

Saint Vincent College



Fifth Annual Student Research Conference

Wednesday April 23, 2008

2:00-7:00 p.m.

A Letter of Welcome

Welcome to all Saint Vincent College students, faculty, administrators, staff, friends, family, and guests to the fifth annual Saint Vincent College Undergraduate Student Conference. You may find that this year's conference is both larger and longer than the previous four, with a record number of student posters and oral presentations. This increase in size and duration reflects the college's growth, its deep commitment to academic exploration, and the excitement and generosity of spirit that propels students to share their good work with all of us.

As you make your way through the almost four score of student research posters, you will no doubt note the care and thoroughness with which our students have conceived, carried out, and presented work in the Sciences and Social Sciences. You will also find posters that share some of the extraordinary service that Saint Vincent College students have undertaken this past year.

While many students share their work through posters, still more will present their work in Prep Hall and Headmasters Hall in panel sessions. Here you will find students in the Humanities, Social Sciences, Sciences and Business sharing their work and discussing it with those who attend. As was the case with the posters, students who have done service will share their experiences, as will students who have studied abroad and some of those who have done interesting internships.

You will find a complete listing of the posters and the panel presentations in this Conference Program that you hold in your hands.

Many people worked hard to bring this conference together. The faculty, students, staff and administrators who planned the conference are listed in this program. But the list does not include the myriad of other faculty, staff, and administrators who also extended themselves at a time of the year when we are all stretching to bring the year to a successful conclusion. This conference is a community wide effort.

Finally, we hope that you emerge from your time at the conference for a fuller appreciation for the intellectual dynamic that lies at the center of our work at Saint Vincent College. We hope that you enjoy the conference.

Sincerely,

Timothy Kelly, Ph.D.
Department of History
Conference Co-chairs

Mark Rivardo, Ph.D.
Department of Psychology

St. Vincent College Student Research Conference

2008 Committee

Dr. Tim Kelly, Co-chair

Dr. Mark Rivardo, Co-chair

Faculty and Administration Representatives

Dr. Bruce Bethke

Dr. Melissa Cook

Dean Alice Kaylor

Dr. Michael Rhodes

Dean John Smetanka

Mr. Jason Winters

Student Representatives

Mr. Brian Bertig

Mr. Dan Bret

Mr. Steve Leuschel

Ms. Alé Muzika

This program was design by Sophomore Communication majors
Katherine Caringola and Blair Flickinger.
Both students are members of the
SVC Chapter of the Public Relations Student Society of America (PRSSA)
and designed this program as a community service project.
The 2008 Conference Committee thanks Katherine and Blair for their time and talents.

As noted throughout the program after student names, student designed research and study at Saint Vincent College is supported through the following grant programs:

The A.J. Palumbo Student Research Endowment

Established in 1996, the Palumbo grant program supports student initiated learning and discovery in the arts, sciences, humanities, and professional programs. Grants are awarded on the basis of proposals submitted by the students and reviewed by a committee comprised of both faculty and students. The endowment memorializes the late Mr. A.J. Palumbo, a noted Pittsburgh industrialist.

The Elizabeth and Tom Andreoli Traveling Scholar Endowment

Established in 1997, the Andreoli Traveling scholar endowment funds students who wish to enrich their education through special opportunities that require travel in the U.S. or abroad.

The John L. Pollock Student Research Grant in Business, Economics & Public Policy

The Pollock Grant funds student research and analysis in the area of business, economics, and public policy. The funding is intended to enhance personal and professional growth through off-campus internships and study that promotes exposure to leaders in business, economics, and public life.

Oral Presentations Schedule
Wednesday, April 23, 2008
2:30 pm-6:30 pm
Headmasters Hall (HH) and Prep Hall (Prep)

Time	Prep 220	Prep Mac Lab	Prep 215	Prep 205	Prep 203	HH 404	HH 303	HH 304
2:30-3:00						Communication 1		
3:00-4:00	Philosophy	Communication Websites	Liberal Arts 1	English 1	History 1	Communication 2	English 2	History 2
4:15-5:15	Physics	Communication Websites	Study Abroad	English 3	History 3	Communication 3	Economics	Service Learning
5:30-6:30	Internships	Education	Theology	Liberal Arts 2	History 4	Political Science/ Liberal Arts	Biology	

Poster Session
Wednesday, April 23, 2008
3:00-7:00 pm (see page 30 for details of presentation times)
Carey Center Lounge

Oral Presentations Program Schedule

(overview of time, location, and presenters)

Time	Department/Discipline	Location	Presenters
2:30-3:00	Communication Session 1	HH 404	Abbey Sloss Brittany Bennett Jessica Frey Frank Kuhne Shelly Teems
3:00-4:00	Communication Session 2	HH 404	Jennifer Shields Nettisha Holas Eamon McDonough Craig Williams Jared Bundy
	Communication Websites	Prep Hall Mac Lab	Sarah Rendulic Sherrie Dunlap Mark Fields Kristopher McKeever Katherine Caringola Jared Bundy Ryan Toedtman Rich Kistic Conner Gilbert
	English Session 1	Prep Hall 205	Kara Quinto Kelly Bowland Abby Chabitnoy John Geyer
	English Session 2	HH 303	Emily Petrovich Sara Tedde
	History Session 1	Prep Hall 203	Katrina Greco Timothy McKenzie Michael Pehinec
	History Session 2	HH 304	Alexander Michael Kuchta Emily Rehosky Ryan Giannini
	Liberal Arts Session 1	Prep Hall 215	Kim Everhart Mark Barry Mastriano Chad Stepanik
	Philosophy	Prep Hall 220	David Nowakowski Michael Rumpf

4:15-5:15	Study Abroad	Prep 215	Cassie Fickley Terese Sonnett Debbie Klein Mary White ShaneSeremet Kate Torba Roxanne Ruminski
	Communication Session 3	HH 404	Christopher Armstrong Sherrie Dunlap Mark Fields Conner Gilbert Laura Gerhart Chris Sirianna
	Communication Websites	Prep Hall Mac Lab	Sarah Rendulic Sherrie Dunlap Kristopher McKeever Katherine Caringola Jared Bundy Ryan Toedtman Rich Kistic Conner Gilbert
	Economics	HH 303	Ashley Martin Stefan Genzor James Walsh Greg Spelar Joseph Bruzda
	English Session 3	Prep Hall 205	Jennifer Emling Jenna Hogan Matt Cirilli
	History Session 3	Prep Hall 203	Terence Casey Sawick Ashley Russo Matthew C. Oberdick
	Physics	Prep Hall 220	Jared Brasher Dominic J. DiCostanzo Theodore Chavez
	Service Learning	HH 304	Alex LaPiana Hayley Marks Chad Meholic John Bozek Bethany Carney Sara Stefanik Nicole Matich

5:30-6:30	Biology	HH 303	Ashley Nord Brandon Shutty Ryan Fredo
	Education	Prep Hall Mac Lab	Kelly Bridges Ryan DeMatteo Sarah Felton Joseph Giacobbi Megan McCullough Kimberly Morelli
	History Session 4	Prep Hall 203	Emily Rhine Tara Kauffelt Stephanie Koller Michael Piano
	Internships	Prep Hall 220	Catherine Bittner Zachary Parkhill Nicole Rohrbacher
	Liberal Arts Session 2	Prep Hall 205	Lauren Jones Jessica Bowser Steven Leuschel
	Political Science/Liberal Arts	HH 404	David Swithers Nathan Harig
	Theology	Prep Hall 215	John Allen Elizabeth Boggs Nicholas Pityk Sean Fox

Oral Presentations

(organized alphabetically by academic department/ discipline).

Oral presentations are held in Headmasters Hall and Prep Hall from 2:30 p.m. -- 6:30 p.m.

Please note the location and starting time for each panel.

Biology		Headmasters Hall 303
		5:30-6:30
Presenter	Title	Abstract
Ashley Nord	Peromonal Effects on the Estrous cycle and Stress Levels of Mice	Two pheromonal effects, the Lee-Boot and Whitten Effects, have been found to cause significant alterations in the female reproductive, endocrine, and nervous systems. Using the estrous cycle of female mice as a model for the menstrual cycle, this study examined the effects of pheromones on stress levels in relation to estrous synchronization. Female mice were exposed to other females for two weeks to induce the Lee-Boot Effect and to males for two weeks to induce the Whitten Effect. Vaginal cytology and stress levels were examined throughout the study to identify changes that resulted from pheromone exposure. Exposure to male pheromones was found to decrease female stress levels, with the lowest stress levels found in females with the closest proximity and longest exposure to males. These results indicate that housing arrangements allowing for close proximity between males and females may serve as a stress reliever for mice in a research setting.
Brandon Shutty	The Effects of Common Antidepressants on the Hypothalamic-Adrenal-Pituitary (HPA) Axis in Learned Helpless Male and Female Mice	Several major drug classes are used in the treatment of clinical depression, a condition more prevalent in women than men. The forced swim test (FST) is an animal model of depression. In the present study, two groups of mice were pretreated with two antidepressant classes—a selective serotonin reuptake inhibitor (SSRI) and a tri-cyclic antidepressant, respectively. The present determined sex differences in antidepressant effects (using FST) and stress hormone responses following SSRI and tri-cyclic treatment. Control males had lower plasma corticosterone levels than control females after FST. Interestingly, there were sexually divergent responses to the antidepressants investigated; males responded better to the tri-cyclic, and females responded better to the SSRI. Based on the results, increased corticosterone levels correlated with an antidepressant effect in the mice in the FST.
Ryan Fredo	Temperature Variations and Growth Patterns of Salmonella Typhimurium	This project examines the affect of temperature variations on growth patterns of Salmonella typhimurium. S. typhimurium was incubated at 30, 37, and 42 C, viable cell counts were performed, and growth curves were obtained. Optical density readings were used to calculate the mean generation time of S. typhimurium at each temperature. S. typhimurium incubated at 37 C, the control group, demonstrated a standard growth curve and the shortest mean generation time. The bacterium incubated at the experimental temperatures (30 and 42 C) exhibited reduced exponential phases, with the 30 C group showing the most drastic reduction in the exponential phase and the largest mean generation time. This data allows the conclusion that S. typhimurium experiences optimal growth at 37 oC with a decreased growth rate at 30 C and 42 C. The decrease of the 42 C temperature group was concluded to be insignificant.

Communication Session 1		Headmasters Hall 404
		2:30- 3:00
Presenter	Title	Abstract
Abbey Sloss, Brittany Bennett, Jessica Frey, Frank Kuhne and Shelly Teems Anthony Sonita, team member Palumbo grant recipients	“I AIM to...” Creative Advertising Campaign for AAF National Student Advertising Competition	The American Advertising Federation National Student Advertising Competition (AAF NSAC) offered collegiate AAF chapters around the country an opportunity to participate in this annual case study. This year’s client is AOL’s AIM. All teams were asked to create an advertising campaign targeted toward 18-24 year old current and potential users of AIM. This year’s St. Vincent College AAF NSAC team completed a 32 page plans book and a 20-minute competitive oral pitch that will be presented at SVC during the Student Conference, as well as on May 3 rd during the AAF District II competition in New York City. The team created the “I AIM to...” campaign alongside their Ad Club members during the 2007-08 academic school year.

Communication Websites		Prep Hall Mac Lab
		3:00-5:15
Presenter	Title	Abstract
Sarah Rendulic, Sherrie Dunlap, Mark Fields, Kristopher McKeever, Katherine Caringola, Jared Bundy, Ryan Toedtman, Rich Kisic, and Conner Gilbert	Web Site Development	Students in CA/AR 235 complete a final web site project each semester. Some of the sites are designed for real businesses, while other sites are professional student portfolios. The students will display their creative work in the computer lab.

Communication Session 2		Headmasters Hall 404 3:00-4:00
Presenter	Title	Abstract
Jennifer Shields	“The Supernatural”: A Psychoanalytic Critique	These four psychoanalytic elements of the unconscious, the Id, the Ego, and the Superego will be discussed in this criticism of the CW TV show Supernatural. After an explanation of Freud’s idea of the unconscious, and his structural theory, this paper will explain how the criticism fits into the character of Dean Winchester. Examples of Dean’s life changing events and his unconscious will be explored in the paper.
Nettisha Holas	Visual Critique of Hurricane Katrina Aftermath Pictures: Was Race an Issue?	Hurricane Katrina hit the gulf coast of New Orleans on August 29, 2005. The hurricane affected those living in the area, and even those across the nation. Controversy first arose due to the delay in the government’s assistance to the Katrina victims. The criticism was directed toward government officials with the suggestion that help was delayed due to racism and class status of the victims. The media also received backlash for the images shown. The pictures and cutlines showed the African American community as “thieves” and as “vandalizers” where white people were termed “survivors”. This paper will use visual criticism to analyze the media’s impact on viewers and how media’s biases can cause other biases. The paper will detail how the language connected to the images can be misleading and cause a negative connotation towards a race due to lack of impartiality.
Eamon McDonough	The Morals of Forrest Gump: A Psychoanalytic Critique	Forrest Gump is not just a movie to watch for entertainment, but to watch for morals. Forrest is a very kind and loving man but some people do not return the respect he deserves. Forrest believes in some things that most people cannot understand. This psychoanalytic critique will view the movie through a critical lens in detailing the morals that are available for the audience's interpretation. Forrest believes in what he does because of how he was raised and he does not waiver from his beliefs.
Craig Williams	Psychoanalytic Critique of Addiction and Desire in “Requiem for a Dream.”	This Psychoanalytic critique examines the movie “Requiem for a Dream” as an artifact in pop culture and analyzes some imagery in the film. This paper analyzes the movie and what it may tell its audience in a way that was not originally intended, as well as a discussion about how the desire to become a whole person can be seen in the film and lead the viewers to some self-actualization in one’s own life.
Jared Bundy	To Be, or Not to Be Patriarchal: A Feminist Critique of Hamlet	The feminist criticism technique focuses primarily on how a text perpetuates a patriarchy, that is, a male-dominated society. This is analyzed in three ways: by seeing how women are degraded within the text, the lack of women as subjects, and the silencing of the women present. Hamlet provides plenty of information for a well-informed feminist critique in all three of these areas. For the purposes of this essay, the focus will be to show the arguments and counter-arguments for a feminist criticism on Hamlet. It is hoped that through an examination of the text itself and other texts one will come to see that Shakespeare only perpetuated the patriarchal society due to necessity and that today’s society has panned out a far different idea of the female characters.

