



SAINT VINCENT COLLEGE

Sixth Annual

Undergraduate Student Research Conference



SAINT VINCENT COLLEGE

OLD TRADITIONS INTO NEW BEGINNINGS

Wednesday April 22, 2009

2:30-7:00 p.m.

Fred M. Rogers Center

Latrobe, PA

A Letter of Welcome

Welcome to all Saint Vincent College students, faculty, administrators, staff, friends, family, and guests to the sixth annual Saint Vincent College Undergraduate Student Conference. This year's conference takes place in a new venue, the beautiful Fred M. Rogers Center. The Center's ideal location and environment is a fitting showcase for the fine work that our students will share with the college and broader community this afternoon.

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.

While many students share their work through posters, others will present their work 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.

The Saint Vincent Choir has joined the conference this year for the first time, as its female members will sing to honor the 25th anniversary of coeducation at the college.

The program that you hold in your hand includes the full list of student presentations, as well as a schedule for the presentations.

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 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

Michael Rhodes, Ph.D.
Department of Biology

Saint Vincent College

Undergraduate Student Research Conference

2009 Committee

Dr. Tim Kelly, Co-chair

Dr. Michael Rhodes, Co-chair

Faculty and Administration Representatives

Dr. Melissa Cook

Ms. Julia Cavallo

Ms. Michelle Gil-Montero

Dean Alice Kaylor

Dr. Mark Rivardo

Dean John Smetanka

Student Representatives

Ms. Stephanie Fitzgerald

Ms. Alé Muzika

The committee wishes to thank everyone who helped to prepare for this conference

Thanks to Ms. Cynthia Hoffman and Ms. Maren Hess for their technical expertise

The students and committee are grateful for the faculty who assisted the students with the preparation of their work. The following faculty acted as academic sponsors for the students listed in this program.

Dr. D. Andrew Bell, Dr. Bruce Bethke, Dr. Gil Bogner, Ms. Rebecca Dinning Brinkmann, Ms. Colleen Carr, Dr. Thomas Cline, Br. Nathan Cochran, O.S.B, Dr. Melissa Cook, Dr. Thad Coreno, Dr. Dawn Edmiston, Mr. Fred Findley, Dr. Caryl Fish, Dr. Matt Fisher, Fr. Stephen Concordia, O.S.B. Ms. Michelle Gil-Montero, Dr. Steve Gravelle, Dr. David Grumbine, Ms. Alice Kaylor, Dr. James Kellam, Dr. Tim Kelly, Dr. Jason King, Dr. Jennifer Koehl, Dr. Michael Krom, Dr. George Leiner, Dr. Sara Lindey Lindey, Dr. Dante Mancini, Dr. Dennis D. McDaniel, Dr. Mandy Raab, Dr. Michael E. Rhodes, Dr. Mark Rivardo, Dr. Michael Sierk, Dr. Kristine Slank, Dr. John Smetanka, Dr. William Snyder, Dr. Susan Sommers, Ms. Dawn Turkovich, Dr. Jason Vohs, and Dr. Cynthia Walter.

As noted throughout the program after student names, competitively selected 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.

Saint Vincent College Undergraduate Student Conference 2009
Oral Presentations Schedule
 (faculty moderators are noted in parenthesis)

Time	FRC 1A	FRC 1B	FRC 1C	FRC 1D	Ballroom C	McCarl Gallery	Archives / Research	Studio 1 st floor
2:45-3:45	Communication 1 Criticism (Cook)	English 1: Young Adult Fiction (McDaniel)	History 1: War and Society (Sommers/ Kehoe)	English 2: <i>Scarlet Letter</i> (Lindey)	Marketing 1: Research (Cline)	Student Art (Br. Nathan/ Br. Mark)	Communication 2: Web Design (Dinning)	Liberal Arts/ History (Kelly/Kaylor)
3:50-4:15	Musical Interlude—2nd floor Women of the Saint Vincent College Choir will sing in honor of 25 Years of Coeducation at Saint Vincent College (Fr. Stephen)					Student Art		Advertising Club National Adv. Competition Campaign “pitch” (Cook)
4:20-5:20	English 3: Role of Woman in Amer. Renaissance (Lindey)	English 4: Beat Generation (McDaniel)	English 5: Creative Writing (Gil-Montero)	Biology & Philosophy (Bethke)	Marketing 2: Research (Cline)	Student Art	Education: Electronic Portfolios (Turkovich)	Honors (Smetanka)
5:30-6:30	Liberal Arts (Smetanka)	History 2: Nationalism across time (Bogner/ Johnson)	Communication 3 Video Production (Findley)	Theology/ Philosophy (Baker)		Student Art		Service/Internships (Leiner/Baum)

Zheilla Marie Cordero**Communication**

“Happily Never After: A Rhetorical Critique of the Disney Princess Brand”

From a very young, impressionable age, female children are presented with products, tales and Disney films of magical princesses that have or obtain beauty and the perfect prince by the “happily ever after” of their fantasy. Being a beautiful noble princess is something to aim for and to achieve. A Feminist Marxist critique of the Disney Princess Brand reveals that although the modern American society has worked several decades in order to create a better paralleled and equaled society on the topic of gender, American culture has propelled the characters of the Disney princesses to idol stature for girls. Disney portrayals of princesses illustrate female characters as insufficient and their princes in turn must have money and power, while the princesses that take main stage of the brand's marketing are seemingly limited to those specifically born into royalty.

Alexandria Muzika**Communication**

“Charlie Brown: A Metaphor of the Average Man's Fight for the American Dream”

Charles Shulz created the *Peanuts* comic strip in the early 1950's in which he introduced the character Charlie Brown. A psychoanalytic critique of Shulz's signature character suggests that he created Charlie Brown as a character to whom the average, post-war American man could relate. Charlie Brown struggled daily to conquer his own problems, trying to attain success, just as the average American man struggled to attain the American dream. A psychoanalytic criticism is one that identifies some other reality or significance beyond just itself. A psychoanalytic criticism shows that Charlie Brown was not just a typical cartoon; he was a symbol and representation to all of the post-war American men. Through this cartoon, Shulz created a successful connection to the daily reality men were facing.

Rachel Hill**Communication**

“A Visual Rhetorical Critique of the Oklahoma City National Memorial”

At 9:02 a.m. on April 19th, 1995, the lives of many Americans changed forever. The Oklahoma City National Memorial was built to remember the 168 lives lost that day, and for those families whose lives were changed forever due to an act of hate. Each part of the memorial has a deep meaning. Visual rhetorical criticism says that an image or place must be interpreted as to extract meaning from, appeal to social solidarity or relate to others. The Oklahoma City National Memorial is viewed through a visual rhetorical lens to show the meaning behind the structure and the context of that day, as well as show how the memorial can heal visitors. The story behind each individual part will be described.

Melissa Evans**Communication**

“The Hair-Hopper and her Fight for Integration”

The 1988 original movie Hairspray is critiqued through a dramatic/narrative approach to human reality and motivation. Language, terministic screens, teleology and the pentad are the four aspects of the dramatic/narrative that are applied to Hairspray. The issue being discussed is Tracy Turnblad's fight for integration in the community through the popular teen dance show in which she was recently cast. The characters and their intentions are discussed, as well as the historical influences of the movie. Hairspray is applauded for its delicate approach to the serious topic of integration in a comedic way.

Melissa Kaminski**Communication**

“A Rhetorical Analysis of Gone with the Wind”

Gone with the Wind is used as an artifact to perform a rhetorical critique through both a Feminist and Marxist lens. Set during the Civil War, this novel allows for a glimpse into a time when men had more opportunities in business, politics, military and almost every aspect of life yet the war changed women's duties. Scarlett O'Hara attempts to control both of her husbands and even runs two businesses. The economic base for Scarlett is her father's wealth, and yet she must abide by the social customs and ideas associated with this wealth. The novel goes against the social norm because women are empowered at a time when they have almost no rights, and this empowerment allows Scarlett to behave in a masculine way, defying society's customs.

Lauren Paddick-Palumbo Award**English***"I said no: Censorship and Young Adult Literature in Schools"*

This critical essay analyzes the use of young adult literature in schools. "Speak", a young adult novel written by Laurie Halse Anderson, is most commonly objected to because of the mature content it confronts, particularly rape and the effects it has on a high school student. There are many lessons to be learned from this novel, and the benefits of teaching it outweigh the controversy. A counterproductive effect occurs when parents and school boards censor literature.

Jennifer Hendrick-Palumbo Award**English***"A Peach No Longer: A Deeper Look into Disturber Books A Wrinkle in Time and The Chocolate War"*

"The Disturber Cycle" is a fresh look at Young Adult Fiction derived from Joseph Campbell's Hero Cycle. This paper will explore the theme of "disturbing the universe" and examine disturber protagonists as they travel through the original theological concept.

Missy Moyher-Palumbo Award**English***"Myth in the Harry Potter Novels"*

Although J.K. Rowling writes Harry Potter as a contemporary, modern day fantasy series for children, Rowling incorporates mythic themes and characters through Harry, his friends, and their adventures making Harry Potter worthwhile for children to read and enjoy. Rowling utilizes the image of the hero by illustrating the hero's importance through the monomyth, symbolism of characters and mythic animals, worthiness of Harry's adventures, and many other images that compare to a mythic background, creating a learning experience for children, as well as parents and teachers.

John Geyer-Palumbo Award**English***"Teaching Speculative Fiction in Secondary School"*

With the changing landscape of high school culture and the increasing distance between students and the "old canon" of literature in mind, this essay explores the use of utilizing contemporary fantasy and science-fiction literature in the classroom as a much-needed complement to the classical works typically studied in the secondary classroom.

John Richardson**History**

“The Falkland Islands or The Malvinas?: A Struggle In The South Atlantic”

The Falkland Islands are an area no bigger than the state of Connecticut, yet through the passage of time the Islands have been fought over diplomatically, with passions running high, especially in Argentina where the quest to re-take the Malvinas has been taught since the days of Juan Perón. That passion spilled over, finally culminating in a large-scale war between Britain and Argentina. The Falklands War of 1982 had been a forgotten conflict, yet some see this war as Britain's last colonial war. This thesis explores the history of the Falklands; the prelude to war, exploring how two governments stumbled into war through failed diplomacy, and the actual fighting that took place for seventy-four days in 1982 costing the lives of 910 Argentine and British servicemen.

Jillian Bush-Palumbo Award**History**

“German Women Workers in WWII: Working and Living in the Third Reich”

German Women were an important resource for the Third Reich, because they became the workers needed to keep the country from falling apart. But a lack of leadership within the Nazi Party ultimately led to a perplexed female population in Germany. As women entered the workforce they were not only greeted with gratefulness because of the work they would be doing, but also with discontent and anger. Hitler, convinced of his own infallibility, felt that women were only to have children and didn't belong in the workplace. However, as the tide of war turned other Nazi officials realized that women would play a very important role as workers for the Third Reich. By using primary sources including an oral history and government documents and several secondary sources I was able to flesh out the life of German women during WWII and the strange circumstances they had to live with.

Carrie Meyer**History**

“The Role of Women in Medieval Warfare: Women in Battle”

The area of medieval women in warfare is largely under researched. Much of the research on medieval warfare hardly mentions or overlooks entirely the evidence of women's roles in battle which can be found in primary-source documents spanning the whole period. Further examination of primary-source documents like Anna Comnena's *The Alexiad*, for example, are used to back my thesis. In this excerpt of my undergraduate history thesis entitled “The Role of Women in Medieval Warfare: Women in Battle,” women who entered into direct combat are examined. The motives and actions of the selected medieval women warriors are detailed in addition to how the warrior culture may have affected these women. From all of this I have shown that women warriors were important in medieval warfare and that women often participated in all forms of battle whether as soldiers in an army or as makeshift warriors in times of need.

Jenna Hogan-Palumbo Award**English**

“Hawthorne’s Pearl: An Outlet for Transcendentalism”

Even though Nathaniel Hawthorne placed the action of his romance, *The Scarlet Letter*, within Puritan New England, the ideals of nineteenth-century American Transcendentalism shine through in his portrayal of Pearl. Pearl's involvement with nature, which stemmed from her mother's connection to the natural world, resulted in the cultivation of transcendental ideals that left Pearl completely ineligible for involvement in a Puritan society. Specifically, Pearl embraces transcendental ideals by communicating with nature, rejecting formalized religion, following her intuition, and seeking self-realization. On the whole, as a harbinger of nineteenth-century American Transcendentalism, Pearl fled America for Europe, the birthplace of the romantic ideas that would find expression in Hawthorne's era.

Mary Mobley**English**

“The Passionate and Thoughtful Woman”

In *The Scarlet Letter*, Hawthorne creates a paradox by criticizing and glorifying both the passionate and thoughtful woman in the character Hester Prynne. The passionate woman is beautiful and feminine, though she often lives a life of loneliness and despair. Conversely, the thoughtful woman is accepted for her charity, though she lacks attributes essential to her femininity. Because Hawthorne is incapable of ranking his conception of passion or thought above the other in this novel or in his everyday life, he presents the benefits and detriments to both through the character Hester Prynne and then allows his readers to determine which attribute is more ideal.

