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Acknowledgements

We would like to acknowledge the Federal Reserve Bank of Boston for their generous hospitality in allowing us use of their facilities free-of-charge.

In addition, we would like to offer a special acknowledgement to Nigel Pickett for his continuous efforts in making the 2002 conference a success.

Alumni Gift Fund

Thanks also to the many faculty members who volunteered their time to review abstracts and gave invaluable guidance to student presenters.

We would like to express great appreciation to the following campus contacts for their time and support of this year’s conference:

Lois B. Cooper                Berkshire Community College
Andrew Harris                 Bridgewater State College
Greg Sethares                 Bristol Community College
Joan Brenner                  Bunker Hill Community College
Bruce Bell                    Cape Cod Community College
Stanley Bucholc               Fitchburg State College
Lynn Parker                   Framingham State College
David Ram                     Greenfield Community College
Kim Hicks                     Holyoke Community College
David Langston                Massachusetts College of Liberal Arts
Carolyn Ann Cohen             Massachusetts Bay Community College
Janna Longacre                Massachusetts College of Art
Enid Sichel                   Massachusetts Maritime Academy
David LaFontaine              Massasoit Community College
Lynne Osborn                  Middlesex Community College
Thomas Malloy                 Mount Wachusett Community College
Marcy Marold                  North Shore Community College
Ginger Hurajt                 Northern Essex Community College
Maura Tighe-Stickles          Quinsigamond Community College
Everest Onuoha                Roxbury Community College
Rod Kessler                   Salem State College
Arlene Rodriguez              Springfield Technical Community College
Joyce Morrisey                UMass-Boston
Louise Habicht                UMass-Dartmouth
Steve Pennell                 UMass-Lowell
Stephen Adams                 Westfield State College
Sharon Yang                   Worcester State College
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<td>Registration</td>
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<tr>
<td>Welcome (Auditorium)</td>
<td>9:30 a.m. - 9:50 a.m.</td>
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<td>Poster and Oral Sessions</td>
<td>10:00 a.m. - 12:00 p.m.</td>
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<td>Convocation &amp; Keynote Address (Auditorium)</td>
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## Schedule of Oral Presentations

(10 minutes - presentation; 5 minutes - questions & discussion)

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<th>Campus</th>
<th>Time</th>
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<td>Elizabeth Johnson</td>
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<td>Gabriel Gottlieb</td>
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### AV-1

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<td>Ted Giovannini</td>
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<td>Brandon DuFresne</td>
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<td>Esther Cuesta</td>
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## Schedule of Poster Presentations

(10 minutes — set-up; 50 minutes — presentation)

### Art Gallery

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<td>Framingham State College</td>
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<td>Cristina Barreira</td>
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<td>Maria Rios-Moya</td>
<td>Mathematics &amp; Statistics</td>
<td>Northern Essex Comm. Coll.</td>
<td>3:00-4:00</td>
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<td>John Ramos</td>
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<td>UMass Boston</td>
<td>3:00-4:00</td>
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<td>214</td>
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Federal Reserve Bank of Boston
Map of Conference Facilities

Registration Tables
poster storage

art gallery

Oral Sessions

Foyer

ENTER

Art Gallery/ Auditorium
Ground Floor
New England Room - 4th floor
Corridor to the New England Room
4th floor
Audio Visual Suite - 3rd Floor

AV-1
capacity 110

AV-4
capacity 30

Resource Tables

AV lounge

ENTER

ramp
Bridgewater State College

1 HISTORY NEW ENGLAND 2:00-3:00

ALYSSA BELLAVANCE (JEAN STONEHOUSE), DEPARTMENT OF HISTORY, BRIDGEWATER STATE COLLEGE, BRIDGEWATER, MA 02325

A DAY OF HUMILIATION: KING PHILIP’S WAR - NEW ENGLAND’S HOLY WAR.
This paper will examine the influence of religion on the New England colonists’ perspectives and interpretations of King Philip’s War, 1675-1676. Ministers, like Increase Mather, interpreted Indian victories and the vast destruction of the war as punishment from God. In an effort to save the souls of the colonists, colonial religious leaders called for the colonists to repent their sins through days of public humiliations and fasting. Likewise, when the war turned in their favor, the colonists would rejoice with days of thanksgiving. Using an assortment of primary and secondary sources, this paper will address the question of whether or not King Philip’s War, through the religious interpretations of the colonists, can be considered a Holy War.

Bristol Community College

2 POLITICAL SCIENCE BRIDGE 2:00-3:00

MARY ADAMS, BRETT SYLVI A (JIM PELLETIER), DEPARTMENT OF CHEMISTRY, BRISTOL COMMUNITY COLLEGE, FALL RIVER, MA 02720

GENERATING COMMUNITY AWARENESS ON AIR POLLUTION
Citizens in Southeastern Massachusetts are woefully unaware of the harmful effects of air pollution both in terms of increased health problems and of the subsequent financial burdens on the health care industry. In order to generate community awareness of this issue, Bristol Community College students hosted the 1st Annual Southeast Coast Health and Pollution Forum designed to bring together relevant interests from the community and to generate public awareness of the problem. The forum featured speakers from the energy industry, health professions, environmental interests, and the political field. In order to assure maximum effectiveness of the conference, local organizations were contacted and invited to attend the initial planning meeting. The Student Life Office and Student Senate provided funding for honorariums for speakers. Other tactics used to create an effective forum included advertisements in local papers, flyers placed around the campus and community, and the involvement of faculty and community leaders. Although lacking an entirely empirical means of evaluating the results, success was measured in media coverage and general public awareness of the issue both before and after the forum. The forum development process and implementation methods were documented to ensure a more effective forum next year, to provide a framework for other parties interested in generating public attention on important issues, and to keep the issue of air pollution in the public conscience as long as it poses potential health risks.