Communication Session 3		Headmasters Hall 404 4:15-5:15
Presenter	Title	Abstract
Christopher Armstrong	A Marxist Critique of “Reefer Madness”	The anti-marijuana book “Reefer Madness” exemplifies many themes that can be examined through the lens of a Marxist critique. The book portrays a skewed perception of the dangers of marijuana use. This critique will include such themes as economic base, superstructures, materialism, and empowerment to uncover the truth behind the inaccurate portrayal of marijuana use. The critique will open eyes to unmask why such arguments were used to persuade American citizens.
Sherrie Dunlap	The Corporate Heart of (Red): A Marxist Critique of Corporate Involvement	Product (RED)’s manifesto suggests that we can “change the course of life and history on this planet” (joinred.org). Consumers choose to purchase a (RED) item with proceeds from the sale sent to The Global Fund to assist in the fight against AIDS in Africa. This Marxist critique examines the true involvement of (RED)’s corporate partners. While (RED) empowers consumers to join a social cause, the corporations seize that power in a way that is seemingly self-promoting rather than cause promotion or related marketing. (RED) products are advertised and the brand is enriched with a pseudo altruistic heart.
Mark Fields	Nike: Brilliant Strategy	The Nike corporation and their dominance in shoe production has been a result of both genius marketing and business strategy. The corporation can be viewed through a Marxist lens. The paper focuses on Nike and asks if it has a monopoly in the shoe industry, or if through careful and perfect strategy they have created one of the most successful businesses of all time. Past and present pop-culture topics are woven throughout the piece including the use of Michael Jordan, the subculture of sneakerheads, and Nike’s involvement in skateboarding.
Conner Gilbert	A Marxist-Psychoanalytic Critique of the Beatles’ “Sgt. Peppers Lonely Hearts Club Band”	For this Marxist and psychoanalytic critique, the study focuses on “Sgt. Pepper’s...”, a 1967 album released by the Beatles. A specific aspect of Marxist thinking shines through in this landmark album: the changing of the Beatles’ subject positions. From a psychoanalytic perspective, the album seems to have also been significantly influenced by the Freudian concept of the unconscious. In Sgt. Pepper, the Beatles’ shift in style, ideology, and creativity affected not only the band, but the course of popular culture.
Laura Gerhart	P for Power Perversion: A Marxist Critique of “V for Vendetta.”	On the surface, “V For Vendetta” is simply an entertaining tale of a superhuman mortal battling evil against seemingly impossible odds. However, this movie is unique in its ability to offer its audience a cryptic warning of the critical problems that plague our society. The movie reflects the power struggles, cultural ideologies, government corruption, and social and political forces that overshadow our era, laying a solid foundation for a Marxist critique.
Chris Sirianna	The Price of Status and the Power of Image: The Hollister Lifestyle	Everything around us has an impact on us and the way we think. Psychoanalytic criticism assumes that all artifacts or popular culture—has something “behind” it, some other reality of significance beyond itself. Marxists criticism regards meanings as if they were commodities, and discusses the ways they are exchanged, traded, bought, or sold. Even clothes mean something other than warmth and decency. Every name brand has its own logo, or trademarked symbol that represents the clothing company itself. But more over, that symbol represents everything that comes with that article of clothing; a way of life. This criticism is on the Hollister lifestyle, based on these two genres of criticism—Psychoanalytic and Marxist

Economics		Headmasters Hall, 303 4:15-5:15
Presenter	Title	Abstract
Ashley Martin	Communication and Cooperation in the Trust Game	This paper examines the effects of communication on cooperation in the context of a repeated trust game. The results are based on a comparison of two sessions of the trust game, which are designed to create a trust-inducing environment. The first session, baseline, is an infinitely repeated trust game with fixed partners and without communication. The second session, variation, is an infinitely repeated trust game with pre-play communication and fixed partners. The communication is in the form of chat room style cheap talk, which is non-binding. The results of these sessions suggest that the ability to communicate enhances earnings and cooperation, even though the communication is non-binding.
Stefan Genzor and James Walsh	Varying the Parameters in the Volunteer's Dilemma Game	This paper examines the impact of varying the parameters of the Volunteer's Dilemma game. The costs and payoffs are varied proportionately so that the equilibrium probability of volunteering is not affected. The experimental results suggest that Nash equilibrium neutral changes in these parameters do not have a statistically significant impact on the individual's decision to volunteer. The results also suggest that an individual's volunteer decision in one round is directly related to his/her volunteer decision in the previous round. Conversely, an individual's volunteer decision in one round is inversely related to the number of volunteers within that individual's group in the previous round.
Greg Spelar and Joseph Bruzda	The Economics Principal Agent Game	This paper presents the results of an experimental economics principal agent game. This game examines the effects of wage rejection, rewards, and sanctions on the wage offers by employers, effort levels of workers, and earnings of the relevant parties. The results of the experiment suggest that wage rejection and reward contracts efficiently increase cooperation between employers and workers, while sanction contracts inefficiently increase cooperation between employers and workers.

Education		Prep Hall Mac Lab 5:30-6:30
Presenter	Title	Abstract
Kelly Bridges, Ryan DeMatteo, Sarah Felton, Joseph Giacobbi, Megan McCullough, Kimberly Morelli	Pre-Student Teaching Electronic Portfolios	An electronic portfolio is an important aspect of the student teaching experience. Using the software WebBlender, a portfolio is created without a template. The portfolio is started during the pre-student teaching experience and completed during the student teaching experience. The portfolio consists of lesson plans, photographs, a slide show, and other artifacts that relate to the student teacher's knowledge of student learning, content mastery, classroom environment, instructional strategies and professionalism. The opportunity to create such a portfolio encourages reflection on the successes and challenges of learning to teach. The final project will serve not only as a reflective summary of the experience, but will also be shared with prospective employers who can view the portfolio using any web browser.

English Session 1		Prep Hall 205 3:00-4:00
Presenter	Title	Abstract
Kara Quinto	A New Historicist Critique of <i>The Aeneid</i> .	In my essay, I focus on Virgil's <i>The Aeneid</i> from a New Historical Perspective. By examining several of the books closely, I parallel what Virgil is writing about the story of the founding of Rome with the events that actually took place in Rome's history over the last several decades leading up to Augustus' rule. By showing how the events in Virgil's epic tie in with what was occurring historically, I am able to show that Virgil's purpose for writing this epic is to justify Augustus' rule by legitimizing the controversial acts of Julius Caesar. Since Augustus is Caesar's successor, the legitimization of Caesar's acts directly benefits Augustus as well as Augustan politics by strengthening the imperial image Augustus was attempting to present to the Roman people.
Kelly Boland	"You Oughta Know" About Feminism	Are certain self-proclaiming feminists of today really just propagating the disenfranchising and gender-specific ideas encoded within our society? The paper "'You Oughta Know" About Feminism' examines one such feminist artist who, whether intentionally or not, promotes anti-feminist ideals in her popular musical lyrics. Specifically, the paper examines one particular song, applying feminist criticism to the language and theme of the lyrics.
Abby Chabitnoy	The Threat of Sanity: A Deconstructivist Approach	The nature of Hamlet's madness has been the subject of debate throughout the history of the play's criticism. Even though such utterances seem mere mad wordplay and fancies of an idle mind, a deeper meaning can be extracted that originates in a mind that is indeed <i>more</i> perceptive rather than less than the other characters. Though they may strike a note of discord in conventional ideology, in so doing they expose another understanding of these "truths" that are otherwise suppressed by the dominant parties in Hamlet's society. The declaration of Hamlet's madness accepted as real in critical teaching is an act, as Raymond Williams states, of "decisive hegemonic function" which acts "to control or transform or even incorporate [alternatives and opposition to the dominant ideology]", and will attempt to show this through a deconstructive approach to Act 4, Scene 3.
John Geyer	Gaming Ain't for Girls	The heavily armored human in full plate armor walks slowly towards the menacing horror as he brandishes his razor-sharp sword in his gauntleted hand. His trusty friend, a barbarian from the frozen wastes, lets loose a cry of rage and charges into the fray with an axe larger than his own body. Standing behind them, weak and fragile, wearing clothing too skimpy and too revealing that no self-respecting adventurer would wear, is the woman that is being protected or rescued by the brave male warrior. Although the current gaming industry claims to be gender-neutral, and have undoubtedly made efforts to become so, the previous scene is the typical example of gender roles in fantasy and war gaming circles today. This paper provides a feminist critique of the gaming industry by using Wizards of the Coast's game, Dungeons and Dragons, as an example.

English Session 2		Headmasters Hall 303 3:00-4:00
Presenter	Title	Abstract
Emily Petrovich	Calcutta Inspired Creative Writing	I will present two pieces of creative nonfiction writing that were inspired by a mission trip to Calcutta, India in May 2007. The pieces are taken from my senior project, which is a collection of works entitled "Growth: An Interaction with Faith." The essays allow the reader to feel the emotional impact of travel and faith. Both essays represent my personal reflection on the journey and the mission work, as well as my spiritual outlet through the intense emotions that I experienced. Both works are narrated from a first person point of view and use literary techniques like defamiliarization to provide a magically real sense of experience. The first piece is "Holy Jewelry," followed by "Inner Voice."
Sara Tedde	Coming to Life	"Coming to Life" is a collection of creative non-fiction essays that deal with a range of topics such as family, adolescence, writing, memory, and even seahorses. Ultimately, the essays are linked together by the common theme of love, which is used in many different senses of the word. "Coming to Life" works as an autobiographical piece both directly and indirectly as it tells stories of my past and present and also the stories of those things that inspire me, such as old books.

**English
Session 3**

**Prep Hall 205
4:15-5:15**

Presenter	Title	Abstract
Jennifer Emling	Spenser's Bower of Bliss and the Recuperation of Male Power	"The Book of Temperance" in Edmund Spenser's epic <i>The Faerie Queene</i> is a reflection of the ideological confusion of the Renaissance nobleman during the reign of Elizabeth I. Despite traditional patriarchy dominating all spheres of English culture, noblemen in the 16th century found themselves the subjects of an unmarried reigning Queen. Public reactions by noblemen ranged from pseudo-religious devotion to Elizabeth to distrust and paranoia of a woman in control of the kingdom. Sir Guyon's adventure in the "Bower of Bliss" represents the quest of the Renaissance male to comprehend questions of gender, sexuality, and authority posed by Elizabeth I through the allegorical threat of Acrasia. The Palmer and Verdant embody two extreme historical views of women in power fighting for dominance, and Guyon's ultimate choice to destroy the Bower and imprison Acrasia asserts the author's subversive message of rejection of Elizabeth I and feminine authority.
Jenna Hogan	Sin, Death, and the Afterlife in <i>Hamlet</i>	Many literary critics have recently entered a long-standing debate: the question of whether Shakespeare was influenced by religion, and more specifically, if the content of the playwright's works could be interpreted as representing the views of either Catholicism or Protestantism, respectively. A New Historicist critique would need to evaluate the immediate circumstances, including the value systems, which surrounded Shakespeare in sixteenth century England when he was writing the famous play. Even though England was shifting toward a Protestant value system and set of beliefs during the sixteenth century, when writing about the topics of sin, death, and the afterlife in <i>Hamlet</i> , William Shakespeare portrayed these elements in a purely Catholic manner. This Catholic viewpoint is most obvious in the scenes featuring Claudius' inability to pray, Ophelia's burial, and the appearances of King Hamlet
Matt Cirilli	Women in <i>King Lear</i> : Expressions of Filial and Romantic Love	My paper explores the fulfillment of socially expected familial and romantic relationships in <i>King Lear</i> . The primary focus is placed on women's roles in historical Elizabethan England as compared against the actions of women in <i>King Lear</i> . There is considerable evidence of women both complying with, and rebelling against, these traditional roles throughout the play. I also consider the rigidity of Elizabethan gender roles for women and the resistance that such a system inevitably causes.