Kristin Welch**English**

“Arthur Dimmesdale as Tragic Hero”

Within the discipline of English Literature, there are widely accepted beliefs about what constitutes a tragic hero within a piece of dramatic literature or a novel. Within Hawthorne's *The Scarlet Letter*, Arthur Dimmesdale blurs the line between establishing himself as a Aristotelian tragic hero or a Modern tragic hero, taking aspects of both definitions within his character as he continues his descent from the leader of his community. This paper explores the textual evidence as well as historical and social constructs which ultimately place Arthur Dimmesdale as the tragic hero of the beloved novel, *The Scarlet Letter*.

Samantha Bowkley, Melissa Cramer, Megan Pinkosky, Stacy Sefcheck and Christina Walsh*“Saint Vincent College Housing”*

The Saint Vincent College Housing Project is a study about housing both on and off campus. The researchers have conducted focus groups and surveys to determine students' beliefs and opinions about on and off campus housing at Saint Vincent College. It has also helped the researchers to understand what students are looking for in their housing situations. This study will hopefully serve to give students better housing options in the future.

Nettisha Holas, Lindsey Kuruc, Sarah Ralutz and Christina Paolino*“Shuttle Service”*

Our group's objective is to gain insight on Saint Vincent students' thoughts on a shuttle service. After conducting the focus group, survey, and analyzing the data, we hope to learn whether or not students are interested and would use the service. Also, we would like to know where students frequently visit and any elements of a shuttle that may prevent students from taking part.

Paul Mihm, Dana Musial, Julius Thomas, Paul Mihm and Becky Hoffer*“St. Vincent College Study Centers”*

Our objective is to gain insights on students thoughts and overall opinions on the St. Vincent College campus study centers.

Stephen Lowden, Lloyd Cheatom, Marc Gonzales, Shea Anderson*“Saint Vincent Food Service”*

The Saint Vincent dining services focus groups are going to be conducted to understand who is eating at the Shack and the cafeteria, determine their perceptions of their visits to each dining option, and the perceived image of the Shack and cafeteria. This is a summary of our findings.

These seniors held their senior art exhibitions earlier this semester in The Saint Vincent Gallery. Samples of their work can be seen today in the McCarl Gallery.

Anna Shrift**Art Education**

Working in a wide variety of mediums and techniques (have provided me with knowledge I require to become an art educator and the abilities to share the extensive world of art with children. I believe it is important for an art educator to not only be a teacher but to be an artist: artist first, teacher second. his is the reason I create the artwork I create.

Jennifer Rodkey**Graphic Design**

I am somewhat of an introvert so I tend to express more through applying my emotions and thoughts through visual communication. I have been introduced to several different media while pursuing my degree in graphic design including drawing, painting and sculpture. Recently, I have been interested in creating work that shows a variety of people from all age groups, body types, etc. My idea is to break away from the idealistic human form and approach the subject from a realistic standpoint.

Elise Wells**Studio Arts**

Art should be accessible. It should be a connection between people, time, objects or emotions. It is like a synapse in the middle of two brain cells. The synapse is responsible for making the connection and I think of art in the same way. Many of the themes that I try to explore in my work include escapism. I like the concept of placing fantastical or fairy tale objects in the midst of our harsh, real world. I am also endlessly fascinated by the human form, more notably its fragility and resilience. Bones, muscles, body fluids and organ systems are respected, interpreted and modeled.

Noon-5:00 p.m. The Saint Vincent Gallery (Carey Center) Senior Art Exhibition II

This exhibition runs until May 3, 2009. Gallery hours are Tuesdays, Wednesdays and Thursdays noon-3:00 p.m. and 6:30-8:30 p.m.; Fridays, Saturdays and Sundays noon-3:00 p.m.

Lyndsey Fry**Art Education**

Even when I was young, art has played a large role in my life. From coloring and drawing, to making pot holders with hot loops and bracelets out of string, I was always doing something in which I was using my creativity. As a child, I always had a huge bag of crayons or markers with me everywhere we went. As I got older, I found myself doodling in all the margins of my notebooks. My artwork has always been something that I do for myself. I don't do it to please others or to show that I'm good at it but in order to express my own thoughts and ideas. In a way it was a get away from reality that I'm not quick to share with others because it is so personal to me. Coming to college my main focus was realistic work; however, I've grown to really enjoy working with the concept of minimalism.

Jason Hammel**Graphic Design**

Graphic design was an early favorite subject that took my interest as a kid. Here at Saint Vincent I was able to expand on that interest and let it bleed out into other different forms of art and media. Sports advertising and promotion are in my future.

Anna Wasik**Art Education**

Art is personal. It's mine and can't be wrong. I love to immerse myself into masterpiece scenes as I daydream of times past. My horizons have been expanded with different styles, techniques and fibers. I cherish my God-given gift to visualize, conceptualize and work with my hands. I tend to use my fingers to paint rather than use brushes, as I did when I was a child. I tend to focus my style for sculptures on tribal styles from all over the world. In addition, I also enjoy seeing creatures over-emphasized. I am inspired by the everyday artist: the cleaning person who saw a man painting on a television show and decided to pick up a brush, the doodler who draws with pencil in hand as he waits for a ride, and the old lady trying to learn to paint.

2:45-6:30

McCarl Gallery

Student Art: Service Learning

The following students are painters who created portraits of local senior citizens as part of a service learning class with Br. Mark.

Caitlin Marietti
Kacie Moody
Marisa Sberna
Kelly Timo
Jarod Trunzo

2:45-3:45

Archives/Research

Communication 2: Web Design

Students were assigned a web design to offer them a concrete opportunity to begin working with some of the technical, aesthetic, and intellectual issues of web development. In addition to practice using the tools and techniques made possible by applications such as Fireworks and Dreamweaver, this project also encouraged students to put into use what you have observed and learned about design, layout, navigation, and organization of content. Though projects had diverse goals, student web sites effectively and invitingly communicate with its intended audience.

2:45-3:15

Rob DiVincenzo *"Movie Stop"*
Sarah Maurer *"Tuckahoe Camp Staff"*
Fernando Sanchez
Jon Takac *"Survivalist Site"*
Alisha West *"Luxury Style"*

3:15-3:45

Kerri Cunkelman *"Kaylyn Photography"*
Phil Hamilton
Rebecca Potosnak *"Helping Paw Animal Shelter"*
Anthony Sonita *"Team SVC"*
Dan Waruszewski *"Brotherhood"*

Catherine Fickley*"Life Begins with the Heartbeat"*

Abortion is a complex issue and the subjects that underlie the controversy are vast. Too often, the mothers' health and rights are debated and protected, while the fetus' are ignored. Diverging from the customary discussion, this paper focuses on the physical condition and rights of the fetus. In order to understand the advantages of a lower legal abortion age it is important to be aware of the abortion methods used paired up with the stages of development of the fetus. Another significant section necessary to the study of abortion comes from a legal aspect, including abortion law history and fetal human rights. To further confirm the necessity of a lower legal abortion age, botched abortions and illegal abortions will be discussed. A full encompassing view of the issues surrounding abortion will amplify support lowering abortions from approximately twenty-two weeks to six weeks based on the development of the heartbeat in the fetus.

Biology/History**Christina Walsh***"Marketing of Drugs in the United States vs. Canada and European Countries"*

This thesis examines the direct impact drug promotion and advertising have on the cost of pharmaceuticals to patients. Aggressive research and development costs in the United States present a significant difference, causing drugs to be priced differently in the United States, Canada, and European countries. This will contain a chapter on the history behind the world's largest, reputable pharmaceutical companies, addressing their medical successes and the effects of past discussions on their reputation today. The chapter will also discuss the history behind advertising and how it has changed dramatically throughout the formation of pharmaceutical companies. The second chapter will define, examine, and scrutinize advertising approaches used in various countries, like Direct-to-Consumer Advertising. The advertising costs directly affect the price of the drug in various countries. The third chapter discusses the differences between generic and prescription drugs, focusing on the difference as mainly due to patent expirations and causing doctor referrals to be under speculation. The final chapter will present a discussion on drug research and development, including where drugs are being researched and produced, and the possible drawbacks without the money obtained from drug advertising.

Liberal Arts/Marketing**Joshua M. Meny***"An Historical Analysis of the Relationship between Tobacco Smoking and Intellectualism"*

My presentation is on the relationship between tobacco smoking and intellectualism throughout history. The aim of my analysis is to show how intellectuals throughout history have perceived smoking as crucial to both their work and persona. I will begin in 17th century England where tobacco became popularized as both a social stimulant and as medicinal. I will then compare and contrast Bohemian and Bourgeois intellectual smoking-cultures in Europe from the 17th century to the 20th century. I will then look at societal and cultural views of tobacco smoking from the beginning of the modern period to the end of World War I. I will then analyze society's perception of smoking up until the 1964 Surgeon General's warning. Finally, my thesis will examine smoking in contemporary culture where it will center on the question of why people smoke in spite of all the clear medical evidence of the health hazards.

History/ Psychology/ Sociology

3:50-4:15

2ND Floor

Saint Vincent College Choir

Musical Interlude

Women of the Saint Vincent College Choir

Choir members will sing in honor of 25 Years of Coeducation at Saint Vincent College.

Program

Hosanna filio David - Gregorian antiphon from Palm Sunday Procession

Jesu, Rex admirabilis - Giovanni Pierluigi da Palestrina

Cantique de Jean Racine - Gabriel Faure'

Fr. Stephen Concordia, O.S.B., Director

3:50-4:15

Studio

SVC Ad Club "pitch"

SVC AAF Chapter members-Palumbo Award

Brittany Bennett, Katherine Caringola, Jesse Frey, Frank Kuhne and Lynnette Anderson

"Fact Not Fiction"

The 2009 client for the American Advertising Federation National Student Advertising Competition is The Century Council. The Century Council is a national not-for-profit organization funded by distillers dedicated to fighting drunk driving and underage drinking. The campaign is unique in that it is the first time the contest asked students to address a social issue to promote a positive behavioral change. The goal of the campaign is to target U.S. college students and to educate them on the definition of binge drinking and to develop and promote a constructive public service campaign to help address alcohol abuse by college students. The SVC Ad Club, an extracurricular activity sponsored by the Department of Communication, had 16 student members develop a campaign over the past seven months, to take to New York City on May 2, 2009, where they will compete against 10 other schools in our Northeast region. Our five student presenters will offer the 20 minute "pitch" today

In addition to the five presenters, the following students performed the research, design and layout of our campaign for the competition:

Kelly Danhires
Chelsey Hennemuth
Sarah Maurer
Sarah Peranteau
Sarah Ralutz
Cassandra Robbins
Christopher Sirianna
Abbey Sloss
Anthony Sonita
Shelly Teems
Julius Thomas
Alyssa Trunzo

Sara Tedde-Palumbo Award**English**

“Uncle Tom: A Savior for the White Woman Reader”

This paper explores Harriet Beecher Stowe's development of Uncle Tom as a Christ figure in her novel “Uncle Tom’s Cabin.” Throughout the novel, Uncle Tom makes a series of hierarchical sacrifices that ultimately lead him to save the white women readers of the novel. In my paper, I trace Uncle Tom’s journey from a plantation in Kentucky to one in the deep south; with each relocation, Uncle Tom saves a woman: first a black slave, then a white child, and finally, two black women with white skin. With each self-sacrifice, Uncle Tom is able to gain greater access to the white women readers and ultimately saves them with his death.

Jennifer Emling-Palumbo Award**English**

“The Role of Women in the American Renaissance”

Virginia Woolf claimed that an effective female author must possess a “room of one’s own,” the psychological freedom to create and the material means to realize a career in writing. In her examination of 19th century women authors, Woolf argues that writers suffered from anger and fragmented prose which impeded free expression and weakened their work. Yet how much of Woolf’s idea can be applied when analyzing authors of the American Renaissance? Ruth Hall, a Domestic Tale of the Present Time might be an exception to Woolf’s rule. The novel’s fragmented narrative might be seen as a flaw, but the novel is actually strengthened by these features. Fragmentation makes writing an extension of the author’s selfhood, creates a venue for anger to be expressed, and allows participation in a wider sphere of social commentary. Ruth Hall might have caused Woolf to reevaluate her opinions to accommodate American women’s fiction.

Kylie McGinnis-Palumbo Award**English**

“Fanny Fern’s Friends; Real Life Masquerading In Fiction”

Although she is truly a master of satire and wit, Fanny Fern has been inappropriately labeled as a sentimentalist writer for over a 150 years because of gender stereotypes across the generations. Convention compromised the shock of Fern’s outlandish opinions by labeling them as incongruous ramblings of a scorned woman. My paper discusses the abundance of evidence in Fern’s work that proves Fern is not a sentimentalist, and a victim of sexism and gender stereotypes.

