, Sociology Undergraduate Student

Sheetal Ranjan, Faculty Sponsor

Effects of Chronic Dietary Pesticide or Pharmaceutical Exposure on Zebrafish Serotonin and Dopamine Transporters

Georgianna G. Gould, Biology

Does the Waggle-Dance Scent of Honey Bee Foragers Increase Foraging Effort?

David Gilley, Biology

Chad Socha, Murat Mamkegh, Christina Kupryk, Biology Undergraduate Students

Does a Woman With a Child Stay in an Abusive Relationship Longer Than a Woman Without a Child?

Jackie Garcia, Sociology Undergraduate Student

Sheetal Ranjan, Faculty Sponsor

What is a Trusted Brand? An Exploration into the Meaning and Dimensionality of Trust-in-the-Brand

Fuan Li, Marketing & Management Sciences

Mentoring Nurse Educators in Role Transition

Kem Louie, Nursing

Analysis of Optical Emissions from Nitrogen Discharge Plasmas

Kevin Martus, Chemistry & Physics

Veronica Murphy, Chemistry & Physics Undergraduate Student

Afternoon Individual and Group Presentations, , Room UC168A

2:30 *Icons of Irishness: Irish Art in its Medieval and Modern Contexts*

Maggie Williams, Art

3:00 *Forms and Symbols: An Analysis of the Female Form in Sculptures by Alberto*

Giacometti and Pablo Picasso

Lisa Fung, Art History Undergraduate Student

Deborah Frizzell, Faculty Sponsor

3:30 *Imagery on Textiles: Adding Visual Layers*
Nisha Drinkard, Art

4:00 *Modifications of the Retraction Algorithm for Solving Banded Symmetric Indefinite Systems (Panel)*
Linda Kaufman, Computer Science
Mark Fila and Steve Bang, Computer Science Undergraduate Students
Phil Nelson and Diamond Flores, Mathematics Undergraduate Students

Concurrent Afternoon Session, Room UC168B

1:00 *Hydrogen Plasma Deactivation of Dangling Bond Centers at the Silicon Carbide-Silicon Dioxide Interface*
Rosederly Desronvil, Chemistry and Physics, Undergraduate Student
Gary J. Gerardi, Faculty Sponsor

1:20 *Neuronal Cb2 Cannabinoid Receptors: Beyond Neuro-Immunocannabinoid Activity*
Emmanuel S. Onaivi, Biology

1:40 *Effects of Sand Burial on the Coastal Dune Grass *Ammophila Breviligulata**
Michael Peek, Biology
Seth Eberhardt, Biology Undergraduate Student

2:00 *Reclaiming Educational Foundations of Rigorous Math and Science (REFORMS) Grant Project*
Sandra DeYoung, Dean, College of Science and Health

2:30 *The Impact of Different Instructional Facilitation Approaches on Students' Interaction and Sense of Community in an Asynchronous Online Discussion Board*
Heejung An, Elementary & Early Childhood Education

3:00 *Digital Storytelling: Power of Media Production in developing Critical Media Literacy Skills in Teacher Education*
Melda N. Yildiz, Secondary and Middle School Education

3:30 *"All intended for my good": Mothering Disobedient Daughters in the Eighteenth-Century Novel*
Judith Broome, English

4:00 *Sowing in the Secondary English Classroom: Using Literature to Teach Social Justice, Equity, and Empowerment (Panel)*
Darlene Russell, Department of Secondary & Middle School Education
Tamara Issak and Philip Seyfried, Department of Secondary & Middle School Education (Pre-Service Teachers)

Abstracts

Jamsheed Akrami, Communication

The Lost Cinema

(USA, 2007, 100 Min. In English (Persian film clips subtitled in English))

This feature length documentary on Iranian cinema before the 1979 revolution, explores the key issues of the Iranian New Wave cinema, a film movement which blossomed in the 70s as a protest against a film industry dominated by crude, socially uninformed domestic films and excessive exhibition of popular Hollywood and European imports. In the wake of the Islamic Revolution, the New-Wave films, along with all other pre-revolutionary titles, were banned due to their non-conformity to the severely restrictive censorship codes imposed after the revolution. The ban has effectively shelved half a century of filmmaking in Iran.

Through analyzing selected films and a series of interviews with filmmakers and scholars, professor Jamsheed Akrami, whose previous documentary, *Friendly Persuasion*, examined Iranian cinema after the revolution, sheds light on a significant trend of politically themed films made in the 70s that contributed to the political awareness of the Iranian middle class.

Heejung An, Elementary and Early Childhood Education

The Impact of Different Instructional Facilitation Approaches on Students' Interaction and Sense of Community in an Asynchronous Online Discussion Board

Asynchronous online discussion is an integral part of both blended and online courses. To effectively accommodate, support, and promote the knowledge production processes, instructors should select appropriate facilitation strategies. This study explored how three different online asynchronous discussion facilitation approaches impacted students' interaction and sense of community. This study was conducted in an undergraduate course geared for pre-service teachers.