History Session 1		Prep Hall 203 3:00-4:00
Presenter	Title	Abstract
Katrina Greco	The Romances of Chrétien De Troyes and the Evolution of Tournaments in the High and Late Medieval Period	The romances of Chrétien de Troyes, written during the high and late medieval period, depict tournaments as exercises deeply infused with the principles of chivalry. As these poems about King Arthur and his knights became increasingly popular, real life tournaments began to change from violent melees to highly stylized and regularized <i>pas d'armes</i> . This paper, which utilizes a close reading of Chrétien's romances, first hand accounts of real-life tournaments, and secondary sources discussing both the history and ideologies of tournaments and romances, traces the relationship between romantic descriptions of tournaments and the development of increasingly elaborate and safe practices in real life.
Timothy McKenzie	The Knights Hospitallers in England and Spain	I will present my thesis concerning the crusading Order of St. John of Jerusalem, the Knights Hospitallers, and their involvement in the European regions of England and Spain from the 12 th to 16 th centuries. My research shows that in England and Castile (central Spain), the Hospitallers generally had cordial relations with the monarchies there and profited from the lands the Hospital was given in these kingdoms. In Aragon (eastern Spain), the relationship with the monarchy was arduous and strained. The conclusion is that the degree of successful coexistence between the Order and the kingdoms they occupied were a result of how well they balanced their loyalty between the Order's headquarters and the kingdoms' monarchies
Michael Pehinec Andreoli travel grant recipient	Roman Citizenship and Architecture	After a great deal of time and research I had decided to write about Roman citizenship because the citizens of ancient Rome have always been something that intrigued me. What were they like, and why were they like this? What was it like to live like a Roman in the first century A.D., and what values, norms, characteristics, and traits were parts of their culture? I was unsure on which aspect I wanted to study, that is until I began to research Roman architecture and its relation to citizenship. The connections between the two (architecture and citizenship) are unbelievable, and thus, a topic was born. I was able to establish my thesis goal which is to show how Roman citizenship fostered the development of architecture and how the Roman citizens' traits and characteristics were very present in almost every aspect of Roman architecture.

History Session 2		Headmasters Hall 304 3:00-4:00
Presenter	Title	Abstract
Alexander Michael Kuchta Andreoli travel grant recipient	Efficiency and Opportunism in the Mongolian Empire: From Genghis to Khubilai	The Mongolian hordes are things of legend and are credited with large-scale violent expansion headed by a powerful Khan. The process of building an empire is one that many powerful rulers have failed to achieve, so what makes the Mongolian of the Yuan Empire so different? There are two distinct reasons for why the Mongolian War Machine rolled over their opposition: a set of cultural characteristics that made the Mongolian people a naturally effective military, and a general willingness expressed by Khanate leadership that the Mongolian forces would need to adapt in order to succeed; a process that was centered around emulating and utilizing foreign technology for their own benefit. This is demonstrated through use of civilian populations of conquered cities, siege machinery, and gunpowder.
Emily Rehosky Palumbo grant recipient	Heaven on Earth: An Enquiry into the Popular Appeal of the Taiping Heavenly Kingdom	In the mid-nineteenth century a Chinese man named Hong Xiuquan experienced what he believed to be a vision, wherein he traveled to Heaven, spoke with God, and received a holy mission: to found the Kingdom of God on earth. But first, he would have to overthrow the ruling Qing Dynasty that was leading the people astray. To this end, he gathered an army of followers, most of whom came from the peasantry, and embarked on a massive military campaign. But the movement had social implications, as well. Borrowing from Christian ideals, Hong espoused equality for all, and this is largely what made his movement so appealing to the peasantry. However, while he failed to deliver most of what he promised, his movement enjoyed widespread support until its demise. I believe this support was partially the result of Hong's martial law, and partially the result of a psychological aversion to conflict that is uniquely Chinese.
Ryan Giannini	Jrock Evolution	In recent years, with Japanese culture infiltrating many forms of American entertainment, it is not surprising that Japanese rock bands are starting to gain a cult following here in the West. Japanese bands come over to the States and Europe and sellout concerts with almost no promotion, or radio airplay. These bands are transcending the language barrier and bringing a new style and sound, all while being from a country that most people would assume did not even have any rock bands.

History Session 3		Prep Hall 203 4:15-5:15
Presenter	Title	Abstract
Terence Casey Sawick	The Molly Maguires: The Martyred Men of Labor	I will begin with a brief historical summery of the Molly Maguires. I will talk about how these Irish immigrants came to America, settled in Northeast Pennsylvania, and eventually fought for their natural rights. I will then move onto Franklin Gowen’s personal crusade to destroy any chance of organized labor in the Anthracite Region of Pennsylvania. Next, I will chronicle the trials of the Molly Maguires, and how they were fixed by Franklin Gowen, in order to sentence the Mollies to death. I will then move on to tell how some of the Mollies relatives are currently going through the process to have their ancestors pardoned. I will conclude by playing the song, “The Ghosts of The Molly Maguires” on my guitar and singing along
Ashley Russo Palumbo grant recipient	The Murder of Seely Houk	For my senior thesis I researched the murder of L. Seely Houk. Houk was a game commission warden for the New Castle area who, because of his strict adherence to the rules, was hated by all of the people in his district. Houk created some tensions with the local mafia when he allegedly killed the dog belonging to the local mafia boss, Rocco Racco. Racco was put to death for killing Houk. My paper examines the murder to see if Racco was given a fair trial and who could have possibly committed this crime.
Matthew C. Oberdick Andreoli travel grant recipient	Death and the Turnpike	In the pre-industrial revolution era of England movement of goods and raw material to various areas of the country, was vitally important to the growth of the nation. The movement of goods and materials further into the interior of seventeenth century England was only possible through use of common roadways. Development of Turnpike Trusts helped individual geographic areas to focus attention on the development of new roadways, maintenance, and proper administration of these important lifelines. The Colnbrook Turnpike Trust is one example of numerous such Trusts developed in England at this time. On March 28 th , 1773 members of the Colnbrook Turnpike Trust attended a meeting and a dinner at the Castle Inn. After the meeting several members of the Trust became seriously ill and died. This particular instance was examined to consider various potential causes of death and to contemplate the ramifications when government becomes overly involved.

History Session 4		Prep Hall 203 5:30-6:30
Presenter	Title	Abstract
Emily Rhine Palumbo grant recipient	Love, Freedom and Sex: a History of the Appeals of the Oneida Utopian Community to Women	When most people hear the phrases free-love, utopia, communal living, and gender equality they think of the 1960's, a time of great sexual and social revolution. But these phrases can also be used to describe another period of American History long before the hippie youth culture of the 1960's. The Utopian movement of the nineteenth century embraced all of these ideals. Especially illustrative of these phrases, free-love, utopia, communal living, and gender equality was the Oneida "free-love" Utopian Community of New York which thrived from the 1830's through the 1870's. What elements of the Oneida Community inspired more than three hundred women to leave their lives as wives and mothers in the traditional family structure and embrace the communalistic, "free-love" utopian vision of the Oneida Community? The Oneida Community offered women, increased power and unprecedented economic, social and sexual freedom.
Tara Kauffelt Palumbo grant recipient	Filling the Empty American Canvas	The beautiful landscapes and narrative paintings of the period of Westward Expansion, from roughly the 1820's to the 1890's, are full of symbols exuding patriotism and imagery meant to convince settlers into taking the long and hard journey toward a new home. The paper explores the influence of artists and art on migration to and perception of the west, with a focus on Emanuel Leutze. His stirring mural entitled in the US Capitol building pays tribute to Lewis and Clark and the banner cries out "Westward the Course of Empire Takes its Way."
Stephanie Koller Andreoli travel grant recipient	Woman as Symbol in the French Revolution	The propaganda of the French Revolution of 1789 was created to influence public opinion. During this time artists focused on certain images and symbols in order to create a theme or a particular meaning behind their work. Artists chose to focus on the image of a woman to symbolize the new government, and the new life the French people would have; while at the same time using women to represent the ills of society. The time leading up to the Revolution focused on the antagonism of two very different lifestyles. The trends of the art in the revolution in France are ones that question the role of women in the revolution. Did women influence the propagandists? If women did influence the artists of the revolution, how so, and if they did not have any influence over them, then why were women chosen to represent the new Republic?
Michael Piano	Italian- American Culture in the U.S.	My work dealt with the state of Italian-American (U.S.) culture within the Italian-American community within recent decades. The chronology focused on the pivotal post-war years when Italian-Americans largely became suburbanized. There was also an exploration of how World War II affected Italian-American culture, namely the Italian language. Several articles in professional psychological journals and other periodicals of the social sciences were used to better understand the lingering of Italian-American culture after suburbanization. A use was made of demographic statistics, including marriage statistics, such as cultural intermarriage and religious intermarriage. A noticeable trend was the economic progress of Italian-Americans within the last fifty years. It was determined that despite what we usually call assimilation, for many there remains true relevance in being Italian in the United States

Internships		Prep Hall 220 5:30-6:30
Presenter	Title	Abstract
Catherine Bittner	NHS Internship	<p>I held my internship in the Fall of 2006 with a company called NHS Human Services. I worked in the Stepping Stones Program, a social skills group for children on the Autism Spectrum.</p> <p>(For more information on this internship, see Catherine's poster.)</p>
Zachary Parkhill	A Streamlined Internet Presence for Heinz U.S. Consumer Products	<p>Last summer I worked as the Promotions Intern at Heinz North America in Pittsburgh. Having a background in internet marketing, my assignment was to analyze the various brands' online strategies relative to their competitors and provide recommendations for improvement. Conducting competitive research allowed me to highlight three main opportunities for the Heinz brands to improve their internet marketing strategies. In my presentation I will provide a brief overview of the competitive research I performed. I will also expand on the benefits associated with implementing an integrated consumer communication process and comprehensive master recipe database. I will conclude by presenting my actionable findings in the context of a case study of the Heinz Ketchup brand.</p>
Nicole Rohrbacher	Arc of Westmoreland	<p>During my internship discussion, I will be talking about my summer at the Arc of Westmoreland. I assisted my supervisor in fundraising, family resource therapy and vocational skills for individuals who are mentally and physically disabled. The Arc is a non profit organization so I worked to raise money, achieve funded grants, conferences, building portfolios for students in school, and transitioning from school in the workplace.</p> <p>(For more information on this internship, see Nicole's poster.)</p>

**Liberal Arts
Session 1**

**Prep Hall 215
3:00-4:00**

Presenter	Title	Abstract
Kim Everhart	Promoting Awareness and Prevention of Medial Tibial Stress Syndrome in Athletes	The purpose of my research was to describe Medial Tibial Stress Syndrome (MTSS), identify who is at risk for MTSS, and find the best treatment and prevention methods for the syndrome. In order to do this I read books and journal articles and obtained information from an orthopedic sports medical center about MTSS and how to treat and prevent the syndrome. What I found was that many different kinds of athletes suffer MTSS and treatment is a long, slow process. However, the treatment process can be avoided if prevention methods are utilized and the syndrome does not occur. Partaking in prevention methods for MTSS can also prevent other stress syndromes of the lower leg. In conclusion if athletes are aware of MTSS and what they can do to prevent its onset then they can enjoy successful competitive seasons without deterrence from this stress syndrome.
Mark Barry Mastriano	Returning to Play after a Concussion	I present an overview of concussions, including the different grades, how they occur, and the symptoms that accompany different concussions. I then examine the most frequently used return-to-play guidelines after a concussion. These return-to-play guidelines include the Cantu guidelines, The American Academy of Neurologists guidelines (AAN), the Colorado Medical Society guidelines, and UPMC guidelines. I explore the differences between how an athlete is diagnosed and the return-to-play time with each guideline. I developed an IRB-approved survey and distributed them to NCAA Division I and III athletic trainers asking them which guideline they use and to expand on the pros and cons they encounter with the use of their guideline. I review the information to determine if one lone guideline would be best to use, or if a combination of the four most widely accepted guidelines would be more appropriate.
Chad Stepanik	Music's Effect of the Mind and Body	Music is prevalent in our lives each day. Music can be broken down into elements, such as tempo, pitch, harmony, melody, and rhythm. Music can also be recognized in a major or minor mode. This paper explores how each of these elements plays a role individually, and also how they combine to form a song to produce an overall affect on a person. My paper reviews the scientific literature on the cognitive, psychological, and physiological effects of music on young to middle-aged adults. From helping students in the academic world, to motivating those who care for physical health or even helping patients cope with pain, music has the ability to effects our lives. It is through my paper that you will gain a sense of how this takes place.