Kathy Stodola**English**

“Mythical Narratives: The Quest for Revelation and Transcendence in ‘A Portrait of the Artist as a Young Man’ and ‘On the Road’”

Great literary myths derive much material from history or everyday life in order to create a shock of recognition and reality in its readers. One common mythic archetype is the quest for the Holy Grail. James Joyce’ “A Portrait of the Artist as a Young Man” and Jack Kerouac’s “On the Road” embody variations of the traditional quest myth by adapting the archetypes of the knight or quester, the quest, and the Grail. However, the novels also function as mythical narratives wherein quester and creator attempt to reveal the secret and the hidden and to transcend the human condition. As mythical narratives, they draw upon images that emanate from what Carl Gustav Jung refers to as the collective unconscious, or a reservoir of images and ideas accessible to all human beings at level of the unconscious, in order to create humanity’s quest

Michelle Stepien**English**

“More than Zero: Brett Easton Ellis and the Beat Generation”

This paper will compare and contrast the novels of Brett Easton Ellis, author of “Less than Zero”, “American Psycho”, and other novels, with the novels of Jack Kerouac and the work of other Beat Generation authors.

Jen Takacs and Rima Khalil**English**

“Beat It!: A One-Act Play”

The purpose of this presentation is to explore the history of the Beat Generation by focusing on the tensions between housewives and free spirited/Beat women and the era’s values/morals. This presentation will be in a debate format between two women: a typical housewife from the 50’s and a Beat woman. The point of the debate will be to compare and contrast life before and during the Beat Generation. The whole debate will be done with an original manuscript of poetry. The housewife will speak in a controlled, high pitched and perfect manner, while the Beat woman will speak in a jazzy, free, and relaxed manner. While talking separately, their speeches will rhyme, and while debating, their poetry will rhyme with each other as well. Also, 50’s music, as well as jazz music, will be introduced within the speeches. Overall, this skit will play with stereotypes in a humorous way to shed light on the era and its culture.

Abigail Chabitnoy-Palumbo Award
“Heirlooms”

English

In a creative writing class, Narrative Techniques, I was introduced to various innovative techniques and forms of expression that play with subject matter and language in experimental ways of which I was previously unaware. “Heirlooms” is a poem that exemplifies this freedom of form and genre, inspired in part by C.S. Giscombe’s “Giscombe Road.” While I call it a poem here, in the spirit of this class, it could just as easily be called creative nonfiction--exploring my own identity through my father's name and the history of a man I never met. In my presentation I will introduce Giscombe’s work and the narrative technique used in his piece and explain their influence on my own piece, which will serve as an example of Giscombe's technique adapted and applied by another writer.

Alicia Rae
“Ways of Looking at Love: a Fable”

English

For a creative writing class, Narrative Techniques, the students were continually challenged to write creative stories that utilized non-traditional techniques and form. For one particular assignment, we were asked to construct a fable. For this assignment, we used the term ‘fable’ very loosely, creating a story that at the very least, grasped at teaching a moral lesson and contained animals. For my fable, I use human and animal characters to verbalize various standpoints and opinions on the issue of marriage. Throughout the piece, the main character is constantly given bits of advice concerning marriage and in the end, through the help of all the characters, she is able to come to her own conclusion on the topic.

Zheilla Marie Cordero
“Dinner Dance”

English

This nonfiction work addresses the issue of family through the use of inner monologue and close attention to the ‘stage direction’ and actions of the characters. Memory and questioning is first opened through the staging of photographs in perfect frames before the reader is taken to the main site of the narration: the dinner table. The dinner table provides an intimate setting in which the definition of a ‘family’ is challenged.

Kelsey Sullivan
“One-Eyed”

English

“One-Eyed” is a piece that I wrote during my narrative techniques class. This work demonstrates several of the narrative techniques I learned during that class. I used these techniques to show my own tensions between my Irish and Italian heritage. In addition to exploring these stresses in heritage and personal identity, I also delved into my family history to uncover facts about the mysterious disappearance of my great aunt. I used the information I found about her to help explain her absence and resolve a particular conflict in my immediate future at the time, which was to decide if I wanted to pursue my love of writing or not.

Sara Tedde
“Narrative Mis-en-Abyme: 'Nous Traduisons'”

English

In my presentation, I will discuss the narrative technique called a “mise-en-abyme,” which is French for “placing into the abyss.” The literary technique is characterized by texts and subtexts that reflect, copy, and refer to each other within a piece. During my presentation, I will read my short non-fiction essay, “Nous Traduisons,” which is an example of a mise-en-abyme. This essay tells the story of my unlikely friendship with a co-worker and the subtexts that resonate within the relationship. My use of mise-en-abyme creates countless reflections within the piece. I use poetry, movie references, physical description and the acknowledgment of writing the essay to accomplish this effect.

Glenn Rapsinski-Palumbo Award**Biology**

“Proteomic Analysis of Vancomycin Intermediate Staphylococcus Aureus”

Vancomycin Intermediate Staphylococcus aureus (VISA) has become an increasing problem in the medical field. A greater understanding of the protein structure and stress responses of these bacteria can give a greater overall understanding of the resistant bacteria and give new ways of treatment. The purpose of the experiment was to investigate the protein composition of antibiotic- and osmotic-stressed intermediate resistant and susceptible strains of *S. aureus* as well as unstressed strains. The proteins were extracted from all strains under all conditions and run through two-dimensional gel electrophoresis. Protein expression differed between the two strains under all conditions; differences included shifts in major pI values of proteins, molecular mass differences, and total amount of protein present. Individual proteins could not be identified. Overall, it was concluded that changes occur in the protein expression of VISA strains under stressed conditions versus their stressed susceptible counterparts.

Mallory Freeberg**Bioinformatics**

“Functional annotation of non-coding elements in the amphioxus (lancelet) genome”

Amphioxus (the lancelet) is a small marine worm-like animal that spends most of its life buried in the ocean floor. Amphioxus is considered the most basal group of the chordate lineage, branching off the evolutionary tree before the Urochordates and the Vertebrates. The genome of the Florida lancelet, *Branchiostoma floridae*, was recently sequenced in June 2008. With the addition of this information, we can start to analyze amphioxus' genomic makeup in order to answer some fundamental questions about chordate evolution and the common chordate ancestor. This study focuses on exploring the non-coding elements of the amphioxus genome and how they are conserved through the chordate lineage. By identifying functional non-coding elements that amphioxus shares with the Vertebrates, we can predict which non-coding elements serve important biological roles as well as which elements were present in the common ancestor of all chordates.

Jarod Antonacci**Philosophy**

“A Revised History of Pragmatism in the Philosophy of Science”

In my thesis I address the argument put forth by post-modern/neo-pragmatic philosophers who reject all objectivist epistemologies and claim that the so-called ‘pragmatic turn’ in the philosophy of science and more broadly, epistemology, occurred in the mid-twentieth century. I argue that this ‘pragmatic turn’ actually occurred in the mid-seventeenth century with the birth of the modern natural sciences and merits a rediscovery of objectivist and foundationalist epistemologies. The general outline of the argument follows the development of a pragmatic epistemology beginning in the seventeenth century with Thomas Hobbes, then continuing with the philosophy of the logical positivists of the early twentieth century, and finally concluding with the philosophies of W.V.O Quine and Thomas Kuhn—as the most contemporary models of pragmatic philosophers of science.

4:20-5:20

Ballroom C

Marketing 2: Research

Doug Mehall, Drew Damico, Devin Gmitter and Jason Hammell

“Gristmill”

We are conducting research on the Saint Vincent Gristmill. We are gathering students opinions on how we can improve the Gristmill and raise awareness for Gristmill events.

Ashleigh Yuska, Sarah Peranteau, Danielle Dean, Jessica Zigerelli and James Lichtenstein

“Student Opinions on SVC Summer Courses”

Our research project provides an analysis of the factors that are important to students regarding summer classes at Saint Vincent College. Through focus groups and survey research we collected data to help us explain how a variety of variables such as cost, location, and course selection relates to enrollment in summer classes. We also analyzed what alternatives students use for summer classes and the criteria that was used to inform their choices.

Michael Arabia, Frank Kuhne, Greg Jackson, Jarrod Miller, and Aimee Pellish

“On-Campus Convenience Store”

We are conducting marketing research regarding an on-campus convenience store. The results will be used to determine whether the current campus locations provide adequate services to the students of Saint Vincent College.

4:20-5:20

Archives/Research

Education Portfolios

Electronic Portfolios

Education

Bethany Smarra, Brittnee Campolongos and Nicci Lucchetti

“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.

4:20-5:20

Studio

Honors Program

Honors Seminar 2009

Interdisciplinary

Adnane Bel Hamdounia, Abby Chabitnoy, Barry Conley, Jesse Frey, Kristen Jurcic, Marjorie Merod, Mary Mobley, Allyson Perry, Caiti Sherman, Cory Sukala, Elisabeth Talamo and Briana Taylor

“The Move to Coeducation: An SVC History”

Saint Vincent College became a coeducational institution in 1983. Twenty-five years later, coeducation is so ingrained in the fiber of our College that current students cannot imagine our institution differently. How did this change occur? From our historical vantage point we are blessed that many of those who taught, learned, and lead the institution through the move to coeducation are still able to tell their story. The 2009 Honors Seminar took on the challenge to collect these stories; research the historical, philosophical, and sociological background related to coeducation; and document their work for future students. Twelve Honors students will present their work in a panel format and address any questions or commentary from the audience. Anyone interested in the history of Saint Vincent College is encouraged to attend. A special invitation is extended to those who personally experienced the transition to coeducation.

Abraham Kukuchka**Liberal Arts**

"Blood Cannot Wash Away Blood"

In today's society the death penalty can be considered cruel and unusual punishment for its lack of fairness and compassion. No matter how many different techniques we may devise, it is heartless for someone or something to take the life of another human being. Capital punishment is the act of killing a person. Therefore, one cannot justify putting a criminal to death because in turn that makes the judge, the jury, and the executioner criminals as well and demonstrates man's inhumanity to man. To replace capital punishment with life sentences without parole, as of right now, is the best form of a new system. Life without parole is the only sentence that will work until both sides can meet and create a new system that treats all defendants equally, and leaves out room for human error.

Kacie Moody**Liberal Arts**

"Gender Roles in School"

This paper explains the gender roles within grade school and college. It demonstrates the barriers that women face in trying to get ahead in school. It delves into the problems females face when pitted against male peers and in their home life. The thesis also demonstrates the roles women played with the integration of coeducation at Saint Vincent College.

Added after program printing

Adam Petrovich**Liberal Arts**

"CyberLooper"

For my senior project, I have created a mobile application for golf course management, which I named CyberLooper. This system addresses the high cost and tedious activity that goes along with managing a golf course. I will be presenting a live demo of the prototype for this web-based software as a service system. I will also be presenting the marketing information, short and long term goals, a business model, and how I created the project.

5:30-6:30

FRC 1B

**History 2: Nationalism
Across Time**

Daniel Whetsell

History

“The Travels of Elissa: A Greek Myth Describing the Founding of Carthage”

According to ancient legend, the Phoenician princess Elissa fled her city of Tyre and journeyed across the Mediterranean. She landed in North Africa and decided to found a city on the coast. Elissa named the new city Carthage. This myth, however, is Greek, not Phoenician, which raises many questions from historians. This presentation will demonstrate that the classical explanation for Carthage's founding is a Greek invention of the 3rd century BC. In order to trace common narrative elements, this presentation will examine similar Greek myths from the same time period. These myths will include a comparison of the Theseus myth and evolution of the Heracles myths throughout the centuries. Narrative elements which defined Classical Greek mythology will be drawn out of the Elissa myth to show it was composed in a similar timeframe.

Aaron Morridda-Palumbo Award

History

“Benito Mussolini and Italian Nationalism”

A dictator such as Benito Mussolini does not come to power overnight. Nationalism in Italy took many people and years to develop. Mussolini was a child of nationalist forces that preceded him. This paper discusses those issues and the thoughts and sentiments of the Italian nationalist that came before Mussolini. We start with the unification of Italy see how the early Italian nationalist interacted and progressed. Historic figures such as Giuseppe Garibaldi, Camillio Cavour, and Victor Emanuel. These people later influenced Benito Mussolini and laid the groundwork in Italian intellectual circles for a strong sense of nationalism. Mussolini would later exploit this and take advantage of the nationalist feelings of his fellow countrymen.

Brandon Bower-Palumbo Award

History

“An Untimely Demise: Conrad Weiser, Fort Freeland, and the Dissolution of the Iroquois Confederacy”

This paper examines how the fate of Iroquois Confederacy and Pennsylvania's colonists became inexorably intertwined through a series of diplomatic failures, violent massacres, and military campaigns. It seeks to link Conrad Weiser's diplomatic efforts in the 1730's to the massacre of Fort Freeland and the Sullivan Campaign, both of which occurred in 1779. Thus, it ultimately demonstrates how, in sum, these related events broke the sovereign power of the Iroquois Confederacy and brought about its dissolution following the American Revolution.

5:30-6:30

FRC 1C

**Communication 3:
Video Production**

Creative Hi-Def Video Production

Communication

Paul DiVincenzo, Mark Fields, Sara Hilf, Eamon McDonough, Jon McMahan, Alexandria Muzika, Matt Pagano, Brian Podnar, BJ Siard, Chris Sirianna, Craig Williams

“Saint Vincent College Tour Video”

Students from the Hi-Def Video Production class produced a video that informs audiences about the School of Social Sciences, Communication, and Education at Saint Vincent College. Under the supervision of the course instructor, Mr. Fred Findley and the advisement of our “client” Dean Mary Beth Spore, we present and debut this video for our client The School of Social Sciences, Communicatoin and Education at Saint Vincent College.