Stephen C. Betts, Marketing & Management

The Myth of Lost Sales: The Impact of Disk Copying on the Music Industry

The music industry argues that the copying of music CD's negatively affects their bottom line. Does a copied CD represent a lost sale? Empirical evidence and historical precedence do not support this contention. In this session the history of potential threats to segments of the entertainment industry, such as advent of recordings, radio, and cassette recorders, will be briefly explored. This will be followed by a presentation of the results of the simulation which indicated that much of the time disk copying results in higher net sales. The session concludes with a discussion of strategies that the record industry could use to use disk copying and similar phenomenon to create a net gain in sales.

Judith Broome, English

"All intended for my good": Mothering Disobedient Daughters in the Eighteenth-Century Novel

As traditional heavy-handed paternal authority began to give way during the eighteenth century to a new style of authority that operated not by fear or punishment, but by obligation, guilt, a desire to please, or even shame, the mother's position in the family, as the one who must bring her wayward or willful daughters into line, was both complicated and contradictory. In this presentation, I will examine the problematic position of two fictional mothers: Mrs. Harlowe, in Samuel Richardson's *Clarissa, or the History of a Young Lady* (1748) and Mme. d'Etange, in Jean-Jacques Rousseau's *Julie, ou la nouvelle Héloïse* (1761) who must love their daughters within a family system that ultimately serves the fathers' interests.

**Research supported by College of Humanities and Social Sciences Summer Stipend 2007*

Rosederly Desronvil, Chemistry and Physics, student

Faculty Sponsor: Prof. Gary J. Gerardi, Chemistry and Physics

Hydrogen Plasma Deactivation of Dangling Bond Centers at the Silicon Carbide-Silicon Dioxide Interface

Crystalline silicon carbide is the semiconductor material presently being developed for making high frequency, high power, metal oxide semiconductor field effect transistors (MOSFETS) for military and industrial applications. One of the major difficulties in improving MOSFET performance is the relatively large number of charge trapping defects at the critical interface between the semiconductor surface and the oxide film. These defects can be made electrically inactive by reaction with hydrogen gas at about 800°C. However, this requires a large thermal budget. We studied the use of hydrogen plasma as an alternative treatment for the deactivation of interface defects. Samples consisting of semi insulating 4H-SiC were oxidized, after surface etching, to grow a thin silicon dioxide film on the crystal surface. The samples were then annealed in nitrogen at 800°C to maximize interface defects. Electron paramagnetic resonance (EPR) spectroscopy was used to determine the concentration of defect centers before and after hydrogen plasma treatment. EPR spectroscopy is a very sensitive method for the detection of unpaired electrons associated with defect centers in materials. We found an effective decrease in interface defects resulting from the plasma treatment, which depended on the temperature and duration of the treatment.

Sandra DeYoung, Dean, College of Science and Health***Reclaiming Educational Foundations of Rigorous Math and Science (REFORMS) Grant Project*****The Math and Science Partnership Program**

The US Department of Education has funded Math/Science Partnership programs in each state. WPUNJ was awarded a grant in July 2006 for a collaborative project between the College of Science and Health, the College of Education, and the Paterson and Passaic Public Schools. The objective of the project (called REFORMS) is to provide professional development to participating grade 3-8 teachers that will strengthen their math and science content knowledge and their pedagogy. Ultimately, the teachers' increased knowledge should improve their students' success. The projected outcomes include increased teacher knowledge, higher teacher qualifications, more rigorous curricula, and better student performance on math and science tests.

The intervention for teachers includes a two-week summer workshop and professional development throughout the year. Teachers are also encouraged to enroll in graduate courses to achieve either math or science endorsement.

The REFORMS project uses a quasi-experimental intervention focused on seven Paterson Public Schools and three Passaic Public Schools. Each school suffers because many teachers are not educationally prepared to teach math and science, and students perform poorly on standardized tests. Fifty-three teachers have been recruited for the experimental group and a smaller number for the control group.

External evaluation consultants were hired by the NJ DOE for the first year. For year two, each project must hire its own external evaluator to measure project outcomes. Data that have been collected so far are teacher knowledge gains on a standardized math and science test, and student pretest scores.

** Research supported by NJ Department of Education*

Nisha Drinkard, Art*Imagery on Textiles: Adding Visual Layers*

This past summer I received a grant from William Paterson University to explore new ways of adding layers of imagery to textiles by means of digital and silkscreen printing. This grant allowed me the means to find new techniques to add realistic images of objects from nature onto a variety of fabrics and new way to silk screen imagery onto fabric. For my presentation I would like to share my research into the techniques of Thermofax silk-screening, digital printing, and Lazatran silk transfer products and how utilizing these new processes has impacted my teaching as well as my work in my studio. Currently I am making a new series of artwork directly resulting from this research. Adding dynamic layers of visual depth has enriched my personal artwork. Another impact is students now have more techniques readily available to them to enrich their visual and conceptual language. The samples I have created have a new home at William Paterson that inspire my students.