**Liberal Arts
Session 2**

**Prep Hall 205
5:30-6:30**

Presenter	Title	Abstract
Lauren Jones	Common Coping Strategies and Treatment Methods Available for Individuals with Attention Deficit Hyperactivity Disorder	For this presentation, I will discuss research completed about Attention Deficit Hyperactivity Disorder (ADHD) and the current methods of therapy and medication options available to treat the disorder. There is no cure for ADHD; furthermore, the disorder never goes away completely. However, with medication and therapy the negative symptoms of ADHD are less problematic for the individual. The goal of my paper is to explain the possible benefits and negative side effects of current medications, used either themselves or in conjunction with therapy, prescribed for children, adolescents, and adults with Attention Deficit Hyperactivity Disorder.
Jessica Bowser	The Benefits of Various Therapies to aid the Physical Development of Young Children with Down Syndrome	Children with Down Syndrome develop physically and cognitively much slower than children with no birth defect. Tasks such as sitting up, rolling over, crawling and walking take a great deal longer for children with Down Syndrome to grasp and complete on their own. Enrolling a child with Down Syndrome in early intervention programs enables the child to have a better chance of learning basic skills earlier in life. Today there are many different types of therapies that can be used to treat a child with Down syndrome. These different therapies include: physical therapy, massage therapy, and neuro-developmental therapy. The author of this paper will explain the various therapies that are used to treat a child with Down Syndrome and by literature review and interviews discuss what therapy or therapies are the most beneficial to a child with Down Syndrome.
Steven Leuschel	Delivering Operational Excellence to American Healthcare: Applying the Tools and Techniques of the Toyota Production System to Hospitals	Operational Excellence has derived from the tools, techniques, and methods developed by a Japanese auto manufacturer, Toyota. Outside Toyota, this is called the Toyota Production System (TPS). In America, through many different books and teachings, TPS is known as lean manufacturing. No matter the name Toyota developed these techniques out of a need to survive after the Second World War. It was simple. Toyota's needed to increase profit, to increase productivity, and to decrease waste, in order to survive. Now America's hospitals are facing a very similar challenge - but problems within health care can cost you not only money, but your life or the life of a loved one. This thesis dives into the idea that hospitals need to focus on continuous improvement and solving problems so they never arise again.

Philosophy		Prep Hall 220 3:00-4:00
Presenter	Title	Abstract
David Nowakowski	Psychology, Epistemology, and Democracy: Toward a Unified Reading of Plato's <i>Republic</i>	In this excerpt from my senior thesis, I argue for a reading of Plato's <i>Republic</i> which treats his political theory not as the purpose of the dialogue in itself, but as a digression from two other, more central themes: the understanding and formation of the individual soul (psychology) and the pursuit of knowledge (epistemology). Such a reading will help to explain some of the apparent excesses and inconsistencies in Plato's critique of democracy, by seeing his political arguments within a larger, more coherent context.
Michael Rumpf	"The Language-Game Model and Its Description of the Function of Language in the Context of Human Inter-Subjectivity."	In this thesis, it will be shown that the language-game is a linguistic model used by Ludwig Wittgenstein to describe the function of language in the context of human inter-subjectivity through which meaning is both communicated and shared. It will be explained how the language-game model is consistent with the way language is first learned during infancy. It will be suggested how games are analogous to language in function. Language-games description of the function of language will be further explored through a discussion of the significance of naming. While names are arbitrary signs of things, they derive their meaning from the use of language embedded in being. The function of language is further developed in the rules associated with language-games. Language-games as the embodiment of human inter-subjectivity will be assessed not only in Wittgenstein, but in the context of James Carse's <i>Finite and Infinite Games</i> and Martin Buber's <i>I and Thou</i> . Finally, it will be shown what implications the language-game model would have in regards to the discourse between humankind and God in the Judeo-Christian tradition.

Physics		Prep 220 4:15-5:15
Presenter	Title	Abstract
Jared Brasher	Categories and Hierarchical Knowledge in Physics Education	My goal is to discover the methods by which people learn and understand physics concepts. Tests were given to first year undergraduate and graduate students as well as faculty members. The problems were not to be solved, but instead the problems were each to be placed into categories based on the principles of physics that would be needed to solve the problem. Using theories of hierarchical knowledge it is expected that those that do well in this categorization exercise will have a higher level of understanding of these laws, and in the students' cases, some correlation with students' grades is expected. Not only must the tests be checked for having good categories, but the placement of each problem in these categories must be compared as well. By doing this research, we hope to show whether or not categorization techniques could be used as an instructional tool in physics courses.
Dominic J. DiCostanzo	The Magical and Mystical Creation of Targets by Plasma Enhanced Chemical Vapor Deposition	In order to make targets for use in collision experiments at high energies, targets must be durable and have a known thickness, among other properties. I discuss a specific type of chemical deposition called plasma enhanced chemical vapor deposition. The targets are made from Deuterated-Methane gas and are tested for thickness using Americium-241 and a multi-channel analyzer. I discuss the methodology and physical concepts behind both processes.
Theodore Chavez Palumbo grant recipient	Forensic Science and Physics	The ability for forensic science to collaborate with the mission of many law enforcement agencies has demonstrated that analysis of forensic evidence is used in the investigation and prosecution of civil and criminal proceedings. I present measurement and analysis that demonstrate the presence of ignitable liquids used in the construction of flooring materials. Additionally, I analyze what affect the charred matrix material has on the retention of gasoline. Scientific research continues to develop new techniques and procedures used for the collection and analysis of evidence. Thus, the application of new technology by forensic scientists helps maintain a cutting edge on science while also meeting high standards of quality and accuracy. Future research that extends the study to eco-friendly flooring material will also be discussed.

Political Science/ Liberal Arts		Headmasters Hall 404 5:30-6:30
Presenter	Title	Abstract
David Swithers	Analysis of the Failure of the Luftwaffe To Meet It's Objectives in Operation Barbarossa, Russia, 1941.	Proceeding from Fuehrer Directive 21 regarding the conduct of operations of the invasion of Russia, I discussed the background, structure, equipment, preparation, target selections, goals, mission, history, and leadership of the Luftwaffe, as well as the accumulation of pre-war intelligence by the organization. A comparison is done between the Air Forces involved citing the technical superiority of the German in comparison to the Soviet during the first six months of the conflict, and the Fire Brigade doctrine of the German as well as the purpose and makeup of the individual flight groups. Throughout the thesis, it is reiterated that the conclusion must be that the German high command failed to objectively view intelligence reports and had therefore intended to invade the Soviet Union regardless of those reports, instead based upon of a superior ideology and attitude. As a result, the objectives laid out for the Luftwaffe contingent of the perceptions operation lacked a realistic potential for achievement.
Nathan Harig Andreoli travel grant recipient	Eastern Europe Since the Fall of the Soviet Union	As the 20th anniversary of the fall of communism throughout Eastern Europe approaches, this presentation presents a first-hand account of the current state of affairs throughout select former Soviet Bloc countries, (Poland, The Czech Republic, Ukraine, and Germany) since the collapse. It includes a brief account of the fall in each nation, democratization process, and present economic and political conditions within the countries.

Service Learning		Headmasters Hall 304
		4:15-5:15
Presenter	Title	Abstract
Alex LaPiana, Hayley Marks and Chad Meholic	Encountering Hospitality in Not So Ordinary Places: Reflections on a Semester of Service Learning	As part of our experience in Exploring Religious Meaning, we were challenged to participate in service learning at Clelian Heights School for Exceptional Children. As part of the course, we were invited to integrate scripture & theology with our experiences at the school. One of the values which seemed to come up consistently in class and in our service was that of hospitality. The discipline of hospitality involves reciprocity, giving and receiving, & we plan on focusing on both sides of the matter. We want to illustrate how hospitality is shown through the faculty & students at Clelian, and also how we showed hospitality towards the people there. Our experience at the school helped to challenge conventional notions of hospitality and raised important questions about how students (and faculty) should approach service learning in the context of a freshman level Theology class.
John Bozek, Bethany Carney, Sara Stefanik, and Nicole Matich	SVC Habitat for Humanity	We will present a PowerPoint presentation consisting of members' experiences from last year's trip and this year's, facts about hurricanes Katrina and Rita, as well as information about Habitat for Humanity.

Study Abroad		Prep Hall 215 4:15-5:15
Presenter	Title	Abstract
Cassie Fickley, Terese Sonnett, Debbie Klein, Mary White, Shane Seremet, and Kate Torba	Study Abroad Experiences	<p>This panel is comprised of students who have studied abroad during their tenure at St. Vincent College. They will give a panel presentation about their experiences. Each student will describe where they traveled, the academic experience, and the impact the experience had on them. Three common threads will tie the individual presentations together:</p> <ul style="list-style-type: none"> ○ a description of an image or object that symbolizes their experience (photo or souvenir that has special meaning to the student) ○ apprehension the student had before they went ○ advice for potential study abroad students <p>Students will share a few photos and answer questions. The panel will be moderated by Bessy Bannellick, Study Abroad Director.</p>
Roxanne Ruminski	Meeting the President of Ireland	<p>President Mary McAleese is the 8th President of Ireland. She was first elected in 1997 and then, unopposed, re-elected in 2004. Although the Irish presidency is more symbolic than the American presidency, President McAleese has had to overcome many tensions during her terms. First, she is a woman President where female public officials are still grossly outnumbered. Secondly, she is the first Irish President born in Northern Ireland. Considering the historical context of political and religious struggles between Northern Ireland and the Republic of Ireland, Mary McAleese had to earn the trust of the Irish people. Despite these obstacles, President McAleese has remained a symbol of stability and kindness during an economic boom and great prosperity in Ireland. She welcomed the Saint Vincent College Global Experience of 2008 over spring break, which was a rare opportunity and inspiring experience I would like to share with others.</p>

Theology		Prep Hall 215 5:30-6:30
Presenter	Title	Abstract
John Allen	C.S. Lewis' "Problem of Pain" in light of the Effects of Original Sin	My paper explores the notion of C.S. Lewis' "Problem of Pain," in light of the effects of original sin. The purpose of my work is to reconcile suffering amidst an omnipotent God, to explain the usefulness of pain as it curbs human sinfulness, and a brief review of Lewis critics. Through writing this paper I have essentially come to understand how religion first creates and then solves "the problem of pain," by providing functional uses and meaningful explanations for the experience of humans in a suffering world.
Elizabeth Boggs	Presence and Proclamation: Seeing Marion Through Lutheran Eyes	Jean-Luc Marion presents a truly Catholic sacramental theology of the Eucharist in <i>God Without Being</i> . Notable Catholic theologians such as William Cavanaugh, David Power and Nathan Mitchell have further developed his thought in recent years. Yet, upon closer examination, many aspects of Marion's Eucharistic theology resonate beyond the Catholic tradition and find confirmation in Martin Luther's writings as well as in the work of several prominent twentieth century Lutheran theologians. In particular, Gerhard Forde, Dietrich Bonhoeffer and Martin Heineken have each emphasized the properly hermeneutical nature of the Eucharistic presence and have developed the importance of proclamation in any account of that presence. This essay will contend that as Catholic as Marion's Eucharistic theology is, his emphasis on the hermeneutical nature of the presence finds strong confirmation within the Lutheran tradition.
Nicholas Pityk	John Courtney Murray, SJ and His Radical Reevaluation of 19 th Century Papal Authority	Nineteenth century popes did not support church-state separation and, in turn, many American theologians of the early twentieth century favored connection between state and Church. In response to this deeply entrenched theological perspective within the American Catholic Church, Fr. John Courtney Murray, SJ (1904-1967) questioned whether the state sanctioned church was the ideal form of government for Catholic political theology. His main argument involved a reevaluation of papal teaching, and it was this seeming disregard for papal authority that caused many conservative theologians to be more resolute in their defense of what they believed to be long held Catholic tradition infallibly proclaimed by the papacy. Coupled with this initial debate between Murray and the conservatives there was also continued discord that erupted over these theological questions up until 1965 and the close of the Second Vatican Council. After 1965, most mainstream Catholic thought upheld Murray's progressive viewpoint on Church-state separation.
Sean Fox	Marion versus Metaphysics: A Postmodernist's New Look at God	Jean-Luc Marion has challenged the current ideologies of God in his postmodern proposal of <i>God without Being</i> . Not surprisingly, Marion's challenge has received significant attention. In particular, two important strains of criticism merit special consideration. From one side, Marion has been challenged by the American Jesuit Joseph Bracken, who contends that Marion's project limps without an adequate account of subjectivity or intersubjectivity. Alternatively, the Anglican theologian John Macquarrie challenges Marion's account of 'gift' apart from 'being.' These criticisms, based on neo-Whiteheadian and Thomistic points of view, attempt to disassemble Marion's postmodern stance. However, Marion is able to form a stronger argument in defending the divinity of God that raises it above the traditional forms of metaphysics presenting a new interpretation beyond the category of being.

Poster Presentations

(organized by academic department or discipline and in numerical order of poster number).

All posters are on display in the Carey Center Lounge from 3:00-7:00 pm.

Presentation times:

Students are expected to be available to discuss their projects at their posters during the following times:

- Odd numbered posters in Biology (#3 - #29) presented from 3:00 – 4:00 p.m.
- Even numbered posters in Biology (#4 - #28) presented from 4:00 – 5:00 p.m.
- All other posters presented from 3:00 – 4:00 p.m.

1. David Deglau - Palumbo grant recipient

Biochemistry

“Studying irreversible inhibition of caspase-3 via halogen substitution of DEVD-XMK”

DEVD-FMK is a known irreversible inhibitor of caspase-3, an enzyme important in apoptosis. The tetrapeptide binds to caspase-3 via covalent binding of a methylene group when a halogen is displaced by an amino acid side chain in the active site. The commercially available form uses fluorine for this reaction. This study focuses on replacing the halogen group with chlorine or bromine. We expect that the chlorine and to a greater extent bromine will be able to achieve irreversible inhibition at lower concentrations or higher rates. Halogen replacement is done via the Finkelstein reaction. A series of investigatory reactions were used in establishing the conditions to best perform the replacement in an effort to maximize yield and purity. The enzymatic assay of irreversible inhibition of caspase-3 was monitored via a fluorescent substrate.