Shanna Stauffer**History/Religion**

“Council of Nicaea: Begotten, Not Made, or a Human Body of Lies?”

My presentation illuminates on the unknown steps taken to prove Christ's divinity. The historical reality before the Council of Nicaea is first clarified and used to explain why instances occurred the way they did. With the reign of Diocletian came the persecution of Christians through the entirety of the Roman Empire. Once the Empire began to crumble, Constantine rose to power as the new Emperor and set the stage for the Christian era. Despite his attempts at alleviating the Roman Empire from its pagan beliefs, Constantine is faced by a split within Christianity itself. Some believers were under the belief that Jesus was a mere man of God while a smaller minority held that He was begotten of God and His divine Son. Then, from a Dan-Brown-like stance, the presentation delves deeper into the actual happenings at the Council and the very methods applied by the Bishops at the time to decide on this religious matter.

Vernon Knight**Catholic Theology**

“Theology of Clerical Celibacy: Tradition between Eastern and Western Church”

My thesis paper is a theological understanding about celibacy and how it relates to the clerical order of the Western and Eastern Church. The paper talks about scriptural sources supporting celibacy. A historical overview about the discipline of celibacy in the clergy ranks and theological view on why it is necessary.

Carl Vater**Philosophy**

“The Plotinian Influences on the Panentheism of F.W.J. von Schelling”

Panentheism is a philosophy of God which was co-founded by F. W. J. von Schelling, and has come into vogue in contemporary philosophy discussions. There is a good reason to link the philosophies of Schelling and Plotinus, especially when considering panentheism. Schelling may be accurately read as assimilating many areas of Plotinus' philosophy in his division within the Godhead, matter, and evil. Schelling also, unwittingly, uses the two major interpretations of Plotinus' procession: the overflow of goodness and tohma. This paper seeks to point to Schelling's use of Plotinian ideas and the inconsistencies between Schelling's incorporation of some of his ideas and the conclusions he seeks to draw with regard to bodily existence and creation. It points to the Plotinian influence on panentheism, and how this has created confusions within the philosophy.

Added after program printing

Melissa Gettinger

“SVC Habitat For Humanity 2009 Spring Break Service Project”

During the Spring Break of 2009 the Saint Vincent College Habitat for Humanity chapter participated in their third *Collegiate Challenge Build Program*. Each spring thousands of college students spend their breaks helping Habitat fulfill its mission of providing decent, affordable housing to partner families of little economic means. This spring some 20 students from Saint Vincent travelled to Albany, Georgia, spending a week helping construct two houses in an area in which Flint River Habitat for Humanity is in the midst of completing 70 homes. We were welcomed by the community, including the Lincoln Middle School, a magnet school in Albany, and the Knights of Columbus of Albany. We look forward to having others join us next spring for our next Collegiate Challenge Build

Zac Parkhill

Marketing

“PNC Internship”

As the Interactive Marketing intern at PNC Financial Services, I assisted with the launch of a new online banking product - Virtual Wallet. Since Saint Vincent College offered a course in internet marketing, I was uniquely qualified to contribute to the newly-formed Interactive Marketing department at PNC. My presentation will highlight three key topics: the development of a digital messaging system to support Virtual Wallet, daily activities such as online campaign rollouts, and online advertising optimization. I will conclude by describing the most important lessons learned from my past summer internships. I will be forever grateful for the dedicated support and countless hours the McKenna School professors and the Career Services team have spent helping me obtain valuable internship experience.

Joseph Dunford

Political Science

“Ohio Judicial Internship”

During the summer of 2008, I interned at the United States District Court for the Northern District of Ohio. Under the supervision of Magistrate Judge William H. Baughman, I had the opportunity to observe criminal and civil trials for the Northern District Court of Ohio. I met with various professionals from diverse legal backgrounds such as Assistant U.S. Attorneys, Civil Rights Lawyers, and Criminal defense attorneys. With the Judge and his staff I discussed constitutional issues and learned legal writing skills. I was also lucky enough to assist in writing summaries for criminal court cases.

Poster Presentations

(organized by academic department or discipline and in numerical order of poster number).
All posters are on display in the Rogers Center Meeting Room 2AB, Patio, or Lobby 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 (#9 - #41) presented from 3:00 – 4:00 p.m.
- Even numbered posters in Biology (#8 - #40) presented from 4:00 – 5:00 p.m.
- All other posters presented from 3:00 – 4:00 p.m.

1. Heather Riggle – Palumbo Award

Biochemistry

“Purification of a Prolyl Endopeptidase from Aspergillus oryzae and Evaluation of its Ability to Digest Gluten”

The peptide fragments obtained from the body’s natural digestion of gluten proteins have been implicated as the cause of Celiac Disease immunopathogenesis. Formally known as Celiac Sprue, this disease is an autoimmune disorder of the small intestine with a prevalence of about 1 case in every 133 people worldwide. Previous studies have characterized fungal and bacterial prolyl endopeptidase enzymes, such as that from *Aspergillus niger*, and their ability to function as effective treatments to destroy these pathogenic peptide fragments. Based on the degree of similarity between *A. niger* and *A. oryzae*, this study takes aim at purifying a protease from cultured *Aspergillus oryzae* and evaluating its ability to digest gluten in a simulated gastric environment.

2. Stephanie Shola – Palumbo Award

Biochemistry

“Small Molecule Inhibition of Pseudomonas aeruginosa Secretion of Exoenzyme S”

One of the main opportunistic pathogens associated with human infections is *Pseudomonas aeruginosa*. This bacterium releases proteins that aid in the termination of the host cell. One of these secreted proteins is called exoenzyme S (ExoS) which is the main factor in apoptosis of the host cell. By controlling or eliminating this secreted protein, there is potential for reducing the ill effects of this bacterium on humans. This research focused on culturing the bacteria and testing the cultures through a biofilm formation assay. Bacterial cultures were also grown in the presence of an acylated hydrazone that we synthesized as a potential inhibitor of ExoS secretion by the biofilm. We will determine the amount of ExoS as a function of how much of our synthesized inhibitor that the bacteria are exposed to by SDS polyacrylamide gel electrophoresis.

3. Amanda Titler – Palumbo Award

Biochemistry

“Expression of HtrA1 in Ovarian Cancer Cells upon 4-Hydroxyestradiol Treatment”

Estrogen is transformed from a natural hormone to genotoxic agent as it is oxidized during metabolism. These genotoxic agents then interact with DNA to create depurinating adducts. In turn, the oxidized estrogen can compromise the cell’s functionality. As a response to the toxins, some biomolecules will exhibit characteristics which compensate for the damage these chemicals do to the cells. One such biomolecule is the heat shock serine protease high temperature requirement A-1 (HtrA1). As the oxidized estrogen accumulates within the cell, HtrA1 is expected to respond to the stress. This will result in the expression of HtrA1 in ovarian cancer cells being up regulated. 4-Hydroxyestradiol is the one form of estrogen that produces the depurinating adducts. By varying the concentration of 4-hydroxyestradiol induced on ovarian cancer cells, does the level of HtrA1 increase with greater amounts of oxidized estrogen?

4. Mary Regina Boland

Bioinformatics

“Data Design & Flow for RAE: An interactive web-based biomedical informatics system for pediatric orthopedic patients”

An interactive web-based biomedical informatics database has been developed to produce presentations that will help pediatric orthopedic surgeons educate their patients on how to cope with and manage their conditions. These presentations will provide patients and their families with the necessary information to allow for a complete recovery of the patient while minimizing complications due to misinterpreted follow-up care. A personalized presentation will be produced based upon input from the database involving the individual needs and interests of the patient. Initially, a conceptual schema was constructed that mapped the relationships between the various concepts to appear on the presentation pages. A MySQL database architecture is being designed based on the conceptual schema (see William Kunkle’s poster). Finally, an initial design of the web page templates was developed in HTML.

5. William Kunkle and Mary Regina Boland

Bioinformatics/Computer Science

“System Architecture for RAE: An Interactive Web-Based Biomedical Informatics System for Pediatric Orthopedic Patients”

To automate the process of creating personalized patient education presentations, PHP, XHTML, and MySQL are used in a modification of the standard three-tiered architecture. The web-based user interface (top tier) allows pediatric orthopedic physicians to input patient information (including the patient’s age, height, weight, gender, x-ray image). The entire patient presentation, composed of individual HTML pages, is then automatically generated. The input interface links to a web server (middle tier) that operates PHP scripts to store the patient’s information into a MySQL relational database (bottom tier). Additional PHP scripts retrieve information from the database to write HTML pages and store the pages in a patient-specific directory (a modification to the three-tiered architecture). The presentation is then viewed via a web browser by the patient and physician. An initial prototype was developed and sample presentations produced.

6. Hannah C. Duffy

Bioinformatics

“Image Architecture for RAE: An Interactive web-based biomedical informatics system for pediatric orthopedic patients”

The purpose of this project is to create an interactive web-based biomedical informatics system to assist Dr. Mark Sangimino in teaching his young patients how to cope and manage their muscular skeletal disorders. The system, nicknamed RAE, will automatically create an educational presentation individualized to the patient’s disorder and interests in hopes of engaging the child in his/her own daily care. RAE’s personalized presentations will work by minimizing word usage and maximizing inspirational and functional images. After the initial layout and test run presentations were approved, the identification and acquisition of images from photo distributors was undertaken. Various image rights and privileges were explored for utilizing the required images. Then, proper indexing was developed in SecureFX to organize images on the Bioclu server. Dr. Sangimino’s hope for the future is to disseminate this Biomedical Informatics System, RAE, to pediatric orthopedic practices nationwide.

7. Mallory Freeberg

Bioinformatics

“Functional annotation of non-coding elements in the amphioxus (lancelet) genome”

Amphioxus (the lancelet) is a small marine worm-like animal that spends most of its life buried in the ocean floor. Amphioxus is considered the most basal group of the chordate lineage, branching off the evolutionary tree before the Urochordates and the Vertebrates. The genome of the Florida lancelet, *Branchiostoma floridae*, was recently sequenced in June 2008. With the addition of this information, we can start to analyze amphioxus’ genomic makeup in order to answer some fundamental questions about chordate evolution and the common chordate ancestor. This study focuses on exploring the non-coding elements of the amphioxus genome and how they are conserved through the chordate lineage. By identifying functional non-coding elements that amphioxus shares with the Vertebrates, we can predict which non-coding elements serve important biological roles as well as which elements were present in the common ancestor of all chordates.

Kimberly Lesnock *please see #56 for a late addition poster*

Bioinformatics

8. John S. Bozek – Palumbo Award

Biology

“Antibacterial and chemical analyses of Pinus edulis sap, a substance used in traditional, Navajo medicine”

Traditional medicine has explored the use of plant materials in numerous cultures. Investigation of botanical remedies (honey, fruit extracts, saps) has revealed biological mechanisms underlying their beneficial effects, including wound-healing and antimicrobial properties. Within America, traditional Navajo medicine makes use of piñon sap, a resin excreted from the Piñon Pine (*Pinus edulis*). The Navajo apply piñon sap to wounds in addition to drinking it as an expectorant. Though prior research has investigated antimicrobial effects of material from other *Pinus* species, research on piñon sap is nonexistent. The purpose of this study was to test the antibacterial effects of piñon sap. Modifying procedures from clinical, microbial standards, piñon sap exhibited antimicrobial properties on numerous *Staphylococcus* species in vitro. Specifically, piñon sap was bacteriocidal against *S. epidermidis* and *S. aureus* (including VISA and MRSA). Gas chromatography and mass spectroscopy revealed typical resin compounds, including terpene derivatives that likely account for antimicrobial activity.

9. Shane Anderton

Biology

“Insecticidal and Insect Repellent Effects of Two Plants on a Variety of Insects”

Naturally derived compounds assist plants to resist attacks from pests to maintain species survival. Plants, like tobacco, have specialized defenses such as nicotine to ward off pests. Some agents deter insects from feeding and benefit plant survival in a hostile world. This study shows the antifeedant or repellent properties from two naturally occurring plants on three types of arthropods. The fruit fly (*Drosophila melanogaster*), the harvester ant (*Pogonomyrmex barbatus*), and the tobacco horned worm (*Manduca sexta*) are naturally occurring insects that can be exposed to a variety of plant defense mechanisms in their environment. This study evaluates extracts from walnut (*Juglans nigra*) and purple cone flower (*Echinacea purpurea*) to understand the insect repellent and insecticidal properties of both plants on each insect variation from a series of binary choice assays.