** Research supported by College of Art & Communication Summer Research Grant*

Lisa Fung, Art History, Student

Faculty Sponsor: Prof. Deborah Frizzell, Art History

Forms and Symbols: An Analysis of the Female Form in Sculptures by Alberto Giacometti and Pablo Picasso

The female form in visual culture has been perpetually reinvented with brave expressions of classic ideals using modernist vocabulary. Both Alberto Giacometti's *Spoon Woman* (1926) and Pablo Picasso's *Pregnant Woman* (1950), each artist with respectively different styles and contexts, make a similar statements in declaring female figures as traditional fertility icons masquerading as signposts of progressive modernism. Through analysis of the formal elements in each sculpture and by exploring content, a profound bond is discovered between these two pieces. And in this union, a powerful statement is made about the representation of feminine forms. With time and distance separating these two unlikely sculptures, they are more similar in identity than what their appearances may suggest. Both adorned in strikingly different modern costumes, they share an ancient history of iconic fertility fundamental to the representation of modernist female form.

Jackie Garcia, Sociology, Student

Faculty Sponsor: Prof. Sheetal Ranjan, Sociology

Does a Woman With a Child Stay in an Abusive Relationship Longer than a Woman Without a Child?

The problem studied by this research focuses on women without children who stay in abusive relationships and women with children that stay in abusive relationship. My question is "do woman with children stay in an abusive relationship longer than a woman without a child?" My main hypothesis is that women that have children stay in abusive relationships longer because they feel they have more responsibility with the child. Mothers have more responsibilities because they no longer have to worry about taking care of themselves, but are now responsible for a child needs. Many women usually stay longer because they believe that their children should be raised with both a father and mother. Some also feel afraid their children would be taken away because of the power of a man. Those men that have power over women are in control of women's financial, psychological and emotional perspectives. I also hypothesized that battered women who stay in abusive relationships stay because of religion, upbringing, or lack of resources; some allow the cycle of violence to continue are embarrassed. This research is a cross-sectional research paper that focuses on 19 women who were picked at random. These women were interviewed and were willing to participate in the study. My population is a domestic violence shelter in New Jersey. My sample is women who have experienced abusive relationships who currently live in a domestic violence shelter and who have left the relationship.

David Gilley, Biology

Does the waggle-dance scent of honey bee foragers increase foraging effort?

Upon returning to the hive, a successful honey bee forager performs a "waggle dance" which communicates to other bees the location of the food source she has discovered. We have recently discovered a pheromone that may be involved in transmitting the locational information from the dancer to the recruit bee. During the Summer of 2007, we investigated the behavioral effect of this putative pheromone on foraging honey bees by injecting the pheromone into a hive and then monitoring the arrival of foragers at a sugar-water feeder to which the bees had been trained. We expect the number of bees arriving at the feeder to increase shortly after injection of the pheromone, as compared with a control injection which contained only the solvent of the pheromone compounds. Preliminary analysis of the data suggests no consistent increase in the number of foragers arriving at the feeder following injection of the pheromone as compared to the control.

** Research supported by ART and the College of Science & Health Center for Research*

Sue Godar, Marketing and Management

Co-Presenter: Inta Rimsane, Rezeknes Augstskola, Rezekne, Latvia

Communication Problems in Utilizing a Native Informant for Cultural Knowledge

Failure of expatriates to survive and thrive in the foreign assignments is a serious problem for organizations. In an attempt to reduce those failures, companies frequently set up a formal orientation program to help these employees adjust to a different culture. In addition to that formal training, employees frequently attempt to find a local person who can explain the culture to them once they have relocated to their new post. In the period after arrival at a foreign assignment, an expatriate typically experiences culture shock. Often, after failing to reach an understanding of those experiences through reading or study, the employee will seek out a native informant to untangle that data. Unfortunately, that process also has barriers not covered in the extant literature. In particular, the expatriate must select the right person from whom to seek information and must work to overcome a significant linguistic hurdle.

In this paper, my co-author (located in Latvia) and I discuss a model for selecting an appropriate informant from whom to learn about a culture and the barriers that exist to finding one. We then give examples from foreign interactions. Finally, we propose a research agenda for work in this area.

Georgianna G. Gould, Biology

Effects of chronic dietary pesticide or pharmaceutical exposure on zebrafish serotonin and dopamine transporters