2. Mallory Freeberg -

project funded by U.S. Army Biotechnology Education Initiative

Bioinformatics

“Bioinformatics Approach to Protein Database Generation for the Identification of Microorganisms by Mass Spectrometry”

Issues such as bioterrorism and worldwide epidemics have increased the need for quick and accurate recognition of unknown microorganisms. Mass spectrometry is useful in organism identification because it generates a unique spectrum of protein biomarkers. By generating a spectrum of an unknown organism, we can use the peaks, which indicate molecular weights of detected proteins, to identify the microorganism. Earlier methods for identification were based on comparing the spectrum of an unknown sample to a library of experimentally derived spectra of known organisms. Multiple entries per organism in the library account for different sampling conditions. A problem arises that protein biomarker detection can vary with sample preparation, the instrument used, and environmental conditions. In a bioinformatics approach, we can generate biomarker databases directly from sequenced microorganism genomes and account for these varying conditions without multiple sampling of known organisms.

3. Benjamin Smith - Palumbo grant recipient

Biology

“Inhibition of YB-1 Nuclear Localization Enhances Human Melanoma Cell Chemosensitivity”

The nuclear localization of Y box binding protein (YB-1), a nucleic acid binding protein known to modulate both transcription and translation, has been demonstrated to influence multi-drug resistance and metastatic potential in certain cancer cell lines. It was hypothesized in this study that increased nuclear localization of YB-1 would correlate with increased multi-drug resistance in malignant melanoma cells; further, it was hypothesized that inhibition of the Akt signaling pathway would alter YB-1 localization and thus increase the sensitivity of the cells to chemotherapeutic agents. The collected data indicate that inhibition of the Akt pathway reduced nuclear localization of YB-1 while concomitantly enhancing the chemosensitivity of melanoma cells to Etoposide and Cisplatin by 33.3 and 32.8%, respectively. Interestingly, no change was observed in the sensitivity of the cells to the chemotherapeutic agent Doxorubicin.

4. Emily Mikolic - Palumbo grant recipient

Biology

“Effects of an L-Type Calcium Channel Blocker from Snake Venom on Memory Consolidation in Rats”

L-type calcium channels in the brain are hypothesized to play a critical role in the consolidation of sensory input from short-term to long-term memory. Studies have demonstrated that synthetic L-type calcium channel blockers such as verapamil negatively effect long-term memory formation. L-Calchin, a naturally occurring peptide present in Black Mamba venom, has been shown to function as an L-type calcium channel blocker but its influence on memory consolidation has not been studied. To test the hypothesis that L-Calchin will negatively effect long-term memory consolidation, groups of rats were injected daily with either, L-calchin, verapamil, or saline (vehicle control) and evaluated in a radial arm maze for; time in maze, number of baits found, reference memory errors, and working memory errors. Interestingly, no statistical difference in performance was observed between the control group and the verapamil group, or between the control and L-Calchin treatment groups.

5. Erin Mannella - Palumbo grant recipient

Biology

“Modulation of the Neoplastic Transformation Potential of Dietary Carcinogens by Lactic Acid Bacteria”

Lactic acid bacteria are commonly used as probiotics supplements and have been reported to bind and inactivate certain dietary carcinogens. To evaluate the anti-carcinogenic potential of common lactic acid bacteria found in yogurt, two representative bacterial strains, *Lactobacillus acidophilus* and *Bifidobacterium longum*, were tested for their ability to inactivate three chemically distinct dietary carcinogens, BaP, Trp-P-2, and MeIQx. Cultures of the bacteria were incubated with a known amount of each dietary carcinogen at a pH of 6.0 to simulate the duodenal environment. The bacteria were subsequently removed by centrifugation and a sterile filtrate of the supernatant tested for its ability to promote malignant transformation in cultured colon cells. Data obtained from quantitative assays of malignant transformation showed significant variation within and between trials. Consequently no valid conclusions could be drawn.

6. **Jeremy Celestine** - Palumbo grant recipient

Biology

“The Influence of [PIN] on Prion Formation by an N-terminally Substituted Yeast Sup35 Protein”

Prions are abnormally folded proteins that cause lethal diseases in mammals such as bovine spongiform encephalopathy, Creutzfeldt-Jacob Disease, and kuru. Prion proteins are also found in the yeast where they have been shown to cause the deposition of non-functional protein fibers. The N-terminal domain of the yeast Sup35 protein, responsible for the [PSI⁺] prion state, has been shown to be critical for conversion to [PSI⁺]. Another yeast prion [PIN] has been further implicated in conversion of Sup35 to the prion state. To test the role of these components in prion genesis the N-terminus of the yeast Sup35 protein was substituted via recombinant DNA techniques with the N-terminus of a homologous human gene, Gst1-Hs. The resulting fusion protein was over-expressed and its prion-forming potential assessed in both [PIN⁺] and [PIN⁻] strain backgrounds. The data suggests that the N-terminally substituted Sup35 protein lacks prion-forming potential, independent of [PIN] status.

7. **Pavol Genzor** - Palumbo grant recipient

Biology

“A DNA Repair function for the D. radiodurans PprA Protein?”

D. radiodurans is a unique bacterium that can survive exposure to extreme physical insults such as ionizing radiation, desiccation, and oxidative damage, all which cause damage to DNA. It is generally accepted that *D. radiodurans* protects its genome from damage via redundant, manganese-dependent, DNA-repair pathways. PprA is a recently discovered novel protein of unknown function believed to play a role in the repair of damaged DNA. In this study it was hypothesized that over-expression of the pprA gene in the presence of moderate to high levels of manganese would correlate with increased resistance to DNA damaging agents. To test this hypothesis a scheme for PCR amplification and inducible over-expression of the pprA gene was formulated. However, repeated attempts to amplify the pprA gene using various primer sets were not successful, although several unrelated genes were amplified suggesting that critical pprA gene sequences may have been deleted in the source strain.

8. **Theresa Saglime** - Palumbo grant recipient

Biology

“Locked Nucleic Acid (LNA) Versus Peptide Nucleic Acid (PNA) Oligos as Antisense Antimicrobial Agents”

The proliferation of antibiotic resistance among pathogenic bacteria has driven the wide-spread search for novel antimicrobial agents. A unique plasmid-based RNA antitoxin system (hok/sok) native to *Escherichia coli*, where it ensures post-segregational plasmid maintenance, has been explored as a novel antimicrobial strategy. In this system the RNA (hok, for host killing) for a toxic transmembrane protein is blocked for translational by an antisense RNA molecule transcribed from a separate gene (sok, suppression of killing). Effective modulation of hok/sok interaction has been demonstrated using an anti-sok peptide nucleic acid (PNA) oligonucleotide strategy to result in cell killing by the Hok toxin. In this study the efficacy of a locked nucleic acid (LNA) oligonucleotide for repression of hok/sok interaction was evaluated relative to the previously tested PNA. Data indicate that LNA oligonucleotides were considerably less effective than PNA oligonucleotides at promoting cell killing.

9. **Jarred Holt** - Palumbo grant recipient

Biology

“Investigation of the effect of fibroblast growth factor 6 on expression of dysferlin in myogenic cells ‘in vitro’”

Dysferlinopathy, a form of muscular dystrophy, is caused by mutations in the muscle cell membrane protein dysferlin. Irregularities in expression of the protein inhibit cell fusion during myogenesis. Previous research has established a functional link between expression of myogenin, a prominent myogenic regulatory factor, and expression of dysferlin. It is also known that myogenin expression signals terminal differentiation of muscle cells, paralleling dysferlin expression. Fibroblast growth factor 6 (FGF-6), another myogenic regulatory factor, is known to upregulate myogenin. Based on these associations, it was hypothesized that FGF-6 plays an active role in regulating dysferlin expression via the calcineurin signal transduction pathway, which is known to promote the expression of myogenic regulatory factors. A lack of consistency in the collected data, however, precluded evaluation of these hypotheses since an association between FGF-6 and the expression of dysferlin could not be confirmed.

10. **Tirzah J. Creel** - Palumbo grant recipient

Biology

“Luteinizing Hormone Signaling Upregulates Phosphorylation of Amyloid Precursor Protein (APP) at Threonine 668: Implication for Alzheimer’s Disease Pathogenesis”

Alzheimer’s Disease (AD) is an irreversible neurodegenerative disorder characterized by progressive memory loss and cognitive impairment. Several research studies focusing on the hypothalamic-pituitary gonadal axis (HPG-axis) have implicated increases in luteinizing hormone (LH) concentrations following menopause/andropause in the incidence of AD. Furthermore, it has been suggested that abnormal amyloid precursor protein (APP) processing associated with AD pathogenesis is linked to the phosphorylation of threonine at position 668 (T668). In this study, neuronal cells were exposed to various concentrations of LH and subsequently analyzed for amyloid plaque formation, apoptotic cell death, and APP phosphorylation at T668. Data obtained indicate that LH exposure had no influence on amyloid plaque formation or apoptotic cell death; however, LH exposure resulted in a dose-dependent increase in APP phosphorylation at T668. These findings justify further investigation of a potential connection between LH concentrations and the incidence of threonine 668 phosphorylation in AD pathogenesis.

11. **Abram Weimer** - Palumbo grant recipient

Biology

“Deer Densities Observed in Matching Habitats on Land under Public and Private Hunting Regimes”

Nearly one million hunters enter Pennsylvania woods annually to harvest a whitetail deer with approximately 2-5 times more hunters on public versus private land. I hypothesized that deer densities would be higher on private versus public lands in spring, summer, fall and winter. I observed the whitetail abundances from a tree stand in each of the four matching sites, two for each regime. Fawn abundance was greatest in spring; and the reason for increased immature does and immature bucks in fall and winter. Mature doe abundance was similar throughout the seasons while mature buck abundance increased in the fall and winter due to the onset of mating season. From 2-4 times more deer of all ages were observed on private sites versus public sites on every night in all study periods. The data supported my hypothesis and indicate deer density is inversely related to hunter densities, even outside of hunting season.

12. **Alyssa Baxter** - Palumbo grant recipient

Biology

“The Effect of Temperature Regimes and Heat Stress on Growth and Flowering in Arabidopsis thaliana”

The response of four ecotypes of the annual plant *Arabidopsis thaliana* to three temperature regimes (18/13 degrees Celsius day/night, 21/16 degrees with a period of heat stress at 30 degrees on day five and 24/19 degrees) was observed over a period of 52 days. Seeds obtained from the Arabidopsis Biological Resource Center were grown at 23 degrees Celsius to obtain sibling seeds. Twenty-four sibling seeds from one parent plant per ecotype were evenly divided into the three experimental groups. It was hypothesized that all ecotypes would exhibit optimum growth at 24 degrees Celsius. Temperature had a significant impact on the number of days from germination until bolting and flowering, the leaf number at time of bolting and the number of buds produced (ANOVA $P < 0.05$). The hypothesis was refuted: overall, optimum growth (fastest and most uniform flowering, largest number of leaves at bolting and most buds produced) was observed at 18 degrees.

13. **Cody Brounce, Scott Green & Adam White** - Palumbo grant recipients **Biology**

“Agriculture and Riparian Buffer Effects on Stream Water Quality, Bacteria, Macro-Invertebrates and S”

Agriculture can dramatically change streams in forested ecosystems, resulting in losses in aquatic biota. We studied biota and chemistry of nine headwater streams: three in forest; three in agricultural areas with a riparian zone, and three in pastures during summer and fall, 2007. As hypothesized, salamanders and pollution sensitive macroinvertebrates had the highest diversity and abundance in forested streams, where water chemistry and fecal bacteria were at pristine levels. Forested streams had significantly more salamanders ($M=21$, $SD=3$), compared to riparian streams ($M=5$, $SD=4.5$, two-sample t-test $P = 0.006$). Farm streams had no salamanders. Land use did not have a statistically significant impact on macroinvertebrate species richness or abundance or the maximum fecal bacterial counts (One-way ANOVA $p > 0.05$). Pasture sites had the highest range of bacteria and total phosphate levels. Riparian zones appeared to mitigate certain agricultural impacts and provide support selected biota

14. **Roger Hatstrup** - Palumbo grant recipient

Biology

“A Comparison of Fall Resident Birds in Forest Edge and Forest Interior in Western Pennsylvania”

Fall bird foraging ecology is likely to respond to habitat quality. I hypothesized that, compared to interior sites, edges would have greater bird abundance and diversity because edges mesh two habitats, field and forest. Two mature, deciduous, forest patches in a mixed residential, agricultural landscape were selected. Three interior and three edge sites each 50 m in diameter were marked. Birds were recorded heard or seen within each site during fall 2007. Average bird abundance and diversity were statistically similar between patches. Also, there was no statistical difference for species richness and abundance between edge and interior sites. All sites were used mostly by generalist bird species, except rare sightings of woodpeckers only in interior sites. We concluded interior forest sites in this study did not attract more interior forest birds because the interior forest habitats were too close to edge habitat and open fields in this fragmented landscape.