10. Christina Steinhauser – Palumbo Award

Biology

“Effect of Leiurus quinquestriatus venom on human skin melanoma cells in conjunction with chemotherapeutic agents”

The venom from *Leiurus quinquestriatus*, a scorpion native to Northern Africa and the Middle East, has been found to bind selectively to cancer cells in the brain without affecting the surrounding tissues. The goal of the experiment was to examine the effects of the venom on a different cancer type, skin cancer. The active component of the venom is chlorotoxin, a protein that binds to gliomas. The venom and the isolated active component, chlorotoxin, were used to treat two cell types: normal skin cells and melanoma; this was then compared to the chemotherapeutic treatment normally used to treat melanomas, Cisplatin and Dacarbazine. Based on the results of cell viability assays, incubated with the venom for 48 hours, the venom did not cause and increase in the mortality rate of melanoma compared to normal cells. Fluorescent staining has revealed cytoskeletal restructuring as a result of venom treatment with 24-hour incubation.

11. Katelynn Thiel – Palumbo Award

Biology

“Stress Responses of Rats to Predator Scents”

When exposed to a stressful, potentially threatening situation both animals and humans biologically respond to the circumstance by producing corticosterone by the CRH-ACTH system of the HPA axis. By producing cortisone the animal prepares itself to either confront the threat or to flee from it, known as the fight or flight mechanism. When exposed to a natural predator scent it is hypothesized that a rat will display behavioral changes, such as changes in food and water consumption, and will have increased levels of fecal corticosterone. In this study each rat subject was exposed to three different predator scents including cat, dog, and fox in which changes in their behavioral modifications and fecal corticosterone levels were observed and analyzed. The present study determined that both male and female rats exhibited behavioral and corticosterone level modifications when exposed to given predator scents.

12. **Simone Flesik** – Palumbo Award

Biology

“Analysis of Potential Synergy between Glucosamine and Endomorphin-1 on Load Bearing Capacity and Cartilage Tissue Repair in Osteoarthritic Rats”

Osteoarthritis is the leading cause of joint pain and inflammation in the United States. Pharmacological treatments include non-steroidal anti-inflammatory drugs and COX-2 inhibitors which often produce harmful side effects and only mild, temporary relief. This experiment examined the potential of a natural supplement, Glucosamine Synergy®, and a naturally occurring opioid peptide, endomorphin-1, as osteoarthritis therapies. It was hypothesized that endomorphin-1 would have analgesic and anti-inflammatory effects which would be enhanced when administered in combination with Glucosamine Synergy®. To test this hypothesis, osteoarthritis was induced by intra-articular injection of monoiodoacetate into the left knee joint of 12 male Sprague-Dawley rats. The animals were then treated daily with Glucosamine Synergy® orally, and/or endomorphin-1 topically for three weeks. Bi-weekly observations of gait and limb load-bearing capacity were performed, and following sacrifice cartilage degeneration was evaluated histologically. Although substantial amounts of data were collected internal inconsistencies prevent any supportable assessment of the hypothesis.

13. **Kaitlin Hurney** – Palumbo Award

Biology

“The Effects of Alcohol and Disulfiram on the Embryo of Chicks Grown in Shell-less Culture”

Fetal alcohol syndrome is a problem across the world today. This syndrome causes birth defects, such as mental retardation, malformations, deficient growth and can even lead to still births. Disulfiram is a drug that is used to treat alcoholism by causing a severe reaction to alcohol when administered. I hypothesize that these two drugs can cause severe effects on embryos if taken by women while pregnant. Effects on embryos from alcohol and disulfiram will be studied and compared by inducing each drug on the embryos of chicks in shell-less cultures (outside of the egg), called the “Chick in a Hammock” method (Armstrong, 1994). This research is beneficial to see the effects of Fetal Alcohol Syndrome and disulfiram on shell-less embryos and relate them to possible effects that could occur in humans to see the extent of harm that can be done.

14. **Jessie Barron** – Palumbo Award

Biology

“The Effectiveness of Act® Restoring™ Anticavity Mouthwash in Replacing the Inorganic Phosphate lost in Tooth Enamel via Erosion and its Success as an Anti-erosive Agent.”

Excellent oral hygiene is essential in preventing dental caries, structural damages of the tooth, caused by erosion. To prevent these damages, mouthwashes such as Act® Restoring™ Anticavity Mouthwash are readily available, which claim to strengthen enamel and replenish minerals that have been lost. The aim of this study was to determine the effectiveness of Act® Restoring™ Anticavity Mouthwash in replacing the minerals in enamel and its success as an anti-erosive agent. Human extracted teeth were treated with an artificial sports drink mixture (SDM) to assault the enamel, and then immersed in mouthwash before and/or after the treatment. The inorganic phosphate levels were measured using acid-molybdate spectrophotometric assays to determine whether inorganic phosphate was expelled from the enamel or restored back into it. The study revealed that the mouthwash does prevent phosphate loss from the enamel and also restored phosphate back into the enamel after exposure to SDM.

15. **Carri Meiler** – Palumbo Award

Biology

“Evaluation of a Potential Chemotherapeutic Synergy between Sodium Selenite and Sulforaphane against Malignant Melanoma Cells”

Selenium, a critical trace mineral with anti-oxidant properties, and sulforaphane, a sulfur containing phytochemical found in broccoli, have been implicated in cancer prevention. Further, these compounds may exhibit enhanced anti-cancer properties when in combination. In this study it was hypothesized that sodium selenite and sulforaphane in combination would promote programmed cell death in cultured malignant melanoma cells versus normal skin cells. To test this hypothesis cultures of normal human skin cells and malignant melanoma cells were incubated for 48 hours in the presence of sodium selenite and sulforaphane, alone and in combination, after which survival rates were assessed using a cell viability assay. Results indicated that treatment with selenium alone significantly reduced cell viability in melanoma cells, and that as predicted a synergistic cytotoxicity was observed when in combination with sulforaphane.

16. **Justin Davanzo** – Palumbo Award

Biology

“Evaluation of a Novel Fusion Construct for Characterization of Protein Misfolding and Degradation Pathways”

Protein misfolding diseases result when the misfolding of a protein, due to a mutation, leads to a functional problem. For example, Cystic Fibrosis (CF) is caused by misfolding of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) protein. Misfolded proteins are normally degraded through Endoplasmic Reticulum-Associated Degradation (ERAD), a process which is readily studied in the yeast *Saccharomyces cerevisiae*. The study of ERAD is facilitated by the use of non-native proteins that are easily traced in the cell. This project tested a novel fusion protein construct between CFTR and Green Fluorescent Protein (GFP) for its expression and subsequent ERAD degradation in yeast. The construct was expressed in wild type yeast strains and strains mutant for ERAD processes. Analysis revealed that although the construct was expressed at similar levels in all strains the CFTR portion of the fusion was degraded immediately while the GFP portion degraded at strain-specific rates over time.

17. **Virginia Rothhaar** – Palumbo Award

Biology

“Small Mammal Biodiversity in Conservation Reserve Enhancement Program (CREP) Practices in Washington County, PA”

Small mammals are exceptional indicators of biodiversity because they are very sensitive to environmental change. Conservation and health of an ecological population can thus be measured and maintained, using small mammal trapping data to obtain biodiversity indices. I determined if one Conservation Reserve Enhancement Program (CREP) conservation practice yielded a higher biodiversity index than another practice. Conservation practices I studied included CP-1, introduced cool-season grasses, and CP-10, previously established grassland, as well as hay fields. A species list and count for each conservation practice and control was conducted via trapping small mammals weighing one pound or less. The diversities of each species were calculated using the Sherman Index and the Shannon-Weaver Index. Additionally, measurements of body mass and body condition were assessed. It was found that CP-1 had a higher Simpson’s index while CP-10 had a higher Shannon-Weiner index. However CP-10, according to body conditions, provided more for its inhabitants.

18. **Kelly L. Duran** – Palumbo Award

Biology

“Fresh Plant Mistletoe Extract Exhibits Chemotherapeutic Properties Comparable to Standard Chemotherapeutic Agents Against Malignant Human Melanoma Cells”

Mistletoe extract is under investigation as a complementary and alternative chemotherapeutic agent. In this study, the chemotherapeutic properties of fresh *Viscum Album L* mistletoe extract were compared against a commercial mistletoe extract, and the standard chemotherapeutic agents doxorubicin and cisplatin. Cultured normal human skin cells and malignant melanoma cells were exposed to the chemotherapeutic agents doxorubicin and cisplatin as well as commercially prepared and fresh mistletoe plant extract, alone and in combination, for a period of 48 hours after which cytotoxicity was measured by cell viability assay. Results indicate that the commercially prepared extract had little cytotoxic effects while fresh plant extracts exhibited cytotoxicity levels in melanoma cells comparable to that of cisplatin and superior to doxorubicin. Further, the fresh plant extract exhibited specificity for malignant cells similar to that of cisplatin, suggesting that compounds present in fresh extracts of mistletoe are appropriate for use as chemotherapeutic agents.

19. **Lauren Ziegenfus** – Palumbo Award

Biology

“The effects of epigallocatechin-3-gallate (EGCG) on the rate of apoptosis in neuroblastoma cells exposed to amyloid-beta peptide”

Alzheimer’s disease is a growing concern in today’s society as the population ages. It is characterized by amyloid-beta plaques, protein deposits that damage brain tissue and result in loss of memory and cognitive function. Nerylisin is an enzyme with the ability to degrade amyloid-beta plaques. This project tested the therapeutic properties of green tea and its ability to reduce neuron cell death. Epigallocatechin-3-Gallate (EGCG), a compound found in green tea, is effective in reducing neuronal cell death because it has antioxidant capabilities and is suggested to induce nerylisin expression. It was hypothesized that neuroblastoma cells exposed to plaque-forming amyloid-beta peptide would experience higher rates of apoptosis than cells also exposed to amyloid beta peptide and EGCG. The results of this experiment were not conclusive but verified that amyloid-beta aggregates are toxic to cells and demonstrated that EGCG can also be toxic when in excess or diluted in a toxic solvent.

20. **Rachel M. Komarinski** – Palumbo Award

Biology

“Analysis of the Linkage Between the Formation of DNA Interstrand Crosslinks and Protein Ubiquitination in the Aging Process”

Aging is an inescapable process that every living organism must confront. How an organism ages is in part predetermined in its genetics, but a progression of molecular events may also influence the process. Two characteristics of aged cells are an accumulation of DNA interstrand crosslinks, and an increase in ubiquitination of proteins. The current study analyzed whether these two phenomena are linked by inducing DNA interstrand crosslinks and subsequently monitoring ubiquitination levels. Cultures of normal human fibroblasts and monocytes were exposed to 100 nM cisplatin for five hours to induce interstrand crosslinks and samples were analyzed at 0, 24 and 48 hours post-exposure for total ubiquitination by Western blotting. Generation of interstrand crosslinks was verified indirectly by cell viability assay, and directly by COMET assay. Results indicate that DNA intrastrand crosslinks resulted in cell lethality and increased ubiquitination levels in as short as five hours.

21. **Nicholas Broskey** – Palumbo Award

Biology

“The Efficacy of the Adipokine Vaspin as a Therapeutic Agent for the Treatment of Obesity”

The majority of adults in America are classified as overweight or obese. Insight into the regulation of fat breakdown could help control this epidemic. Insulin and leptin play roles in the regulation of hunger and energy metabolism. A recently discovered adipokine, vaspin, increases insulin sensitivity and could play a role in regulating body weight. To evaluate the role of vaspin in this process, cultured 3T3-L1 cells were differentiated to an adipocytic phenotype and exposed to exogenous leptin and/or insulin in the presence or absence of 10 nM vaspin for 48 hours. The regulation of fat stores was then evaluated by selectively staining the adipocytes for lipid and DNA content. Results, although somewhat inconsistent, indicate that treatment with vaspin alone did not influence the lipid to DNA ratio; however, treatment with insulin and vaspin in combination resulted in reduced lipid levels relative to DNA, while leptin plus vaspin increased this ratio.

22. **Rima Khalil** – Palumbo Award

Biology

“The Effects of Altering the Biological Circadian Clock as a Model of Seasonal Affective Disorder Using Learned Helplessness in Male and Female Mice”

Seasonal Affective Disorder (SAD) is a form of depression associated with alterations in the biological circadian clock due to extended dark exposure. SAD is often treated with antidepressants or light therapy. Extended dark-exposed mice treated with the antidepressant paroxetine or light therapy should display lower stress hormone levels than those treated with saline. Furthermore, female mice subjected to an animal model of depression should display higher stress hormone levels than males. Thirty-six mice were exposed to different photoperiods and then were divided into treatment groups: light therapy, antidepressants or saline injections. Extended-dark exposed mice exhibited antidepressant effects with paroxetine but not with light therapy. Following testing using the animal model of depression, females treated with paroxetine or light therapy exhibited higher stress hormone levels than the males. Therefore, paroxetine benefited these mice but light therapy did not. This evidence supports the approach that antidepressants are the most reliable treatment of SAD.

23. Josef Kennis

Biology

“Effects of Fragrances on Common Pennsylvania Crop Pests”

Aphids and tobacco horn worms cause exuberant amounts of crop damage each year which results in mass amounts of insecticides to be applied to cash crops in order to control their numbers. Dendrolasin, a chemical produced by ants to herd aphids, can be found naturally in fragrant sandalwood oil and possibly be used in attracting aphids to other chemicals to control population sizes. Other fragrances including frankincense, myrrh, and cedar can be used to repel tobacco horn worms. Exposing Pea aphids and tobacco horn worms to these oils show repelling qualities for common types of crop pests attracted to cash crop species commonly found in Pennsylvania. If proven to be a repellent, these fragrant oils could be organic alternatives to synthetic chemicals produced to control population sizes.