Mechanistic studies of the neurotoxicological effects of exposures to pesticides during critical life stages are needed to understand their relationship to neurodegenerative disorders. Use of zebrafish embryos, larvae and adults to examine this link has advantages over rodent models, including the potential to efficiently examine effects of early pesticide exposures on later biogenic amine system development. Despite evolutionary divergence, dopamine (DA) and serotonin (5-HT) systems are largely conserved between zebrafish and mammals. The aim of this study was to determine if chronic exposure to pesticides would produce neurobiological changes in central biogenic amine systems of zebrafish adults. Pesticide exposures were compared to pharmaceutical positive controls: the selective 5-HT reuptake inhibitor, sertraline, for which chronic treatment in rats produces loss of 5-HT transporter (SERT) binding sites, and the selective DA reuptake inhibitor, GBR 12909, for which chronic treatment in rats produces loss of DA transporter (DAT) binding sites. Zebrafish were administered 1 or 10 ug/day sertraline, 10 ug/day of the organophosphate chlorpyrifos, 10 ug/day GBR 12909, or 10 ug/day of the organochloride dieldrin via a gelatin fish food diet for 21 days. Fish brains were assayed for SERT or DAT binding site density by homogenate binding, using [3H] citalopram or [125I] RTI-55, respectively. Binding to the SERT by [125I] RTI-55 was blocked with 50 nM citalopram. Samples were pooled from the brains of 2-3 zebrafish. After 21-day dietary exposure to sertraline at either dose,

or to chlorpyrifos, SERT binding was significantly reduced by 50% or more relative to controls ($N = 3-6$, control = 103 ± 15 fmol/mg protein, sertraline-exposed = 51 ± 9 or 39 ± 13 fmol/mg protein, chlorpyrifos-exposed = 51 ± 14 fmol/mg protein, $F(3,14) = 5.3$, $p < 0.05$). After exposure to GBR 12909 or dieldrin for 21 days DAT binding increased in dieldrin-exposed fish (6.5 ± 0.2 fmol/mg protein) and decreased in GBR 12909-exposed fish (3.2 ± 0.3 fmol/mg protein) relative to controls (4.6 ± 0.2 fmol/mg protein, $N = 2$, $F(2,3) = 77$, $p < 0.05$). Thus, chronic exposure to pesticides can affect zebrafish biogenic amine systems and alter SERT and DAT binding site densities. Quantitative autoradiography studies are underway to confirm these results, and measurement of acetylcholinesterase inhibition will determine if these doses produced overt neurotoxic effects.

** Research supported by National Institute of Occupational Safety and Health, NIH*

Linda Kaufman, Computer Science

Panel Co-Presenters: Steve Bang, Computer Science, Student; Mark Fila, Computer Science, Student; Diamond Flores, Mathematics, Student; Phil Nelson, Mathematics, Student

Modifications of the retraction algorithm for solving banded symmetric indefinite systems

Modeling bridges, oil platforms and buildings to show the effect of external forces such as winds, tides, earthquakes, and traffic and modeling optical fibers wrapped around a spool give rise to large linear systems where it pays to take advantage of the structure of the problem. Several years ago Linda Kaufman derived an algorithm for solving banded symmetric indefinite linear systems that might arise in the above conditions. She and her students will talk about ways to improve the performance of the algorithm.

**Research supported by the National Science Foundation*

Kathy Lancelloti, Nursing

Culture Care Theory: A framework for expanding awareness of diversity and racism in nursing education

As American society becomes increasingly diverse, and the nursing profession does not, there has been a focus on both promoting cultural competence and diversity within the profession. Although culture and diversity are widely discussed in nursing education, the issue of racism may be avoided or suppressed. Institutionalized racism within nursing education must be acknowledged and discussed before nursing education may be transformed.

Madeleine Leininger's Culture Care Theory is an established nursing theory which emphasizes culture and care as essential concepts in nursing. Theoretical frameworks abound in nursing, and Culture Care Theory may be under-utilized and misunderstood within nursing education. This paper examines the issue of racism in nursing education and recommends Culture Care Theory as a relevant framework for enhancing both cultural competence and diversity within the profession.

Tina Leshner, Communication

Women of the Emirates: How their Lives Have Changed

A generation ago, women in the United Arab Emirates lived in poverty and were ill-educated. Today, a half-century after the discovery of oil there, women have emerged as leaders and business owners. Education has played an integral part in their lives---today the UAE is number one in the world in percentage of national women in college. As a Fulbright Scholar last year in the UAE, Tina Leshner interviewed scores of women about the changes in their lives. In her presentation, she will describe what she learned as a result of the interviews.

Fulbright Scholar, 2006-2007

Fuan Li, Marketing & Management Sciences*What is a Trusted Brand? An Exploration into the Meaning and Dimensionality of Trust-in-the-Brand*

What do we mean by brand trust? What is a trusted brand? Although answers to these questions are of great significance to marketer, research regarding these issues is rather limited. Through an extensive literature review, experience survey, and exploratory study into the factor structure of consumers' trust in the brand, the present research reveals that the core of brand trust is the confident consumers have or place in a particular brand. Such an understanding supersedes the expectancy and behavioral perspectives, and incorporates three essential dimensions of trust: performance competence, benevolence and responsible dealings. Along with the exploratory factor study of brand trust, a multidimensional measurement scale is also provided in the present study.

**Research supported by ART*

Kem Louie, Nursing*Mentoring nurse educators in role transition*

The nursing profession is experiencing a registered nurse shortage in light of increasing complex health care needs of its aging population. One factor which contributes to this shortage is the lack of nurse educators prepared at the master's degree to teach. William Paterson University has received a grant loan program, Nurse Faculty Loan Program (NFLP) to prepare nurse educators. The purpose of the research was to identify mentoring strategies for novice nurse educators graduated within 1-2 years of the program. A sample of four alumni graduated with funds from the NFLP program. Interviews and surveys were used. Results show nurse educators need structured orientation, assigned mentors, time management and role conflict strategies.