15. **Amanda Winkler** - Palumbo grant recipient

Biology

“The Effects of Diet Quality on Stress Response in Manduca sexta (Tobacco Hornworm)”

Poor dietary quality can have a negative impact of an individual's response to stress. To explore these impacts, *Manduca sexta* (the Tobacco Hornworm) were fed diets of different qualities (to mimic diet/health choices of humans), and the impact of these diets on growth and response to stress were determined. The low quality diets (containing caffeine, nicotine or tannic acid), slowed the growth rate of the caterpillars (as measured by weight gain and progression through larval development). Additionally, caterpillars exposed to caffeine and tannic acid, were less able to recover from the stress of torpor (forced hibernation), than were caterpillars exposed to nicotine or fed a normal diet.

16. **Jordan Conklin** - Palumbo grant recipient

Biology

“A Gravitational Model of Satellite Nets Foraging in Ants”

A colony of ants must effectively forage its surrounding area in response to the availability of resources. The majority of ant species use a system called central place foraging, which imposes certain limits on the range of territory covered. In order to expand this effective foraging range, some ant species has developed a system of satellite nesting, called polydomy. Although mathematical models of central place foraging exist, a model of foraging using polydomy has not yet been derived. By using data from *Camponotus pennsylvanica* (Black Carpenter Ant) an initial gravitational model of polydomyous foraging has been derived. In addition to its application in the study of ant foraging, a modification of this model may be useful in military applications, such as the prediction of insurgent safe-house locations.

17. **Matt Houston** - Palumbo grant recipient

Biology

“Forensic Analysis of Incremental Lines of von Ebner in Human Teeth”

The growth process of teeth produces lines in the teeth known as “dentin annuli” or the “Incremental Lines of von Ebner.” Similar to the growth rings on a tree, these lines form from the continuous formation of minerals within a tooth. The Incremental Lines of von Ebner can be revealed by sectioning extracted human teeth and using staining and microscopic analysis. By doing a statistical analysis of the line counts, it may be possible to determine an accurate age of a human individual, which would be of use in forensic analysis.

18. **Rachel RM Dwyer** - Palumbo grant recipient

Biology

“Loxosceles reclusa envenomation: An examination of cytoskeletal restructuring”

Sphingomyelinase-D, an enzyme in the venom of *Loxosceles reclusa* (Brown Recluse Spider), has been found to interact adversely with a cell’s membrane, causing severe damage and eventually cell death. Part of the process of cell death induced by envenomation may include restructuring of the cytoskeleton. To examine potential restructuring, NIH 3T3 Mouse Fibroblasts were treated with *Loxosceles* venom, and the cytoskeleton was microscopically examined using immunofluorescence. Viability of the cells post-treatment was determined using an MTT assay.

19. **Tina Klosky** - Palumbo grant recipient

Biology

“The Effects of Goji Extract on Melanoma Cell Growth”

Lycium barbarum, or Goji, is a Himalayan berry commonly used in traditional Chinese medicine. Recent speculation suggests that Goji could be used to help prevent and/or treat cancer. Goji was examined for its possible anti-cancer effects on a skin melanoma cell line, SK-MEL-28 and also their effects on the growth of a normal skin cell line, CCD-275K. The effects of the goji (alone and in combination with chemotherapeutic agents) on the growth of these cell lines was examined. It was found that goji, while cytotoxic in normal cells (ANOVA: $P = 1.059 \times 10^{-10}$), did not have significant cytotoxicity in melanoma cells (ANOVA: $P = 0.0516$). Furthermore, it was found that goji counteracts the cancer inhibition properties of the chemotherapy agent Doxorubicin in melanoma cells (ANOVA: $P = 7.11 \times 10^{-7}$).

20. **Brook Chernet** - Palumbo grant recipient

Biology

“Transfer Of Radioresistance Characteristics”

Deinococcus radiodurans is a non-pathogenic bacterium that is extremely resistant to agents that could cause DNA damage. The transfer of radioresistance (RecA protein) to other bacteria could well be employed to clean nuclear waste sites which are sites of high irradiation. This study is to take the *D. radiodurans* DNA containing RecA from an *Escherichia coli* strain and then transfer the RecA to other bacteria. It is hypothesized that the RecA will allow the other bacteria to survive high doses of radiation. The RecA-containing plasmid was successfully removed from the *E. coli* strain. Transfer of the plasmid to *Bacillus subtilis*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa* was unsuccessful. Transfer of the RecA protein to other *E. coli* strains was successful and these were tested under various levels of radioactivity. Survival rates from 5, 15, and 30 seconds of radioactivity was determined.

21. **Dominick Trapani** - Palumbo grant recipient

Biology

“Transfer and survival of methicillin-resistant and –sensitive Staphylococcus aureus on common hospital equipment”

This study determined transfer rates of MRSA and MSSA from stethoscopes to scrubs, bedding, and gloves, and the efficiency of iCare Wipes (Benzethonium Chloride 0.3%), Clorox Disinfecting Wipes (Dimethyl Benzyl Ammonium Chloride 0.145%, Ethyl Benzyl Ammonium Chloride 0.145%) and Alcohol Swabs (70% Isopropyl). When compared, MRSA and MSSA transferred at the same rate. When different equipment was compared, MRSA and MSSA transferred at the same rate except transfer of MRSA onto sheets was significantly higher than onto scrubs. Alcohol removed all of the bacteria from the stethoscopes. iCare removed MSSA significantly better than MRSA while bleach removed bacteria at the same rate. Bleach worked significantly better than iCare to decrease MRSA. This study showed that MRSA and MSSA transferred from stethoscopes to hospital equipment at the same rate but transfer rates varied depending on the equipment tested. Alcohol is the most effective antimicrobial at removing MRSA or MSSA from stethoscopes.

22. **Erin M. Donoghue** - Palumbo grant recipient

Biology

“The Effect of Calcium Carbonate and Magnesium-aluminum Hydroxide Antacid Compounds on the Ability of Antibiotics to Eradicate Helicobacter pylori”

Helicobacter pylori cause more than 80% of gastric ulcers. Antacid compounds, primarily calcium carbonate and magnesium-aluminum hydroxide, are often used to relieve the heartburn caused by acid reflux. Antacids can, however, affect the absorption of the antibiotics used to treat the H. pylori infection. The purpose of this experiment was to examine the effects of calcium carbonate and magnesium-aluminum hydroxide (Maalox) antacid compounds on the ability of tetracycline, ciprofloxacin, azithromycin, and metronidazole to eradicate H. pylori. Results show that none of the four antibiotics were significantly affected by Maalox or calcium carbonate, but there was a clear decrease in the efficacy of ciprofloxacin if added with Maalox. Therefore, the concurrent administration of magnesium-aluminum hydroxide antacids and antibiotics to treat H. pylori should not be recommended. A calcium carbonate antacid may provide a better alternative than Maalox for the relief of reflux symptoms while allowing antibiotics to reduce H. pylori.

23. **Lauren Ziegenfus and John Bozek**

Biology

“Microbes from the SVC Lake and Wetlands present on shoes of runners”

In this project, we compared the microbial content in the wetland and lake areas by looking and shoe swab samples from runners. Members of the men and women's cross country and track teams often run in these areas, and mud and water containing a variety of microorganisms collect on their shoes. Research has shown that athletes, runners especially, are more susceptible to fungal and bacterial infections and may have decreased immune function. Exposure to mud and water in the wetlands could increase the risk of infection. To determine microbial quantities, shoe swab samples were taken from two groups of runners. The samples were analyzed using colony counting and Colony Forming Units per milliliter was determined for each area. We found that the bacterial content of the wetlands was much higher than the bacterial content of the lake.

24. **Marissa Nagy** - Palumbo grant recipient

Biology

“Bacteriophage as Catheter-Biofilm Treatment”

The effects of bacteriophages on catheter-associated biofilm formation by *Staphylococcus aureus* was studied. Approximately 28,000 hospital deaths are acquired every year due to catheter-related infections in hospital intensive care units. It was hypothesized that when a bacteriophage was used to pre-coat a catheter, biofilm formation will be significantly reduced. A Kadouri-Drip biofilm reactor was used. Experimental groups included addition of bacteriophage while control groups did not. Addition of bacteriophage before and after addition of bacteria was tested. In the 6-well plate experiments, no significant difference was seen between experimental and control groups regardless of when bacteriophage was added. In the catheter experiments, there was no significant difference between experimental and control groups when *S.aureus* was added before the bacteriophage. However, there was significant difference when *S.aureus* was added after the bacteriophage. Overall, while bacteriophage treatment of catheters may eliminate biofilm formation, this limited research did not fully support this hypothesis.

25. **Jennifer Potonia** - Palumbo grant recipient

Biology

“The Effect of Epigallocatechin gallate (EGCG) Upon the HPA Axis of Male and Female Sprague-Dawley Rats”

Epigallocatechin gallate (EGCG), a catechin found in green tea, has been found to be beneficial in treating a variety of conditions including cardiovascular disease and cancer. It also may have an effect upon the hypothalamic-pituitary-adrenal (HPA) axis and thus influence the stress response. Sprague-Dawley rats were used in this study, each providing two HPA axes. The excised tissues (hypothalamus, pituitary, and adrenal glands) were placed into an in vitro system and hormones secreted by each gland were assessed using assays. EGCG increased the production of stress hormones from respective glands in both sexes, however production within females was significantly higher than within males. Over-activation of the HPA axis and high stress levels can lead to several systemic, neurodegenerative, and affective disorders, including Alzheimer’s disease and major depression. The results of the present study suggest that EGCG, and perhaps green tea, increases stress hormones of the HPA axis.

26. **Lauren Kelly**

Biology

“The ‘Spa Treatment’ for Mice: Effects of Environmental Enrichment on Stress Responsive Hormones of Male and Female Mice.”

Stress influences behavior and is correlated with different diseases such as anxiety and depression. Male and female mice were exposed to the “spa treatment,” in the form of various environmental enrichment toys. The influence of these environments on stress hormones was determined from blood samples that were collected from each animal. Mouse groups were housed in cages containing: 1) no toys (control), 2) nylabones, 3) nylabones and igloos. Half of the mouse groups were exposed to continuous music for a two-week period. In both female and male mice, exposure to enrichment environments reduced stress hormones. Music had the greatest effect on stress hormones and body weight. Interaction with “spa treatments” in this study appeared to have provided the mice with a diversion from monotonous cage life resulting in lower baseline stress hormones. We conclude low, stable hormone baselines are essential for accurately determining pharmacological and other influences on endocrine function.

27. **Ryan M. Perestock** - Palumbo grant recipient

Biology

“Influence of various insulin concentrations on the HPA axis in rats using an in vitro”

Insulin stimulates hypothalamic-pituitary-adrenal axis hormones in intact experimental animals including rats. In the present study, hormone responses following various insulin additions were determined in an in vitro model of the HPA axis. Insulin is a hormone that is produced by the pancreas, which plays a vital role in allowing glucose to leave the blood and enter the cells of the body for use in energy production. The in vitro perfusion system was used to measure the amount of hormones released following bovine insulin concentrations. Hormone enzyme immunoassays were prepared and analyzed for CRH, ACTH and CORT. The results that were found in this experiment supported the original hypothesis that insulin would have an increasing effect of hormone release. Ultimately, this study has provided useful information by determining hormone responses to specific insulin alterations. This project has relevance to the association between the HPA axis and diabetes mellitus.

28. **Tammy Terlecki** - Palumbo grant recipient

Biology

“The Effects of Coloration of Environmental Enrichment Items on Stress Levels”

The environment can influence physiological and behavioral aspects of an animal’s lifestyle. This study examined the effects of color preference and environmental enrichment using red and blue colored Kong® Toys, water bottles, and food treats on stress responsive hormones of the hypothalamic-pituitary-adrenal (HPA) axis in singly housed male and female rats. Animals of both sexes preferred blue-colored toys over red-colored toys. Female rats showed significantly more toy interaction compared to male rats. Male rats showed significantly higher water consumption compared to female rats. As expected, animals showed low baseline corticosterone concentrations when housed in an enrichment environment. Both sexes possessed asymmetrical adrenal glands; right adrenals were larger than left adrenals. This study demonstrated that selection of the appropriately colored toy impacted the stress levels and behaviors of rats. Environmental enrichment is important because it is essential for a laboratory animal to have low, stable HPA hormone concentrations for pharmacological study.

29. **Mickey Mofte** - Palumbo grant recipient

Biology

“The Dose Dependent Effects of Testosterone on HPA Axis Function”

The hypothalamic-pituitary-adrenal (HPA) axis is a three gland component of the endocrine system and is activated as a principle biological response to acute and chronic stress. Testosterone is the major steroid sex hormone in males. Males typically show reduced adrenocorticotrophic hormone (ACTH) and corticosterone (CORT) responses to stress compared with females, an effect that is attributed in part to the inhibitory effects of testosterone. We hypothesized that as the amount of testosterone administered to the HPA axis increased, the levels of CRH, ACTH, and CORT would decrease until these hormones reached a basal level. This experiment utilized male and female Sprague-Dawley rats to examine the dose dependent effects of testosterone on HPA axis function. Tissues were harvested and placed in an in vitro perfusion system of the HPA axis. Testosterone seems to have inhibited HPA axis function at times, but also increased HPA axis function at times.