24. Joshua Hess – Palumbo Award

Biology

“Dose Dependent Effects of Testosterone in a Novel In Vitro Perfusion System of the Hypothalamic-Pituitary-Adrenal Axis”

The present study determined sexual diergic hypothalamic-pituitary-adrenal (HPA) axis responses to testosterone in rats. The HPA axis is a three-gland component of the endocrine system and is activated as a principle biological response to stress. The HPA axis tissues of the animals were harvested and placed in a novel in vitro perfusion system developed as a model of all three layers of the HPA axis, eliminating the influence of external factors. Various testosterone concentrations were added to the system at varying times and hormone release was measured through the use of various assays. It was hypothesized that males would have greater HPA responses to testosterone; however in the present study, hormones secretion from the female tissues appeared to be higher than from the male. This research suggests that testosterone may directly and differently influence the HPA axis without external variables such as higher CNS activity and negative feedback.

25. Hannah C. Duffy – Palumbo Award

Biology

“The effects of diazinon exposure on embryonic development in shell-less SPF chick culture”

This study was conducted to assess the effects of diazinon exposure on developing avian embryos. Diazinon is an organophosphate pesticide that inhibits cholinesterase, an enzyme that inhibits the formation of the neurotransmitter acetylcholine (ACh). This causes a buildup of ACh in the cholinergic cleft resulting in an over-stimulation of associated nerves and muscle fibers. Impaired development of neurons and glial cells important in brain development is associated with this pesticide. An out of shell culture of the chick embryo, including the attached yolk and albumin, was utilized to directly observe development from day 0 till day 17. Diazinon treatment resulted in a mortality rate of 65% within the first 72 hours, and 100% by hour 120. Additionally, an array of deformities were observed including a narrowing of the blastodisk, abnormal area pellucida and area opaca arrangements, irregular patterns in blood island formation, and curvatures of the notochord/neural tube.

26. Ibra S. Fancher IV – Palumbo Award

Biology

“The Effects of Nicotine as a Stressor in HPA Axis Stimulation During Addiction and Withdrawal in Rats (2008)”

Chronically administered nicotine has been shown to induce up-regulation of nicotinic acetylcholine receptors in the mesolimbic dopamine system. This system is in chemical communication with the nucleus accumbens; an area of the brain thought to be involved with drug dependence. It was hypothesized that corticosterone would be lower during addiction and higher during withdrawal from nicotine. Also, males and females would express different hormone levels upon stimulation. In this experiment, white Sprague-Dawley rats were administered chronic nicotine for two weeks by way of osmotic mini-pump. Fecal samples were collected throughout for hormone analysis. Withdrawal was forced once nicotine pumps were depleted, and fecal samples were collected for hormone analysis. Results conformed to the original hypotheses. Thousands of people die each year from smoking induced symptoms. By studying nicotine, many lives can be saved and those who wish to stop abusing nicotine will have the means to do so.

27. **Amanda Fultz** – Palumbo Award

Biology

“The Effect of Caffeine on Memory and the Stress Response in Rats”

The hypothalamic-pituitary-adrenal axis is an important regulator of the stress response. Previous research suggests that stress has various effects on memory. The goal of the present study was to determine whether the memory enhancing or impairing effects of caffeine were associated with the stress response. Male rats were trained in a maze for ten days; memory acquisition and retention were recorded and blood samples were collected. Caffeine (2, 10, and 30 mg/kg) was administered, memory retention was recorded, and blood samples again were collected. Results showed that stress hormones increased following caffeine, as did memory retention. Subjects that received low doses of caffeine performed better in the maze than subjects that received high doses. No significant correlations were found between memory and the stress hormones following caffeine. Therefore, this study maintained that caffeine enhances or impairs memory, but did not determine whether these effects are associated with the stress response.

28. **Kelly Cunningham** – Palumbo Award

Biology

“The Effects of Erythropoietin and Voluntary Exercise on Hippocampal Cell Structure and HPA-Axis Responses in Male and Female Mice”

Voluntary exercise appears to have many positive effects on the body at the molecular, physiological, and behavioral levels. Erythropoietin, a drug that stimulates red blood cell production, also has been shown to produce the same positive effects within the body. The present study determined the effects of voluntary running and erythropoietin treatment alone or in combination on cell proliferation in the hippocampus and the physiological responses of the hypothalamic-pituitary-adrenal (HPA) axis. A novel running wheel was developed in the Rhodes lab equipped with a counting system to record the distance mice ran per day. Results indicate significant sex differences in HPA-axis responses in varying treatment groups, with females exhibiting higher levels of corticosterone following various treatments. Additionally, male mice treated with erythropoietin exhibited significant differences in corticosterone levels compared to those not treated with erythropoietin. These results suggest that the physiological effects of voluntary exercise and erythropoietin differ between the sexes, suggesting implications for training and performance approaches of males versus females.

29. **Stephanie Schultheis** – Palumbo Award

Biology

“The Effects of Sex Differences and Depressive Behavior on the Stress Hormone Response of Rats Bred to Lack Vasopressin (Brattleboro Rats)”

The present study determined sexually diergic (male vs. female) hypothalamic-pituitary-adrenal (HPA) axis responses of Brattleboro rats (bred to lack vasopressin) vs. Long Evans rats (control). The HPA axis is a three-gland component of the endocrine system and is activated as a biological response to stress. Rats were subjected to the forced swim test (an animal model of depression). Multiple blood samples were conducted before and after the forced swim test to analyze stress hormones. Female Brattleboro rats on average exhibited the least depressive behavior of all strains and sexes while female Long Evans rats showed the highest depressive behavior. Female Brattleboro rats showed the highest stress response and male Long Evans rats had the lowest stress response. In the present study, vasopressin deficiency produced less depressive behavior but increased stress hormones, particularly in females. These findings are important because there appears to be a link among vasopressin, stress responses, and sex in rats.

30. **Katelyn Sommerer** – Palumbo Award

Biology

“The Dose-Dependent Effects of Varenicline in Comparison to Nicotine upon the Hypothalamic-Pituitary-Adrenal Axis of Sprague-Dawley Rats in a Novel In Vitro Perfusion System”

This study determined hypothalamic-pituitary-adrenal (HPA) axis responses to varenicline and nicotine in Sprague-Dawley rats. The HPA axis is a three-gland component of the endocrine system activated as a biological response to acute and chronic stress. Varenicline is a newer drug with nicotinic effects used in smoking cessation; however, individuals taking varenicline have reported high stress levels and increased suicidal tendencies. HPA tissues were excised and placed into a novel in vitro perfusion system.

Samples were taken before and after stimulation with various doses of varenicline and nicotine. HPA hormones were determined by assays. There were no significant differences in HPA axis responses to varenicline. However, the trend was that varenicline variably influenced the HPA axis: corticotropin-releasing hormone and corticosterone were stimulated, but adrenocorticotrophic hormone was suppressed. Because the stress response to varenicline is similar to nicotine, there may be other factors influencing the enigmatic suicidal side effect experienced by individuals taking varenicline.

31. **Kristy Hanna** – Palumbo Award

Biology

“Stress Hormones and Streptococcus mutans growth”

This purpose of this study was to determine if *Streptococcus mutans* would grow better in the presence of hydrocortisone, epinephrine, and estradiol, or in combination with each other. These are hormones that fluctuate when a host's stress levels are high. This fluctuation in the internal environment makes it more difficult for the immune system to fight infections and gives an opportunity for microorganisms inside the mouth to become pathogenic. For my project, hormones were added to Brain Heart Infusion (BHI) agar and *S. mutans* was plated. After 24 hours in anaerobic conditions, colonies were counted and average colony forming units per ml were compared. The control group, BHI without supplementation, did not statistically differ ($p > 0.05$) from any experimental group that had the hormones or combination of the hormones. This study did not show that *S. mutans* increased in growth in the presence of hydrocortisone, epinephrine and estradiol.

32. **Timothy Violante** – Palumbo Award

Biology

“Effects of High-Molecular-Weight Constituents in Cranberry (Vaccinium macrocarpon) on Growth, Adherence, and Biofilm Formation in Oral Bacteria Streptococcus mutans, S. mitis and S. sanguis”

Cranberry has been used as a popular remedy to prevent bacterial adhesion and the development of urinary tract infections. The aim of this study was to determine if cranberry juice prevents growth, adhesion, and biofilm formation in oral bacteria *Streptococcus mitis*, *S. mutans*, and *S. sanguis* alone and in pairs in comparison to 95% ethanol. A high molecular weight fraction of 100% organic cranberry juice was prepared and dissolved in 95% ethanol. As hypothesized, bacterial growth was not inhibited by 0.3 g/mL cranberry NDM and 1% ethanol. However, adhesion of bacteria to glass beads was inhibited by 0.3 g/mL cranberry; in contrast, adhesion was not inhibited by 1% ethanol. Lastly, biofilm formation was inhibited by 0.3 g/mL cranberry, but not by 1% ethanol. The anti-adhesion properties of cranberry constituents at an intermediate concentration have the potential to alter the ecology of oral bacteria and significantly improve oral hygiene.

33. **Audrey M. Rossowski** – Palumbo Award

Biology

“The Effect of Antibiotics on Pseudomonas aeruginosa Biofilms”

Ventilator-associated pneumonia (VAP) is pneumonia that develops in mechanically ventilated patients and has a mortality rate as high as 76% (Park, 2005; Kollef et al., 2005). The bacterium *Pseudomonas aeruginosa* and others replace the normal flora of the sterile respiratory tract causing infection (Safdar et al., 2005). *P. aeruginosa* biofilms are encased in a thick layers of adhesive polysaccharides. It has been a challenge to determine an antibiotic regimen to treat VAP due to biofilm formation. The purpose of my research was to determine the abilities of three antibiotics, both individually and in combination with each other, to decrease biofilm formation. *P. aeruginosa* biofilms were exposed to clarithromycin, ciprofloxacin and/or tobramycin. Biofilm formation was detected through staining with crystal violet. Overall, individually-used clarithromycin statistically decreased biofilm formation. When the antibiotics were used in combination, there was no change seen in their effectiveness.

34. **Elisabeth Talamo** – Palumbo Award

Biology

*“The effects of stimulus type, age, and hosting status of the tropical milkweed *Asclepias curassavica* on larval feeding preferences in the monarch butterfly *Danaus plexippus*”*

As one of the few plant-feeding insect species that forms exclusive relationships with one host plant (milkweed), monarch butterflies are a popular research model. Egg laying adults have clear preferences for given milkweed stimuli; we investigated responses to those same stimuli for mature fourth and fifth instar larvae. We manipulated experimental chambers to release desired plant stimuli and recorded directed larval movement after placement into an inter-chamber area. In contrast to adult females, older larvae actively avoid ultraviolet light. Similar to adult females, larvae use a combination of visual and chemical senses to detect milkweed, prefer younger plants, and prefer solitary forage on undamaged plants. We conclude that most of the older larvae’s sensory capabilities and milkweed preferences are similar to those of adults. Future work will permit cataloguing of monarch butterflies’ changing preferences during development and identification of the timing of each change.

35. **Corey Riser** – Palumbo Award

Biology

“Antibiotic vs Bacteriophage Treatment: MRSA”

Antibiotic-resistance is becoming a growing concern. In this study, bacteriophages K and P14 and seven antibiotics (ampicillin, penicillin, oxiccillin, tetracycline, ciprofloxacin, rifampin, and vancomycin) were tested against methicillin-resistant *S. aureus* (MRSA). It was hypothesized that the bacteriophages would have a higher inhibition against MRSA than the antibiotics; in addition, phages in combination with antibiotics would lead to either higher or lower inhibition depending on the antibiotic used. To test the hypotheses, minimum inhibitory concentration assays were used with phages and antibiotics separately and in combination. The bacteriophages proved more effective than the antibiotics; at the lowest phage concentration tested, all MRSA strains were eliminated. With the exception of penicillin and ampicillin, antibiotics increased in inhibitory efficiency when combined with the phages. This study supports that phages, either alone or in combination with specific antibiotics, are effective treatment of MRSA.

36. **Kristen Jurcic** – Palumbo Award

Biology

*“Inhibition and Identification of Probiotic Bacteria and Their Interactions with *Candida albicans*”*

Probiotics are common in yogurt and other dairy products, and in the near future is expected to reach \$1 billion in sales in the United States. *Lactobacillus acidophilus* is a commonly used probiotic that inhibits the growth of a type of yeast, *Candida albicans*, which is commonly found in the oral cavity. The inhibitive properties of *Lactobacillus sp.* isolated from probiotic yogurt were tested against *C. albicans*, an opportunistic pathogen. The bacteria from Breyer’s Light® and Activia® yogurts were first isolated on MRS, a selective media for *Lactobacillus* species, under varying oxygen and temperature conditions. They were then identified via biochemical testing and Gram-staining. Inhibition was measured utilizing overlay and streak plating techniques. All isolates tested Gram-positive, were bacillus shaped, and lacked oxidase and catalase enzymes, which verifies that they are members of the *Lactobacillus* genus. No inhibition of the *C. albicans* was observed from the tested isolates.