Kevin Martus, Chemistry & Physics

Co-Presenter: Veronica Murphy, Chemistry & Physics, Undergraduate Student

Analysis of Optical Emissions from Nitrogen Discharge Plasmas

The wide variety of applications that utilize plasma discharge sources range from plasma display panels (PDPs) in high definition televisions to plasma assisted etching and modification of semiconductor materials. Some of the properties used to characterize the plasma include the electron density, composition, and the temperature of the electrons, ions, and neutral gas in the discharge. The rotational and vibrational temperatures of molecular species in the plasma provide information regarding the gas temperature, as well as, information regarding the high-energy tail of the electron energy distribution. The rotational temperature of a molecule in the discharge can be determined from the analysis of the rotational spectrum within a given vibrational band. The process entails measuring the intensity of light across the band feature and then modeling the spectra using temperature as the fitting parameter to minimize the difference between the measurement and the synthetic spectrums. Measurements of the rotational and vibrational temperatures of a low-pressure nitrogen discharge have been made as a function of driving voltage. A second higher-pressure discharge has been constructed. The rotational and vibrational temperatures have been determined for the second system and are compared between the two systems.

**Research supported by WPUNJ ART, the College of Science and Health Student Worker Funds, and The Research Corporation*

Christina B. McSherry, Nursing*The Inner Life at the End of Life*

The purpose of this study was to investigate the lived experience of the inner life of ten hospice patients as they progressed through their dying experience. Using Husserl's phenomenological perspective 10 hospice patients were interviewed three times over several weeks and asked questions about the changes that they were experiencing. The data was analyzed following Colaizzi's phenomenological analysis technique. The participants described end of life changes that were organized into three themes: Life Review Leading to Life Perspectives, Factors Related to Death Attitudes, and Lifestyle Changes: 1. Living While Dying, and 2. The Search: To Find an Acceptable and Satisfying Completion to this Life. Their awareness that death was imminent gave hospice participants a sense of urgency to seek knowledge and address issues that were previously illusive throughout their lives.

Emmanuel Onaivi, Biology*Neuronal CB2 Cannabinoid Receptors: Beyond Neuro-Immunocannabinoid Activity*

The presence and function of neuronal CB2-Rs in the brain had been controversial. We have tackled multiple issues related to the possible roles played by CB2-Rs in the mammalian brain. The direct intracerebroventricular microinjection of CB2 antisense oligonucleotide into the mouse brain reduced mouse aversions in the plus-maze test, indicating the functional presence of CB-Rs in the brain that modifies behavior. Furthermore, we report on the behavioral effects of CB2-R ligands and their influence on food and alcohol consumption in mice, the involvement of CB2-Rs in substance abuse, anorexia and depression in other mouse models and human subjects. We hypothesized that genetic variants of CB2 gene expression may be involved in anorexia, substance abuse and depression. High incidence of the Q63R but not the H316Y polymorphism was found in depression, anorexia and substance abuse in a human population. We also provide the first ultrastructural evidence that CB2-Rs are mainly postsynaptic in the CA1 area of the hippocampus and substantia nigra. Our data demonstrate the functional expression of CB2-Rs in the brain that may provide novel targets for the effects of cannabinoids in the CNS beyond neuro-immunocannabinoid activity.

**Research supported by College of Science & Health Center for Research, 2007*

Keumjae Park, Sociology*Immigration and Life Course Planning: The Implication of Children's Future on Korean Women's Life Course Renegotiation*

Immigration often forces significant changes in several dimensions in individuals lives, including jobs, class statuses and social ties, and relationships. More often than not, these changes disrupt the way people had planned about their future years and the projected linearity of life course. Using Korean immigrant women as the case, this paper highlights how immigrant women cope with the disrupted biographical trajectories, and renegotiate their life course in post-migration contexts. The paper finds that children's projected integration into the mainstream U.S. society is a key variable in redefining Korean immigrant women's life course.

Michael Peek, Biology

Co-Presenter: Seth Eberhardt, Biology Undergraduate Student

*Effects of Sand Burial on the Coastal Dune Grass *Ammophila Breviligulata**

Shoreline erosion represents a major problem for many coastal systems. American Beachgrass (*Ammophila breviligulata* Fern.) acts as a natural stabilizer in this successional system. As a result, this dune vegetation is prone to severe disturbance and stress, most commonly burial by shifting sand. We monitored

plant performance above and belowground throughout the summers of 2006 and 2007 in response to an experimental addition of 10 cm/yr sand accretion rate. We measured above and below ground growth to determine if *A. breviligulata* shows a compensatory response to burial. In both years we saw a significant increase in culm numbers and plant height as the season progressed. The response to burial was similar in both years, sand accretion increased culm numbers and plant height at greater rates than ambient controls. Belowground, we saw no effects of sand burial to root length or root diameter depth distribution, however, we did measure a uniform root distribution of both mass and root length to a depth of 70 cm. Tentatively, the compensatory growth response was restricted to above ground activity with no change in belowground allocation. Future studies will confirm this pattern under different environmental conditions and explore the nutrient requirements necessary to sustain the change in root:shoot ratio.