30. **Stefan Ovidiu Ochiana** - Palumbo grant recipient

Chemistry

“Removal of Aqueous Phosphate, Organic Compounds, and Organic Phosphates Using Iron Oxide Produced From Abandoned Coal Mine Drainage”

This study will explore the feasibility of utilizing iron oxide produced from abandoned coal mine drainage from one discharge in western Pennsylvania to sequester phosphate, organic phosphates and aromatic compounds in laboratory experiments. The iron oxide is expected to adsorb different amounts of phosphate, organic phosphates and aromatic compounds since they have different binding affinities to iron oxide. The impact of the pH on the amount of phosphate, organic phosphate and organic compounds that can be adsorbed by iron oxide is a critical factor that shall be investigated. To determine how efficient iron oxide is at removing contaminants, the amount of iron oxide concentration will be varied to determine binding affinities.

31. **Crystal Nestor** - Palumbo grant recipient

Chemistry

“Syntheses of Novel Organoplatinum ‘Starburst’ Complexes”

Novel ‘starburst’ trinuclear organoplatinum complexes based on the 2,4,6-tris(2,2’-dipyridylamino)-1,3,5-triazine (tat) ligand were prepared via the reaction of [PtR₂(SMe₂)₂]_n with the corresponding chelate ligand. Previous reports show that PtPh₂ chelates to the N groups on the outer rings of the central ligand. This study examines the steric effects of the varying the substituent R groups on the platinum complex.

32. **Jessie Penich** - Palumbo grant recipient

Chemistry

“Iron- and cobalt-catalyzed cross-couplings of phenylmagnesium bromide to cyclohexane-based alkyl halides of varying substitution”

In synthetic organic chemistry, reactions that form carbon-carbon bonds are of particular interest; organometallic reagents are commonly used in such reactions. One variety of reaction involves the cross-coupling of a Grignard reagent to an alkyl halide, in the presence of a transition metal catalyst. The focus of this research will be to determine the cross-coupling product yields for the catalyzed reaction of phenylmagnesium bromide with various cyclohexane-based alkyl halides. The affect of the identity of the catalyst (FeCl₃ vs. CoCl₂) will be investigated along with the affect of varying the functional groups on the halide and changing the identity of the halogen (I vs. Br vs. Cl). From previous research, product yields are expected to be optimized when iron is used to catalyze reactions of unsubstituted alkyl iodides.

33. **Leah Cambal** - Palumbo grant recipient

Chemistry

“Accumulation of tricyclic antidepressants and selective serotonin reuptake inhibitors in the hair of mice”

Previous studies indicate that artificial chemicals introduced into the body accumulate in various structures, particularly in hair. Antidepressants are included in these chemicals. Two classes of antidepressants, TCAs (tricyclic antidepressants) and SSRIs (selective serotonin reuptake inhibitors), were administered by intraperitoneal injections into white-bellied black agouti laboratory mice eight times over the course of three consecutive weeks. Hair was shaved seven days before initial administration and twenty-three days after initial administration. The accumulation of imipramine and fluoxetine in the hair was quantitatively analyzed using high performance liquid chromatography (HPLC). The study examined the role of pigmentation in the accumulation of antidepressants with the analysis of both the nonpigmented and pigmented hair, and investigated how two antidepressants, which affect different neurotransmitters in the brain, accumulated differently within the hair.

34. **Lindsey Taylor** - Palumbo grant recipient

Chemistry

“Extraction of glucosinolates from cruciferous vegetables”

Glucosinolates are important sulfur-containing compounds which have been studied to reduce the risk of cancer. These compounds are typically found in vegetables of the Brassica family, which includes cabbage and flowering vegetables. In addition to naturally occurring, glucosinolates can also be obtained through dietary supplements in the form of indole-3-carbinol, the specific anti-cancer compound. The proposed experiment will determine the most efficient way to prepare the vegetables in order to consume the greatest amount of glucosinolates. Samples of each were extracted and diluted with a boiling methanol mixture then analyzed using High performance liquid chromatography (HPLC). The results obtained will be used to draw conclusion regarding preparation and the amount of glucosinolate which can be ingested. This can aid in determining the most beneficial mode of preparation for these antioxidant compounds.

35. **Marie Jennewine** - Palumbo grant recipient

Chemistry

“An analysis of the ability of luminol”

The purpose of this research was to investigate the different factors that can contribute to the luminol reaction in the detection of bloodstains. Luminol is a blood detecting reagent that chemiluminesces bright blue whenever it comes in contact with blood and is commonly used by both forensic scientists and blood pattern analysts. This study examines how different environmental factors would affect the ability of luminol to detect bloodstains. In addition, several different parameters related to the luminol reaction including the base used in preparation, the use of organic solvents, the substrates to which the blood is applied, and the dilutions of the blood applied were also examined.

36. **Laura Echard** - Palumbo grant recipient

Environmental Chemistry

“Degradation of growth hormone using pasteurization and digestion”

For many years dairy farmers have been using bovine growth hormone to get their cows to grow bigger and produce more quantities of milk. This research focuses on whether gastric acid, trypsin, and chymotrypsin and pasteurization can fully degrade bovine growth hormone. This question is important in evaluating the safety of using bovine growth hormone in milk production for human consumption. To test this question I am taking growth hormone (from a pig pituitary) and placing it in various combinations of gastric acid, trypsin, and chymotrypsin and through a system of pasteurization. After running the digestion and pasteurization the samples are analyzed by SDS gel electrophoresis to see if any degradation has taken place.

37. **April Hawkey** - Palumbo grant recipient

Environmental Science

“What factors control the Invasive Plant, Japanese Knotweed in Western Pennsylvania?”

Fallopia japonica dominates the riparian zone along many streams in SW Pennsylvania with negative impacts for stream bank erosion and native flora and fauna. The purpose of this study is to determine the key environmental factors that influence population growth of *F. japonica*. At every site, at least 3 samples were taken for each environmental factor including soil nutrients and pH, soil moisture, plant height, density, and seed production, solar radiation and canopy cover from native trees. Overall, *F. japonica* plant height and density were not affected by calcium levels and corresponding pH values. In contrast, plant density decreased substantially from 83 stems/ 4 m² to 31 stems/ 4 m² as canopy cover increased from 15% to 90%. Although shade may be the key factor in controlling *F. japonica* plant growth, several other factors must be analyzed to predict growth and reproduction in this invasive plant.

38. **Greg Carpenter** - Palumbo grant recipient

Environmental Science

“Impact of Road Salts on Trees”

For my senior research I was looking at the tolerance of trees to certain road salts. Three different road salts were used on three different trees. The salts were sodium chloride, calcium chloride, and calcium magnesium acetate. The trees were maple, white pine, and the common yew. Each tree was exposed to each salt. To determine the tolerance of the trees, I examined the soil after applying a salt-water solution to each tree. I conducted three tests in order to determine the tolerance of the trees. One of the tests was conductivity. This measured the amount of ions in the soil. The other two tests determined the amount of two of the most important macronutrients for a plant, phosphorus and potassium. The salt was only used in the soil, not on the tree itself. Prior research showed that calcium magnesium acetate would harm the trees the least, and that white pines were very sensitive to salinity.

39. **Karli Sue Buday** - Palumbo grant recipient

Environmental Science

“Why are there so many Lakes without Ducks?”

Waterfowl across the US have declined due to habitat loss and human disturbances. For example, between 1780's and 1980's, the lower 48 states have lost 53% of the waterfowl wetland habitat, about 104 million acres. (Dahlgern, and Korschgen, 1992). The purpose of my study was to determine if human disturbances played a key role in the waterfowl abundance, diversity, and reproduction in three different lakes with adjacent wetlands in Western Pennsylvania. I observed each lake and adjacent wetlands from the end of May to the middle of August and recorded human visitors and waterfowl. Saint Vincent Lake (SVC) had the greatest frequency of human visitors (3.75/day) followed by Donegal Lake (DL) (3.1/day) then Keystone State Park (KL) (2.5/day). Contrary to my hypothesis, the lake with the highest human frequency also had the highest amount of waterfowl, with SVC having 42 waterfowl/day, then DL with 37.2/day and KL with only 4.6/day.

40. **Nathan Hoxie** - Palumbo grant recipient

Environmental Science

“Bio-Diversity in Wetlands and Its Effect on Abandoned Mine Drainage.”

Wetlands are a common passive treatment system for the treatment of mine drainage. Saint Vincent wetland's uses *Typha latifolia* for the primary vegetation and other plants have started to colonize the wetlands. This study is directed at addressing the differences in a bio-diverse system as apposed to a monoculture of *Typha latifolia*. The results vary depending on the subject in question and other relationship with the environment. My research shows that cattails did have a greater effect on the reduction of iron, however there may not be a clear indication of the how bio-diversity effects a wetland system and its effect on abandoned mine drainage.

41. **Benjamin Reiser**

Computing and Information Science

“LINUX Server Set-Up and How-To Manual”

Setting up and maintaining a Linux server can be a tedious process. This task can become even more tedious if the person doing it has little technical expertise in the area. The purpose of this project is to implement and document the setup, running and maintainance of a Linux secure server. Customizations on this server include a mail feature, an e-commerce site, a general database, and numerous useful tools to manage and secure the server. This project will hopefully inspire more people to use Linux-based operations then the far-more expensive Microsoft® or Apple® systems. This application of a Linux server can be used as an instructional tool to facilitate learning of operating systems, networks, managing websites, along with many other useful areas of computing

42. **Justin Reich**

Computing and Information Science

“SVC Basketball Ticket Reservation Website”

Many organizations that sell tickets to their events do so via a website. This project is a C# web project that uses Microsoft SQL server to create an on-line site that sells tickets to SVC basketball games. Visitors to this website can select specific games and reserve tickets online for the games that are available at the “will call” box office.

43. **Nathan Jara**

Computing and Information Science

“Design and Implementation of the Give to Get Website”

The Give to Get online fund-raising website provides a convenient online store which can be used as a fund-raising tool. The initial implementation takes the form of a website to aid fund-raising for a church or group of churches by selling religious items. These religious items include various artwork, literature, and jewelry which church members have donated to the Give to Get website for sale. Once placed on the website, users utilize the fully functional online store system to browse through the items in the store. Users can add, delete, and update desired items using Give to Get's shopping bag system. Once the user has finished shopping, the user completes a checkout process to place the order. All proceeds from the sales are then donated back to the church which donated the particular items. The Give to Get website uses the languages HTML, CSS, PHP, and MySQL for its implementation.

44. Peter J. Anthony

Computing and Information Science

“The Redesign of the Grecian Odyssey Dancers Website”

Most websites need to be updated a few years after their initial design. These updates involve either incorporating newer technologies into the website so that it can be navigated more efficiently, or redesigning the physical interface of the website so that it is more understandable and enjoyable to the viewer. This project involves the redesign of the Grecian Odyssey Dancers website. The current site, located at www.odysseydancers.com, is being redesigned in order to make it easier for the non-technical members of the group to update and maintain. The Grecian Odyssey Dancers are a non-profit ethnic Greek dance group based out of the Presentation of Christ Greek Orthodox Church in East Pittsburgh, PA.

45. Richard Kisic - Palumbo grant recipient

Computing and Information Science

“Automated Vehicle Camera System”

Unmanned land vehicles have gained much recognition and popularity for their use in rescue and reconnaissance duties. This project, named AVECAS for Automated Vehicle Camera System, is designed to provide insight and further research in the use of unmanned land vehicles. Through the Microsoft C# language and USB relay boards, AVECAS can negotiate the world around it via preconfigured scripts or manual control. The system brings back real-time camera feeds, which provide the operator the ability to navigate AVECAS, or to record important data by an MJPEG movie capture.

46. Samir Raut

Computing and Information Science

“Greater Latrobe Community Network Business Listing”

Local businesses are an important resource in every town and city, providing employment opportunities and services for community members. A website is a perfect place to provide this local business information. This project involves creating the Business listing for the existing GLCN website (www.greaterlatrobe.net). This website provides easy access to useful and quick information about local businesses for users, while at the same time creating a system to make the GLCN website self sustainable through potential revenue from business listing in the future. Implementation of this site uses some of the basic web page design tools available like HTML, CSS, and JavaScript. Also, PHP and MySQL are extensively used for server side scripting, and to manage the site with a database backend that can be easily maintained by an administrator.

47. Stephanie Zinovenko

Computing and Information Science

“The Collaboration Tool Module”

An important part of the national defense of this country is our military computer-based software and hardware. ProLogic is a company that develops software for these military systems. The software developed for this project is called the Collaboration Tool, and it is a plug-in to an already existing application written by ProLogic called the Joint Visualization System (JVS). This tool is a chat client similar to other instant messengers, such as AIM, Yahoo Messenger, and MSN Messenger. The purpose of the Collaboration Tool is to allow JVS users to talk and interact with users in other locations, and supports maintenance of a server-side buddy list. Instant message communications are implemented with the Jabber protocol, which is an open-source XML-based messaging schema. All operations, including messages, buddy presences, and server authentication for logging on conform to Jabber’s Extensible Messaging and Presence Protocol (XMPP) standards.