37. **Tiffany Burick** – Palumbo Award

Biology

“Eye Infection Biofilms: Effect of Lysozyme and Ridged Cases”

Vision is an important sense but is also vulnerable to bacterial and fungal infections when the over 30 million contact lens wearers do not follow proper precautions (Facts and Stats, 2008). The immune system contains an enzyme, lysozyme, which naturally breaks down the peptidoglycan layer of bacterial cell walls (Herbert, et al. 2007). The objective of my research was to study eye infections by 1.) examining bacteria and yeast and determining if lysozyme effects the biofilm formation and 2.) determining if the number of ridges in contact lens cases effects the formation of biofilms. The results showed no significant difference in biofilm formation with or without the addition of lysozyme and no significance in biofilm formation between ridged or semi-ridged contact cases. Although lysozyme or contact lens case shape does not have an effect on the formation of biofilms, biofilms of each microbe tested are still able to form so precautionary measures are necessary when dealing with the eye.

38. **Stacy Patrick** – Palumbo Award

Biology

“Coal Mine Drainage Treatment Restores Water Quality, Macroinvertebrates, and Fish in Blackleggs Watershed, Indiana County, Pennsylvania”

Blackleggs Watershed is typical of many local watersheds; it is a mix of forest and agricultural land use with heavy impacts due to abandoned mine drainage (AMD). I documented water quality at eleven sites differing in recovery status after AMD treatments began in early 1990's through local citizen efforts. Quarterly monitoring from 10/07 – 10/08 for metals and nutrients indicate partial remediation, e.g. low total iron levels and circumneutral pH. Electrofishing at upstream reference and treated sites revealed an equal number of species (14); also, similar fish species were reported for both sites since 1986. As expected, a downstream contaminated site had the fewest fish species (7). Macroinvertebrate collections also indicate partial recovery. The reference site had the greatest number of taxa (16-19), with progressively decreasing numbers of taxa at each contaminated site downstream. This project indicates watershed recovery is possible after 18 years of progressive treatment of coal mine discharges.

39. **Jacob Kocher** – Palumbo Award

Biology

“Antibiotic-Bacteriophage Cocktail Treatments of Several Bacteria”

Many bacteria like *Pseudomonas aeruginosa* are becoming increasingly resistant to an array of antibiotics, causing a need for the discovery of new treatments for infection. In this experiment, the efficacy of an antibiotic and bacteriophage combination treatment was tested. The minimum inhibitory concentrations (MIC) of six different bacteria were determined for triclosan only, bacteriophage PR772 only, and the combination treatment. The results indicate that the combination treatment did not significantly lower the MICs of any bacteria in that all bacteria were resistant to the highest concentration of triclosan tested except *Staphylococcus epidermidis*. The mean generation times of *P. aeruginosa* under various concentrations of each treatment were also determined. These also showed no significant difference between the combination treatment and the individual treatments. Thus, a triclosan-PR772 cocktail is not an effective treatment for several bacteria including *P. aeruginosa*. However, conducting more trials could help support results between these treatments.

40. **Morgan Hicks & John Renda**

Biology

“Mouthwash in Biofilm Prevention”

Dental plaque, one of the most commonly encountered biofilms, forms on the surface of teeth and is the main contributor of tooth decay and various periodontal diseases. Biofilms are communities of bacteria; *Streptococcus mutans* is one of the most abundant bacteria found in the mouth. One way to lower the risk of the formation of dental plaque is by simply using antiseptic mouthwash. In our research, we compared commonly-used mouthwashes to determine which is most effective in the prevention of *S. mutans* biofilm formation. Further, we assessed at which concentration each mouthwash is most effective in preventing *S. mutans* growth. Biofilm formation was decreased with mouthwash. Listerine and Equate were found to stop bacterial growth at 25% concentration, while Act and Giant Eagle brand prevented bacterial growth at 0.391%. Overall, we concluded that Act and Giant Eagle mouthwashes work the best on *S. mutans*.

41. **Matthew Shirley** and Jonathan Starchville

Biology

“Clean as You Think?”

Biofilms, communities of microbes that attach to surfaces or interfaces, have been a major area of concern in medical and household environments. In particular, catheters and other medically inserted devices facilitate the attachment and growth of biofilms, thus leading to numerous other health issues. By pre-treating these devices with antimicrobial agents, medical professionals may be able to circumvent this problem. In this project, we tested the effectiveness of three common antimicrobial disinfectants (Mr. Clean, Lysol, and Pine-sol) at preventing biofilm growth. To determine microbial quantities, *Pseudomonas putida* bacterial biofilms were grown on microscope slides that had been pre-treated with the disinfectants. These slides were stained and analyzed using digital imaging technology. Although Mr. Clean proved to be the most effective antimicrobial agent, none of the disinfectants completely prevented biofilm growth.

42. Wade Schnorr**Biology**

“The Effects of Feeder Shape and Proximity to Flowering Plants on Feeder Selection by Ruby Throated Hummingbirds (Archilocus colubris)”

Feeding behaviors of Ruby-Throated Hummingbirds (*Archilochus colubris*) have been studied. Experiments found hummingbirds prefer brightly-colored feeding sources, can learn about feeding sources from each other (especially for conical shapes), and feed primarily in the morning/evening. In a synthesis of past experiments, I hypothesized Ruby Throated Hummingbirds would feed more from artificial feeders with conical openings than flat openings, near brightly-colored flowering plants than non-flowering plants, and in the morning/evening than afternoon. At two visibly equivalent sites, four feeders were hung (two near flowering plants and two near non-flowering plants). The feeders were observed at three points (morning, noon, evening), and feeder selection was recorded. Two-way ANOVAs showed data to be statistically significant. Conical feeders were preferred by hummingbirds over flat feeders (Site 1 $P=2.66E-4$; Site 1 $F=13.86$; Site 2 $P=2.19E-4$; Site 2 $F=14.25$). Feeders near flowering plants were visited more than their non-flowering counterparts (Site 1 $P=6.62E-49$; Site 1 $F=28.05$; Site 2 $P=6.95E-46$; Site 2 $F=74.91$). Finally, most visits occurred during the morning/evening ($P=1.17E-10$; $F=26.15$).

43. Jared Rigo**Chemistry**

“Synthesis of Carbene Complexes Utilizing Adamantyl Containing Ligands”

The synthesis and characterization of group 13 (B, Al, Ga, In and Tl) metal-metal bonds has long been of great interest. Recent developments in this particular area have led to the development of a neutral B=B double bond, R(H)B=B(H)R where R = :C{N(2,6-Pri₂C₆H₃)CH₂}₂. The R groups, otherwise known as ligands, that are attached to the borons became the focus of this project. Bulky stabilizing groups, i.e. these ligands, are required to maintain the boron-boron double bond and to stop its degradation. Instead of using the 2 dimensional ligands as done previously, a 3 dimensional ligand (utilizing an Adamantyl substituent) was proposed as a possible replacement. Through the careful modification of an already established synthesis, this target ligand was successfully synthesized.

44. Jeannine King – Palumbo Award**Chemistry**

“Preparation of Group 13 Schiff Base Complexes”

A study of the use of N,N'-ethylenebis(acetylacetonimine) based ligands in the formation of Group 13 metal complexes. These Schiff base ligands are similar in many respects to the Salen type of ligands in that both ligands coordinate to the metal center through 2 nitrogen and 2 oxygen atoms contained in the same ligand. Investigations sought to determine how varying the ligand substituents affect the structure, geometry, and electronics of the resulting complexes.

45. Mary Sherman – Palumbo Award**Chemistry**

“Photodegradation of chlorophenol with dye-sensitized titania”

A study of dye-sensitized photocatalysis of chlorophenol is presented. Samples of titanium dioxide are sensitized with various concentrations of two different ruthenium based dyes, specifically Ru535 and Ru470. After absorption of visible light, the dyes inject a charge to the titania particle to which it is attached. The dyes increase the efficiency of the photocatalyst in the degradation by further activating the particle as a redox reagent. To analyze the efficiencies of the dye-sensitized titania samples, a slurry of low concentration chlorophenol and titania particles is irradiated with a Xe arc lamp for a period of an hour or more. The concentration of chlorophenol in solution is monitored with high-performance liquid chromatography. The rates of degradation using each sample of dye-sensitized titania are compared to the rates of degradation using white titania particles.

46. John Kuruc**Chemistry**

“Synthesis of methane and propae gas hydrates with organic additives”

Using the general procedure developed by Prado both methane and propane gas clathrates were synthesized. Following synthesis organic additives such as clycooctane, 1,3,5-triazine, cyclobutane, and cyclohexanone, cyclobutanone, and methylcyclohexane were added. The pressure and temperature of the hydrates were collected while they warmed up to room temperature. These additives should shift the phase diagram of the hydrates to a higher temperature making the hydrates more stable at room temperature as compared to the hydrates without the additives. The phase diagrams of each additive are compared to determine which one, if any, are successful in shifting the fluid-phase to higher temperature. Once this step is complete, the enthalpies of dissociation of the hydrates will be compared to the enthalpies of the pure alkanes to note any significant difference.

47. David Glunt – Palumbo Award**Chemistry**

“Gold and Copper Water-Soluble Metallic Nanoclusters”

Copper and Gold nanoclusters have been formed within generations four and five of the OH-terminated poly(amidoamine) dendrimer. The reason why the nanoclusters are encapsulated inside this poly(amidoamine) dendrimer is to provide a water solubility characteristic, making them useful for biological use in labeling cancer cells. This dendrimer complex can be simply described as a polymer that is developed around a central atom, forming a branching complex with terminal end groups. Ultimately, the goal is to establish an understanding of how the dendrimer generation affects the size and the optical properties observed from the nanocluster located within the dendrimer interior. In order to achieve the most accurate results, careful techniques following syntheses, such as reduction methods and centrifugation, will be focused upon to obtain the most pure water-soluble nanocluster species. UV-visible spectroscopy and fluorimeter spectroscopy are the two methods used to observe absorbance and patterns in size.

48. Blair Weber – Palumbo Award**Chemistry**

“Preparation of Group 13 Ketiminate and Beta-diketiminate Complexes Possessing Adamantyl Groups”

Sterically encumbered β -diketiminate ligands utilizing bulky substituents at the nitrogen atoms have been used to prepare a number of transition metal, main group element, and lanthanide complexes. A number of the compounds have found utility as catalysts for olefin polymerizations. Many of these preparations utilize aryl-based substituents with methyl, isopropyl, or other groups occupying the ortho- and in some cases also the para- positions. The use of adamantyl groups in place of aryl groups changes not only the sterics of the complex, but also the electronics. Herein are presented the results of our investigations.

49. Gary Muggli**Computer and Information Science**

“Saint Vincent College Student Internship Information System”

This system contains all the internship information for the students of Saint Vincent College. It was designed to help the Career Center staff do their daily work. The database uses a GUI interface with SQL scripting, and runs through Microsoft Access. An employee of the Career Center can use this system to query internships performed under specific businesses, advisors, majors or simply time periods. Through this, they will save time and easily use the database when compared to their former outdated foxpro system.

50. Peter Neidig**Computer and Information Science**

“ORB Video Game”

This software product, ORB, is a video game designed for entertainment purposes only. It is written in C++ using DirectX9. The objective of the game is to allow a user to move around the scene using the arrow keys on their keyboard to pick up the different orbs. A Player must collect the orbs before time runs out. If time runs out they lose the game. However, if they successfully gather all of the orbs within the time limit, then they win the game. ORB is set in outer space, and the spheres are textured to look like different celestial bodies, such as nebulas and stars.

51. Philip Wardoclip**Computer and Information Science***“Fine Jewelry Treasures Website”*

Fine Jewelry Treasures is an extension of the online auction website, ebay.com, and uses the eBay API. This website provides users with a visually appealing method to shop the Fine Jewelry Treasures eBay store, in an organized and logical fashion that is not available through eBay. While not only including items for sell, the Fine Jewelry Treasures website also includes personal information about the storeowners, and provides a direct means of contact using a visually appealing method which again is not available through eBay. This project combines a typical e-commerce website, such as Fine Jewelry Treasures, with a large commercial website, such as eBay. This type of interface, allows the customer to form a more personal relationship with the storeowners while maintaining a high level of security and ease of use.

52. Charles Thomas Moore**Computer and Information Science***“Rune Master Video Game”*

Rune Master is a video game about a young boy and his friend who get thrown into the middle of a civil war in the fantasy nation where they live. This game has multiple characters who join the user throughout the story, as well as a hidden character that the user may find somewhere in the game. This story has multiple areas to move through to complete, and ends with a battle with the games Antagonist. Implementation of this game involved designing all the people and places in the story. The language, RPGMakerXP, was used for scripting and control of the database that helps create the game. RPGMakerXP also provided tools such as multiple graphic images, music, and sound effects. These tools were used to create the graphical interface. Scripting was used to create the worlds in the game, the characters, and the story.