**Research supported by ART and the Center for Research*

Luis Posadas, Biology, Student

Faculty Sponsor: Prof. David H. Slaymaker, Biology

Binary Vector Development for GmGRP Silencing in Soybean

The molecular interaction between soybean cells and the syringolide elicitor showed a defense signaling pathway in which GmEFH and GmGRP proteins appeared to be phosphorylated specifically during the syringolide-induced defense response (Slaymaker and Keen, 2004). Our long-term goal is to investigate the functional role of these two proteins in the soybean system. In addition, we will attempt to establish a functional role for P34, a known syringolide-binding protein, which is considered to be the elicitor receptor in the soybean system and which is not a product of the plant's R-gene and thus, a key role player in the guard hypothesis (Ji et al., 1998). In this project, two binary vectors containing GmGRP target sequences will be generated and will be used to post-transcriptionally silence GmGRP and its closest homologues in transgenic soybean plants. These transgenic lines will enable functional analyses in order to test the role of this gene during the syringolide-induced defense response.

**Research supported by Student Undergraduate Research Program (SURP), Fall 2007 and the College of Science & Health Center for Research Summer Research Award, 2007*

Paulaska Ramirez, Sociology, Student

Faculty Sponsor: Prof. Sheetal Ranjan, Sociology

Lack of Education and Its Correlation with Criminal Behavior

In this paper, I examine the possible correlation between lack of education and criminal behavior. I examine whether the level of a persons' education has anything to do with them ever committing a crime. Does it correlate to the number of crimes or the type of crime they commit? Due to lack of education a person does not have the same understanding of consequence or the options available compared to a person that is educated. Also due to lack of education a person has fewer qualifications to obtain a job and might resort to crime to meet their basic needs. The population of this research is a state prison in New Jersey. The sample consists of sixty inmates. The inmates were selected by an administrator at the prison, based on their willingness to participate and as part of their participation in a mock job fair program. The research design is cross sectional and used personal structured interview methodology to see how education had influenced their involvement in crime. The inmates answered questions relating to demographic information, education, crime, work, and family. The results of this research confirm that there is a correlation between lack of education and criminal behavior. There was a significant correlation between the age of first conviction and level of education $r=.317, p \leq .01$. This indicates that the earlier the subjects stopped attending school the sooner they were involved in criminal behavior.

Lauren Razzore, Art*College of Arts and Communication Website Redesign*

Over the course of the last year I have undertaken the redesign and coding implementation of a new website for the College of Arts and Communication in conjunction with the Dean and Assistant Dean of the College. The website is nearing completion and University Research & Scholarship Day would be a good opportunity to solicit feedback from the university community on what we have been developing.

The new website went through an extensive design phase over the past year and now is in the final coding phases which include flash animation and use of PHP, CSS, and HTML coding languages.

The website undertakes the implementation of an overarching design for the three departments in the college: Art, Communication and Music and seeks to unify them under that design umbrella. The goal is to make them feel modern and cohesive while still retaining their individuality. The user should feel the relationship between the three departments through the design of the site.

The website makes use of both student artwork and photography as well as graduate student and administration photography to enhance the user experience and give a better understanding of the facilities in each department.

Darlene Russell, Department of Secondary and Middle School Education

Panel Co-Presenters: Tamara Issak, Department of Secondary and Middle School Education; Philip Seyfried, Department of Secondary and Middle School Education

Sowing in the Secondary English Classroom: Using Literature to Teach Social Justice, Equity, and Empowerment

The traditional American curriculum silences the existence and stories of many who people this globe and does not connect to student lives and the world. Thus, perpetuating doldrums in the classroom and leaving many students in an academic coma. With a growing diverse student population in the United States, it is the responsibility of schools and teachers to contour curriculum and instruction around students' lives and the social issues that permeate the globe. (Christensen, 2000; Darling-Hammond & Bransford, 2005; Ladson-Billings, 1994).

Through literature, students need to be aware of and respond to issues of discrimination, injustice, and disenfranchisement that orbit around race, culture, gender, class, language, and religion. Teaching from a culturally relevant and social justice standpoint is affirming and promotes critical thought (Christensen, 2000; Gay, 2000; Ladson-Billings, 1994). Teaching English is about expanding the cognitive landscape of students' minds and providing them with copious opportunities to critically analyze the written word and the world (Freire, 1970). In order to empower students to think critically about literature and the world, they need to be engaged in critical conversations in the classroom about addressing today's social issues to bring about change (Oakes & Lipton, 1999; Shor, 1992). At the core of the social justice trelis is raising students' awareness to critically see themselves and others.