48. **Amy Franek** - Palumbo grant recipient

Psychology

“The Influence of Expectations and Ambient Odor on Mood”

Scientific researchers are beginning to investigate claims that odors affect people’s mood. Some of this research has been linked to the placebo effect – often, the expectation of how an odor will affect one’s mood is enough to do so, even if the odor itself is not present. I tested 85 participants’ changes in mood state, as measured by the Profile of Mood States (POMS). I found that ambient odor had no significant effect on participants’ moods. However, expectation of the odor produced a decrease in the vigor of participants. A decrease in anger approached significance. Results support the hypothesis that expectations would influence mood and that the odor itself would not. More research must be conducted before discounting the effectiveness of aromatherapeutic practices, although evidence is mounting to support the placebo effect.

49. **Leesa Pagano** - Palumbo grant recipient

Psychology

“The Effects of Routineness and Attention to Time on Time Perception”

The current study examined the effects of routineness and attention to time on time perception. My first variable is routineness, and tested whether routine tasks are perceived by participants as taking less time than non-routine tasks. My second variable is attention to time, which tested whether or not attention to time plays a part in time perception. My study was also designed to determine if there is a correlation between boredom proneness and time perception. Participants completed routine and non-routine tasks and estimated the elapsed time for the tasks. Some groups were told to pay attention to time passage while others were not. I found a significant main effect of routineness but no correlation with boredom proneness. Participants in the routine group perceived time as passing more quickly than participants in the non-routine group. My findings suggest that routineness can have an effect on how people perceive time elapsed.

50. **Angela Perlik** - Palumbo grant recipient

Psychology

“Does the Effect of Attractiveness on Guilty Verdicts and Sentence Severity Vary by the Defendant's Race?”

Some research has shown that juries may be influenced by race or attractiveness of the defendant. Participants were 154 college students (49 male and 105 female) who looked at a photo of a hypothetical defendant who was either attractive or unattractive and either Black or White. After viewing the photo, all participants read the same crime report involving vehicular manslaughter. Participants then rated the likelihood of the defendant’s guilt and the sentence that the defendant should receive if convicted. Guilt and sentence severity were both analyzed with 2 Race (Black vs. White) x 2 Attractiveness (high vs. low) between-subjects ANOVAS. The hypotheses were not confirmed: no significant difference was found for either guilt or sentence severity based on attractiveness, race, or a combination of both.

51. **Ellen Dawson** - Palumbo grant recipient

Psychology

“Eyewitness Memory: Weapon Focus and Misinformation Effect”

Weapons and misinformation distract eyewitnesses from remembering information about a crime. College students (N = 149) viewed a slideshow with a perpetrator holding or not holding a gun and then read an article with or without misinformation. Participants completed a memory and lineup test to assess their memory of the crime. The misinformation group had more memory errors than the no misinformation group. There was no effect of the weapon or the interaction for the misleading items. Failure to find the weapon focus effect may be due to insufficient arousal, which failed to impair attention and memory. Researchers should identify conditions that induce the weapon focus effect and explore potential interactions between weapon focus and other variables such as misinformation.

52. **Krista Long** - Palumbo grant recipient

Psychology

“Does Positive Mood Induced by the Facial Feedback Hypothesis Reduce Test Anxiety?”

The purpose of this study is to determine whether positive mood induced by the facial feedback hypothesis can improve test anxiety when measured as performance on a 20-item timed anagram test. The researcher assigned 101 college students, 31 males and 70 females, to a positive or a neutral mood group. The Test Anxiety Inventory (Spielberger, C. D, 1980) classified participants as high or low test anxious. Participants were told that they could receive a monetary reward based on their anagram test performance. The Multiple Affect Adjective Check List-Revised (Zuckerman, M. & Lubin, B., 1985) checked mood manipulation following the mood induction procedures. The positive mood group solved more anagrams than the neutral mood group, there was no significance of test anxiety on the number of anagrams solved, and there was no interaction between mood group and test anxiety.

53. **Nicole Rohrbacher** - Palumbo grant recipient

Psychology

“Effects of Relaxation Techniques on Anxiety”

Differences in trait anxiety among 16 male and 55 female college students who engaged in progressive muscle relaxation (PMR) therapy, music therapy, or pleasurable reading were investigated. Anxiety was measured during a pretest and after a 2-week intervention using the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970). A 3 Relaxation Technique x 2 Pretest/Posttest analysis of variance on STAI scores indicated that a significant effect for anxiety was found, regardless of the type of relaxation technique that students used, $F(1, 68) = 17.26, p = .001$. All techniques may have decreased anxiety, or students may have tried to play the “good participant role,” or they may have chosen not to complete the techniques daily.

54. **Jackie Hamman, Mary Rebert, Aubree Smeltz, and Samantha Zbur** **Psychology**

“The Relationship Between Dependence on Entertainment Television and Self-Image”

Numerous studies have illuminated a relationship between self-esteem and appearance anxiety. Self-esteem, appearance anxiety, and body image have been linked to media exposure. We investigated the relationships between dependence on entertainment television (DET), appearance anxiety, and self-esteem and examined whether the relationships would vary by gender. 174 college undergraduates completed items from the Self-Esteem Inventory (Coopersmith, 1981), Television Affinity Scale (Rubin & Rubin, 1982), Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989), and a demographic survey. A multiple regression analysis showed a significant negative correlation between appearance anxiety and self-esteem. DET and gender were not significant predictors of appearance anxiety or self-esteem. The correlation between DET and appearance anxiety was not significant for men or women.

55. **Sara Irvin, Tara Karns, Samantha Suranic**

Psychology

“The Effects of Collaboration on Recall of a Witnessed Event”

The present study investigated a misinformation effect between individuals and dyads using 2 x 2 factorial ANOVAS for independent groups on recall accuracy for all questions and critical questions addressed in the descriptions. 175 St. Vincent College students watched a brief video clip, did a word search, read a description of the clip, and completed a questionnaire based on the clip individually or in dyads. Those who received accurate descriptions recalled more accurately and participants who worked in dyads recalled more accurately. The misinformation effect was also greater for individuals than for dyads.

56. Catherine Bittner

Psychology

“The Effect of Relaxation and Imagery Techniques on Recreational Activities”

The purpose of my study was to determine if imagery and relaxation techniques improved performance on a recreational activity. Participants ($N = 61$) were randomly assigned to one of four groups - imagery, relaxation, imagery and relaxation, or no technique before playing a game of darts. An interaction effect was found between the relaxation and imagery ($p = .021$). Neither of the main effects were significant ($p = .053$ and $p = .091$). T-scores were compared between groups. The group engaging in the relaxation only technique scored significantly better than any other group. No other groups showed a significant difference in mean scores. My hypothesis that the use of the combination of imagery and relaxation would improve performance on a dart game was not supported by my results.

57. Robert Debiec - Palumbo grant recipient

Liberal Arts

“The Effects of Recombinant Growth Hormones and Chemotherapeutic Agents on Diabetic Ulcerations”

This project involves a hypothetical simulated patient who is suffering from both diabetic ulcers and melanoma in the same localized site. The hypothetical patient is being treated with Regranex, which contains becaplermin, a recombinant growth hormone. The project speculates how Regranex treatment might function in conjunction with chemotherapeutic agent treatment. Of interest is whether the two drugs would counteract each other's effects, or whether they might possibly function synergistically.

58. Jennifer Takacs, Jon Takac, and Gabrielle Matich

Service

“SVC Habitat for Humanity”

This poster will contain information about Habitat for Humanity, the members' experience in Mississippi, as well as facts about hurricanes Katrina and Rita. Also, a table will be set up with photo albums, a laptop with a slide show/video of the build in Mississippi, and Habitat for Humanity brochures.

59. Steve Dragan and Dan Niemiec

Global Experience

“Global Experience Travels to Ireland”

The educational worth and growth that traveling abroad offers is unmatched by anything a classroom can provide. This particular presentation will focus on the events that the Global Experience Club shared on their trip to Ireland. Two specific cities will be examined, Dublin and Belfast. In each of these two cities there were a number of locations visited. This project will examine four per city. It will explain their cultural significance and their impact on us, as students. In addition to this, simply experiencing life in another country, surrounded by not only objects and places that are foreign, but people, a culture, and lifestyle that are foreign, can be a life changing experience. We seek to open the eyes of anyone curious, or possibly undecided, about traveling abroad. The experience is well worth the effort.

60. xxx

61. Stephen Churilla

Mathematics

Isometric drawings show a three dimensional view of an illustrated object. When drawing an isometric drawing it is important to draw the x-axis and z-axis 30 degrees off of the horizontal and draw the y-axis 90 degrees off of the horizontal. When done properly the x-axis, y-axis, and z-axis lines will be separated by 120 degrees or 60 degrees from either other axis. These angles of separation also allow the lines parallel to the axes to be drafted to scale.

62. John Abel

Mathematics

Scaling is one of the most important aspects of an engineering drawing. If the scales of the part are flawed or interpreted incorrectly, the part will not be produced as the engineer intended. For instance, if the scale is 1=4'-0, indicating that one inch on the drawing is actually four feet on the part, and someone ignores the scale and tries to make it the size of the drawing, the part will have wrong dimensions. Alternatively, if the engineer who drafted the part used a different scale than he indicated on the drawing, this could cause some confusion and alter his intended dimensions of the part/parts.

63. Michael Adams

Mathematics

64. Cassandra Alberding

Mathematics

65. Alex B. Bach

Mathematics

66. Zach Bell

Mathematics

67. Andrew Churilla

Mathematics

Orthographic drawings are three dimensional object views, arranged so that they show one view of a particular object. These types of drawings can have up to 6 different views for a particular object, but usually have three. The three main types of views are called Frontal, Profile, and Horizontal views. Frontal views are views that show the front and/or back of an object. Profile views are views that show the right or left side of an object. The last view, called Horizontal view, shows mainly the top or bottom view of an object. These views must be arranged in such a way that the person viewing or using the drawing readily understands the drawings.

68. Corey Churilla

Mathematics

A working Drawing is a final set of production drawings that provides all of the necessary details and specs in order to manufacture and assemble a product. A working drawing is comprised of three parts, individual detailed drawings for each piece of the product, a finished assembled drawing that is usually an isometric drawing, and a bill of materials. The detailed drawings for the working drawing should contain all of the necessary dimensions needed to build the part, and materials and tolerances should be included. The final assembly drawing is done in an isometric view, and can be a section. The parts in the assembly drawing are connected by a center line going through the parts at the points where they connect. The bill of materials is made on the same page as the assembly drawing and should include the name of each part, their item number, material, and the quantity needed. The parts are also numbered on the bill of materials and near the part on the assembly drawing.

69. Jason Hammel

Mathematics

70. Shane Hart

Mathematics

71. Lara Lazuka

Mathematics

72. xxx

73. Jeremy Sawyer

Mathematics

There are many tools used in drafting and they all play a crucial role in the art of drafting. Although the tools may all be very different, they all must work together to help produce a fine piece of engineering. There are writing tools such as drop lead holders, mechanical pencils, and pens. There are tools used for creating shapes like stencils, t-squares, 30-60-90 triangles, 45 degree triangles, lettering line stencil, and compasses. Measuring devices are also need like calipers, scales, and protractors. And most importantly are tools that correct human error: the pink and white pearl erasers, the "puffie" or "hamster" as I like to call it, the horse hair brush, eraser shield, clicking eraser, and some even have an electric eraser. It is only with all of these tools and sometimes more that the magic of engineering drawing can happen.

74. Logan Weigle

Mathematics

This is one of several assigned Engineering Drawing projects that I completed in the fall of 2007. This sort of work requires a well trained hand, and it undergoes a scrutinizing editing process before the word completed can ever be assigned. This type of mechanical drawing has a direct application in the world of Engineering and Design; not only are the works fascinating to look at, but they serve a great deal of purpose as well.

75. Stephanie Williams

Mathematics

Object lines vs. Hidden lines: When looking at an image from one side, rarely are we able to see every bend, corner, or angle of the object. The lines and edges that we see would be represented in a drawing by a .7mm line called an object line. An advantage to engineering drawing is that we can also see, through the drawing, what cannot be seen through a simple photo or the object itself -- the lines that are hidden. These hidden lines are marked by a .5mm dashed line in order to show the back or other sides of an object. These lines are crucial to a successful drawing because they allow us to understand the shape and size of the object and are a basis of its entire construction.

76. Jacob Yacobucci

Mathematics

Gothic lettering is the primary style of lettering engineer's use. The Gothic lettering style can be either vertical or inclined at sixty-eight degrees, but the same style has to remain constant throughout the drawing. Engineers mainly use capital Gothic letters on drawings. The capital Gothic letters are constructed by connecting a series of single lines, for example, the letter V would be constructed out of two lines that connect at the point of the V. The lettering has a standard height of one eighth of an inch, which is held constant throughout a drawing by engineers using guidelines. The engineer lays out the guidelines spaced one eighth of an inch apart and then writes in the lettering, making sure that the lettering touches the top and bottom guidelines. The consistency throughout the lettering gives the drawing a cleaner look, as well as makes the drawing easier to understand.

Art Exhibitions

Senior Exhibitions are on display in the Saint Vincent Gallery located on the 3rd Floor of the Robert S. Carey Center.

The gallery is open from 12 noon to 3 p.m. and 6:30 to 8:30 p.m. on Wednesdays.

The following seniors are holding their exhibitions at this time:

Nathan Jara

Rachelle Jones

Rena Watson