53. Sean Kosanovich**Computer and Information Science***“Scholarly Academic Management System”*

Scholarly offers professional-grade management for high school and college students. It manages student schedules, assignments, and grades. Scholarly ensures that a student never misses an important assignment by using Windows' pop-up notifications and easy-to-see visual cues. The system finds assignments by using advanced filtering options, grouping, or an instant-search. Scholarly can manage grades using weights or standard averages for individual classes. Grades also receive visual cues to better help the user see how well they are performing. Scholarly helps any student become organized.

54. Devin Moore**Computer and Information Science***“Dell Inventory Database”*

Created using the database management system MySQL, the Dell Inventory Database (DID) contains inventory information pertaining to the Computer Name, Service Tag, and MAC addresses of one hundred and forty Dell Optiplex 755 computers. These computers were purchased by the Information Services Department during the summer of 2008 in order to replace the out-of-date classroom machines throughout campus. After database creation, the scripting language PHP was used to generate a user-friendly web-interface, which allows the querying of the database in order to retrieve information about any of the new Dell machines.

55. Amber Back**Computer and Information Science**

“MyGrades - An iPhone Application”

MyGrades is a grades management application that can be used on Apple's iPhone or iPod Touch. It is designed specifically for students on the go. The MyGrades application gives both high school and college students the ability to keep track of their grades in all their courses almost effortlessly. The student simply adds a course to their application by entering a course name. Once a course is added, graded assignment information for the course can then be entered. Adding an assignment is as simple as entering a name for the assignment, the points earned on the assignment, and lastly the points that were possible for that particular assignment. MyGrades then does the rest. It calculates and displays the student's percentage for that particular assignment, as well as their overall percentage for the class. Percentages are even color-coded for quicker understanding. High percentages are displayed in green, low percentages are shown in red and everything in between is shown in yellow. The user has the ability to decide what constitutes as a high or low grade in the application's settings. Students can also edit assignments after they've entered them. Courses and assignments can also be deleted. This application is simple to use, thus encouraging more students to pay better attention to their grades.

56. Kimberly Lesnock**Bioinformatics**

“Project Isidore: Educating Third World Farmers on Soil, the Scientific Method, and Using Technology”

People in third world countries lack the knowledge regarding impact of soil conditions on crop yield. We designed an experiment using the XO laptop and Vernier probes to test and measure specific soil conditions and their impact on plant growth. To measure its effectiveness, the experiment was designed and executed locally (Houston, PA), with the intentions of also doing the experiment in Africa. Our experiment has flexibility to test for different variables on plant growth and uses technology and common household items. Preliminary results show promise that this experiment will be effective for educating third world children about using science and technology for improving soil conditions. This research in educating children about science and providing technology can have a major impact on reducing world hunger.

57. Dan Waruszewski**Computer and Information Science**

“Project Isidore: Helping Farmers by Means of Modern Technology”

Project Isidore uses modern technology, such as common cell phones, to assist farmers with the work that they had done by hand for so long. It is a cell phone program on the Google Android operating system, which is currently only found on the G1 phone, but is hoped to be more widely portable in the future. In this program a farmer can record data about current fields, look up data about past fields, email agricultural engineers at Penn State for advice, take and send pictures and text together, and make a task list for himself/herself or his/her hired hands. It is hoped that this easy to use program will help farmers be more open to the use of technology on their farms, as well as provide a communication interface for those who are willing to help them.

58. Kevin Eagan**Environmental Science**

“The Effect of Different Inputs on Efficiency of the System in Wetland Mesocosms”

To combat the effects of Abandoned Mine Drainage (AMD), humans have developed a way to fuse nature and water treatment: wetlands. Through various processes, these man-made wetlands filter out the harmful ions produced by AMD. While this strategy does work, there is always room to change the system to make it more efficient. For this project, a “trough” input system was developed which spread the incoming water out instead of having one pipe through which water flows into the cell, there were multiple. With this system in place, however, there was not a significant impact on the efficiency of the system.

59. James Mancini

Environmental Science

“Treatment Methods of Ailanthus altissima”

This research experiment’s main purpose was to examine possible treatment methods for the invasive species known as *Ailanthus altissima*, also known as the Tree of Heaven. The experiment consisted of four treatment methods that were modeled after extensive research into the solution of eliminating the invasive organisms from the ecosystem. The evolutionary traits of *altissima* lend themselves to rapid reproduction and population explosions, making this organism a very difficult problem. It employs seeds and root suckers, which can quickly regenerate the parent organism if compromised. This study tests four possible solutions for the Tree-of-Heaven. Manual cutting, direct herbicide application, stump removal, and girdling are the four experimental methods. The results indicate that manual cutting and removal is impractical and may aid the proliferation of *altissima*. The results also indicate the herbicides are the most effective treatment options.

60. Stephen Witmer – Palumbo Award

Environmental Science

“Improving Energy Efficiency at Saint Vincent College”

Energy efficiency is an important concept, as it reduces costly energy waste and reduces impacts on the environment. In an attempt to upgrade the energy use and efficiency of Gerard Hall, I installed three commercially-available devices to windows and the ceiling of a Gerard Hall dorm room. Window glaze, E-Barrier reflective paint, and Venetian blinds were added. My hypothesis was that these devices would create a more stable and consistent room temperature within the room, compared to a control room. This would reduce the cooling and heating demand on the room. Data was collected using temperature probes, digital thermometers, and infrared pictures. Insulation boxes were also used for small-scale heat transfer studies through the devices. Results show that the window glaze and Venetian blinds contributed to a more stable experimental room temperature, despite the lack of effectiveness of the E-Barrier reflective paint.

61. Allison Hammill – Palumbo Award

Environmental Science

“A Comparison of Forest Structure at Forest-Pasture and Forest Road Edges in a Tropical Forest in Costa Rica and a Deciduous Forest in Western Pennsylvania”

Forests in temperate and tropical zones are frequently impacted by two common disturbances, roads and farming. We documented the structure of mature forests in 10x10m plots along established roads and pastures, with matching interior sites in Costa Rica (CR) and Pennsylvania (PA). Canopy height and openness were strongly influenced by disturbance type in CR (ANOVA, $P < 0.005$; $P < 0.01$, respectively); CR sites along roads tended to be shorter and more open than interior sites. In contrast, all PA sites were similar. Woody stem density in CR was highly variable and averaged 5 times greater than in PA. Notably, woody plant species richness for all 16 sites in CR were 72 species; all 16 sites in PA supported only 23 species. The higher diversity and longer growing season in CR vs. PA may contribute to the more rapid colonization of forest edges. Such patterns help temperate and tropical forest managers predict disturbance impacts.

62. Jeremy Sawyer – Palumbo Award

Physics

“Obstacle Sensing and Reaction Control for an Autonomous Robot”

Three microcontrollers are to read data from four ultrasonic range sensors. The microcontroller will give the appropriate movement commands in order to avoid obstacles. The microcontroller also communicates with two other microcontrollers, one for LED lighting and the other to adjusting pitch and rotation of the range sensors.

63. Aubree M. Smeltz

Psychology

“Summer Internship at Crossroads Pregnancy Services”

This summer I worked at Crossroads Pregnancy Services (CPS) in Monroeville, Pennsylvania. The purpose of the organization is to help women who are dealing with making decisions about their unplanned pregnancy. Many of these girls are considering an abortion and the clinic can provide services to help them prepare for that procedure; and some girls did not know what they wanted to do about the baby. Some women struggled between if they wanted to parent their child or develop an adoption plan. Therefore, it was part of the clinic’s job to help the woman decide what would be the best decision for her. I was able to work in the clinic and have a part in guiding these young girls in making the decisions they needed to make. I was able to work as an intake specialist, so I was the first person that the girls talked to during their experience at the clinic; and this helped me to learn about developing therapeutic relationships. Overall, through my experiences, I was able to prepare myself for a career in the counseling profession to a certain extent and mainly learn how to work with troubled individuals.

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65. Tara Karns – Palumbo Award

Psychology

“Applying Inattentive Blindness to a Realistic Task”

The present study investigated the inattentive blindness paradigm by using a surveillance video and giving participants the task of finding a target person. Sixty-four St. Vincent College students were given a file folder containing information on a target person who has a restraining order against him, watched a surveillance video, and answered a questionnaire. In the video 1 of 2 unexpected events (confrontation or person in a gorilla suit) occurred. Results were in agreement with the hypothesis with the confrontation being reported more often (62%) than the gorilla (29%), which supports the generalization of the inattentive blindness effect.

66. Lindsey Leshko – Palumbo Award

Psychology

“Body Image Disturbance and Perfectionism: What do Men and Women View as the Desirable Body Size?”

Body image distortions among men and women who scored low, moderate, and high on the perfectionism subscale of the EDI-2 were assessed. College Students (N = 205) viewed images of male and female celebrities whose body image was distorted from 30% heavier to 30% thinner than actual body image. Both men and women selected a thinner ideal image for the female celebrity than for the male celebrity. Students who scored high on perfectionism selected a thinner ideal body for the female celebrity, but not for the male celebrity, than did students who scored moderate or low on perfectionism.

67. Ashley Giewont

Psychology

“Relationships Among Birth Order, Academic Achievement, and Family Cohesion”

Previous research on the effects of birth order on academic achievement and family cohesion has yielded mixed results; therefore, the purpose of the current study was to clarify the findings of previous research. This study investigated the effects of birth order on GPA scores, academic achievement, and family cohesion and conflict. One-hundred and six participants recruited from a small, liberal arts college were administered the Family Environment Scale (Form R) and a demographic questionnaire. It was found that participants’ level of family conflict and academic achievement orientation did not differ as a function of birth order position. Furthermore, middle borns did not differ from only children on levels of family cohesion. However, only children’s scores on family cohesion demonstrated a trend against the hypothesized direction compared to scores of first- and last-born children. Study limitations will be discussed, including potential extraneous factors and the relatively small number of only children which may have contributed to a lack of power.

68. Reginald Butler, Benjamin Probst, Tiffany Pruchnik and Brittany Vignero Psychology

Socioeconomic status, Positive Stimuli, and the Relation to Depressive Mood States.

Previous research shows that socioeconomic status (SES) correlates with the probability of developing depression (Falconnier & Elkin, 2008). Visual stimuli can bring depressive symptoms to surface, particularly when individuals diagnosed with depression are exposed to positive images (Dunn, Dalgleish, Lawrence, Cusack & Ogilvie, 2004). We predicted that participants belonging to the lower tier of the SES population would exhibit higher depressive scores on a BDI-II. In addition, the participants categorized as exhibiting depressive symptoms ($BDI \geq 8$) would have a greater increase in depressive symptoms scores on a pre-test/post-test POMS after viewing the happy pictures. We found no relationship between SES and BDI-II scores. Contrary to previous findings, the decrease in depressed mood after viewing happy pictures was greater for the depressed group than the non depressed group.

69. Samantha Suranic – Palumbo Award

Psychology

“The Effect of Task Similarity and Perceived Group Success on Conformity to a Later Task”

This study investigated the influence of task similarity and feedback on conformity using a $2 \times 2 \times 3$ factorial within-groups analysis of variance. One hundred and twelve students completed Boggle or number sequence puzzles, receiving bogus feedback of group performance after each trial. Participants then viewed an anagram task for 5 s and gave individual estimates of how many words could be formed. Estimates were collected and participants were given a bogus group average of the estimates. Participants viewed the anagram task again and gave a final estimate. Analysis revealed a significant change from initial to final estimates for all conditions. Analysis also revealed more conformity on the anagram task for those who completed the Boggle task first.

70. Colleen Keelan & Mark Rivardo

Psychology

“Body Modifications, Sexual Activity, and Religious Practices”

Previous research has examined the relationships between body modifications (i.e., tattoos and piercings), sexual activity, and religious practices and beliefs. In different studies, Koch and colleagues found that the type of body modification seemed to interact with gender to predict sexual activity. They also found only weak, negative correlations between tattoos and religious beliefs and practices. Students ($N = 236$, $M = 20.1$) from a small Catholic liberal arts college completed a questionnaire that contained items measuring all of these variables. Chi-squared analyses and correlations indicated that number of body modifications were significantly correlated with sexual activity. In particular, having piercings predicted sexual activity for men but not for women; however, number of piercings predicted sexual activity for women but not for men. Finally, the present study showed small and insignificant effects between body modifications and religious variables.

71. Samantha L. Zbur – Palumbo Award

Psychology

“Is the DRM Paradigm Predictive of Adults' Eyewitness Accuracy?”

To investigate whether performance in the Deese-Roediger-McDermott (DRM) paradigm predicts eyewitness accuracy, 100 undergraduate students completed recall and recognition tasks corresponding to DRM lists and an eyewitness video. As expected, results generally replicated previous DRM findings for recall. However, recognition was greatest for critical lures, followed by targets and unrepresented words. For the eyewitness memory task, recognition was greatest for targets, followed by unrepresented details and critical lures. DRM target recall was predictive of eyewitness memory target recall. No other significant correlations were found between the DRM and eyewitness memory recall and recognition tasks. Overall, results offered some support for the value of the DRM paradigm in predicting eyewitness memory recall accuracy, but not false eyewitness memories.