The presenters will discuss how they have created a classroom climate for teaching for social justice and the use of English/Language Arts literature such as *Warriors Don't Cry*, *Walden*, *Old Man and the Sea*.

Hideo Watanabe, Languages and Cultures
Christians in Japanese Society: Catholics and Protestants

Shinto and Buddhism have been dominant religions in the long history of Japan and the country has many rituals and customs originated from them. Christianity has only 2% of the whole Japanese population. It is assumed that a significant number of Christians living in Japan face cultural conflicts and reconcile their religions with daily activities based on Shinto and Buddhism. This paper examines what kind of cultural conflicts Japanese Christians face, what degree, and how they do with the matters. Such cultural conflicts are also closely connected with the churches they belong to, and so I examine both cases of Catholics and Protestants, which are major denominations of Japanese Christianity.

Many Japanese claim to be both Shintoists and Buddhists at the same time and so we could call their religious attitude religious dualism. How about Christians in Japan? Although Christianity is a religion which believes in one God, many Christians are actually involved with such activities as New Year's Day and the Bon Festival, which are Shinto and Buddhist festivals respectively. How are such seemingly contradictory behaviors perceived by Japanese Christians? My survey reveals that many Protestants are struggling to be faithful to their beliefs in their sole deity, Jesus Christ, while many Catholics, supported by the guide of the Second Vatican Council, are more flexible in their beliefs. Hence, Christianity in Japan will be examined in light of religious dualism is another concern of this paper.

Burton Weltman, Secondary and Middle School Education
What to do about the Big Bad Wolf: Narrative Choices and the Moral of a Story

This paper examines the impact of narrative structure on the social messages of historical novels and biographies intended for middle and high school students. The paper focuses on three aspects of narrative structure: dramatic form and, in particular, whether the story can be categorized as primarily a melodrama, comedy or tragedy; the agency of the story and whether events occur primarily as a result of chance, causation or choice; and, the perspective of the story, whether it is primarily top-down or bottom-up. The paper analyzes a series of books recommended for middle and high school students by the National Council for the Social Studies, the oversight body for social studies education in America. The conclusion of the paper is that the narrative structure of a story can determine the moral of the story, irrespective of its subject matter and its author's intentions. Depending on their narrative structures, stories with essentially the same subject matter and intentions can have very different moral, cultural, social and political messages.

Hilary Wilder, Educational Leadership and Professional Studies
Co-Presenter: Perien Boer, graduate student at Teachers College Columbia University
How Do You Say "Technology Integration" in Namlish? A Report on the Technology Literacy and Integration Efforts in Namibia's Pre-service and In-service Teacher Education Programs.

ICTs in Education encompass a wide range of goals and strategies: from the use of educational technology by teaching professionals as an instructional medium, to the need for technology education in order to prepare the future generations of 21st century citizens, and the integration of technological literacy skills across curricular subjects as a way to blend the technology into the teaching and learning process. In Namibia, which is hoping that ICTs in Education will help the country meet the vision of becoming a knowledge-based economy by 2030, the lack of expertise and a legacy of apartheid-based pedagogy have led to the development of goals and strategies which focus on low level technology literacy (e.g. hardware and software specific application skills) at the expense of higher-level technology literacy which would facilitate standards like ISTE's NETS for Students. In this paper we will discuss the history of Namibia's ICTs in Education efforts and the evolution of technology integration in pre-service and in-service teacher education programs.

Maggie Williams, Art*Icons of Irishness: Irish Art in its Medieval and Modern Contexts*

My current research deals with the uses of medieval Irish imagery in defining and promoting ethnic, cultural, and national identities. This work grows out of my doctoral dissertation, "The Sign of the Cross: Irish High Crosses as Cultural Emblems," as well as several subsequent publications in which I explore the topic further. At present, I am expanding upon that research into medieval Irish objects (particularly ringed crosses) and their role in political and cultural interactions. Essentially, the crosses served as signs of both local and regional collective identities, and they were often manipulated by the players in quite dramatic human conflicts.

At the same time, I am exploring the revival and reproduction of medieval Irish imagery in the contemporary world. I am particularly interested in the ways that certain images (such as the ringed cross and Celtic interlace designs) have become transformed into icons of Irishness, both in modern Ireland and in the diaspora.

On Research Day, I plan to present some examples of medieval Irish objects and demonstrate the ways in which they signified particular cultural identities in their original contexts. I will also share my recent investigation into the replication and mass production of such imagery in contemporary objects, such as souvenirs, costume jewelry, and body art.

Melda Yildiz, Secondary and Middle School Education*Digital Storytelling: Power of Media Production in developing Critical Media Literacy Skills in Teacher Education*

Educators at all levels can use Digital Storytelling in many ways, from introducing new material to helping students learn to conduct research, synthesize large amounts of content and gain expertise in the use of digital communication and authoring tools. It also can help students organize these ideas as they learn to create stories for an audience, and present their ideas and knowledge in a meaningful way. This study follows the process of digital storytelling among teacher candidates and explores three key topics in order to understand the educational experiences of the participants: the wide range of meanings participants associate with multimedia production and media education; the impact of media production activities in the curriculum; and the ways in which they integrate media and technologies in their curriculum projects. Participants argued challenges and advantages of new media as classroom tools; developed skills in deconstructing existing curricula; examined the process of producing media for improving student outcomes; and they gained alternative points of view on educational media and renewed interest and commitment to new media literacies. The study draws on the natural links between teacher education and educational media and communication. It explores how a critical approach to the study of new media and technologies combines knowledge, reflection, and action; promotes educational equity; and prepares new generation to be socially responsible members of a multicultural, democratic society.

University Research and Scholarship Day 2008
Schedule-At-A-Glance

Time	University Center Room 168A	University Center Room 168B
9:30 - 9:50	<i>Tina Leshner (Communication), Women of the Emirates: How their Lives Have Changed</i>	<i>Luis Posadas (Biology), Binary Vector Development for GmGRP Silencing in Soybean</i>
10:00 - 10:20	<i>Keumjae Park (Sociology), Immigration and Life Course Planning: The Implication of Children's Future on Korean Women's Life Course Renegotiation</i>	<i>Kathy Lancellotti (Nursing), Culture Care Theory: A Framework for Expanding Awareness of Diversity and Racism in Nursing Education</i>
10:30 - 10:50	<i>Hideo Watanabe (Languages and Cultures), Christians in Japanese Society: Catholics and Protestants</i>	<i>Christina B. McSherry (Nursing), The Inner Life at the End of Life</i>
11:00 - 11:20	<i>Stephen C. Betts (Marketing & Management), The Myth Of Lost Sales: The Impact Of Disk Copying On The Music Industry</i>	<i>Burton Weltman(Secondary & Middle School Education), What to do about the Big Bad Wolf: Narrative Choices and the Moral of a Story</i>
11:30 - 11:50	<i>Sue Godar (Marketing & Management), Communication Problems in Utilizing a Native Informant for Cultural Knowledge</i>	<i>Hilary Wilder (Educational Leadership and Professional Studies), How Do You Say "Technology Integration" in Namlsh? A Report on the Technology Literacy and Integration Efforts in Namibia's Pre-service and In-service Teacher Education Programs</i>
12:00 - 12:20	<i>Jamsheed Akrami (Communication), The Lost Cinema</i>	<i>Lauren Razzore (Art), College of Arts and Communication Website Redesign</i>
12:30 - 12:50	<p style="text-align: center;"><i>Lunch and Poster Presentations</i></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><i>Jackie Garcia</i></p> <p><i>David Gilley</i></p> <p><i>Georgianna Gould</i></p> <p><i>Fuan Li</i></p> <p><i>Kem Louie</i></p> <p><i>Kevin Martus</i></p> <p><i>Paulaska Ramirez</i></p> <p><i>Electronic Student Art Presentation</i></p> </div> <div style="text-align: center;"> <p><i>Rosederly Desronvil (Chemistry & Physics), Hydrogen plasma deactivation of dangling bond centers at the silicon carbide-silicon dioxide interface</i></p> <p><i>Emmanuel S. Onaivi (Biology), Neuronal Cb2 Cannabinoid Receptors Beyond Neuro-Immunocannabinoid Activity</i></p> <p><i>Michael Peek (Biology), Effects of Sand Burial on the Coastal Dune Grass Ammophila Breviligulata</i></p> <p><i>Sandra DeYoung (Dean, College of Science & Health), Reclaiming Educational Foundations of Rigorous Math and Science (REFORMS) Grant Project</i></p> </div> </div>	
1:00 - 1:20		
1:20 - 1:40		
1:40 - 2:00		
2:00 - 2:20		
2:30 - 2:50	<i>Maggie Williams (Art), Icons of Irishness: Irish Art in its Medieval and Modern Contexts</i>	<i>Heejung An (Elementary & Early Childhood Education), The Impact of Different Instructional Facilitation Approaches on Students' Interaction and Sense of Community in an Asynchronous Online Discussion Board</i>
3:00 - 3:20	<i>Lisa Fung (Art), Forms and Symbols: An Analysis of the Female Form in Sculptures by Alberto Giacometti and Pablo Picasso.</i>	<i>Melda N. Yildiz (Secondary & Middle School Education), Digital Storytelling: Power of Media Production in Developing Critical Media Literacy Skills in Teacher Education</i>
3:30 - 3:50	<i>Nisha Drinkard (Art), Imagery on Textiles: Adding Visual Layers</i>	<i>Judith Broome (English), "All intended for my good": Mothering Disobedient Daughters in Eighteenth-Century Novel</i>
4:00 - 4:30	<i>Linda Kaufman (Computer Science), Modifications of the retraction algorithm for solving banded symmetric indefinite systems</i>	<i>Darlene Russell, (Department of Secondary & Middle School Education), Sowing in the Secondary English Classroom: Using Literature to Teach Social Justice, Equity, and Empowerment</i>