3 WOMENS STUDIES BRIDGE 2:00-3:00

ARLEEN BRILLO (ELLEN OLMSTEAD), DEPARTMENT OF HUMANITIES, BRISTOL COMMUNITY COLLEGE, FALL RIVER, MA 02720

ELIZABETH “MUMBET” FREEMAN: AN ORDINARY PERSON CAN MAKE AN EXTRAORDINARY DIFFERENCE
In 1781, in Stockbridge, Massachusetts, a slave named Elizabeth Freeman challenged the institution of slavery in court. She sued for her freedom and won. Although she was the first slave to do so, Freeman’s case is not the one given credit for abolishing slavery in the state. The case of a male slave, Quock Walker, has earned the most attention and glory. This project will cover the life and times of Elizabeth Freeman, focusing on how a slave, forbidden to learn how to read and write, managed to gain an understanding of the state’s constitution sufficient to use it to win her freedom. In examining the disparity in the scholarly coverage of Freeman compared to Walker, this project will also suggest reasons for such neglect or bias and its implications for current historical research on African American and women’s history in Massachusetts.

4 HISTORY NEW ENGLAND 2:00-3:00

ELIZABETH DADZIE (ELLEN OLMSTEAD), DEPARTMENT OF HUMANITIES, BRISTOL COMMUNITY COLLEGE, FALL RIVER, MA 02720

THE HISTORY OF PAUL CUFFE OF WESTPORT’S FAMILY: WHAT IT REVEALS ABOUT MASSACHUSETTS’ MULTIRACIAL PAST
Paul Cuffe of Westport, Massachusetts, was one of the wealthiest and most influential figures of the Revolutionary Era. Cuffe’s father was an African who bought his freedom and his mother was a Wampanoag Indian. In the notebooks of his youth, Cuffe wrote “mustee (African/Indian) is my nation.” By his death, having traveled widely and struggled with ignorance and racism across the Atlantic, he described himself as “chiefly of African Extract” and “champion of the wholecommunity of the African race.” Black and white historians have categorized Paul Cuffe as an African American. This project will document the genealogy of the Cuffe family, from Paul’s birth in 1759 to the present. It will provide details about where and when people were born, married, and died, how they identified, as well as what they did to support themselves—financially, politically, and spiritually. The goal of the research, ultimately, is to see what Cuffe’s family’s history reveals about ethnic/racial identity and community and “what life was like” for this complex family in southeastern New England over the past 300 years. It will also explore what living descendants, if they can be contacted, can contribute to what professional scholars “know” about Cuffe.
THE SEEDS OF TERRORISM

The September 11th terrorist act on the World Trade Center has changed the lives of many Americans, and everyone is wondering about the motives of these terrorists to commit such a horrible and inhuman crime. The purpose of this project is to explain the failure of the American policy in the Middle East and now terrorism is related to this failure. The project will also include reflections about Islam, a religion that stands for peace and rejects all types of terrorism. The results of this study will explain what should be done to bring peace to the Middle East and how the world will benefit from it. This project will also include a list of instructions and advice for the individual American citizen who is a part of the war on terrorism.

BEYOND THE CLASSROOM: LINKING MULTIMEDIA SKILLS AND COMMUNITY SERVICES TO PROMOTE THE COLLEGE AND SHOWCASE STUDENT WORK.

Interactive Orientation CD group project as part of Seminar in Desktop Publishing, Imaging, and Multimedia Design at Bristol Community College, Fall River MA. As part of the Internet Design Seminar at BCC, we volunteered to design and publish an interactive tour of Bristol Community College on CD media. Rather than do a site for another company, we decided on building an interactive tour that would be beneficial to the college. The objective of this project was to give the college a tour that could be published on CD and posted on the Internet for student who could not attend orientation day at the college. The software we utilized was Macromedia Director 8.5, Fireworks 4, Flash 5 and a third-party panorama stitching software. We used this software because this is the suite that we have to build our knowledge on for real world tasks. Initially we sat down with a representative from the college and obtained their objectives and what they expected to achieve from the interactive tour. The client’s objective was to have a finished product so they can distribute on CD and on the web.

DIFFERENCES EVEN UNTO DEATH: COMPARING OAK GROVE AND SAINT PATRICK’S CEMETERIES IN FALL RIVER, MASSACHUSETTS

This project examines two of the largest cemeteries in the city of Fall River, Massachusetts. The first is Oak Grove, the resting place of the city’s “founding fathers,” industrial titans, and the infamous, such as Lizzie Borden, who put the city on the national curiosities map. The second is Saint Patrick’s, originally for the Irish. Most people today know the character of those for whom the cemeteries were originally established and reserved. However, today, people of all ethnicities and economic status can opt to be buried in either cemetery. The meaning of these institutions, then, is evolving. The research will cover the history of these cemeteries, their changing symbolism, and, most importantly, explore what they reveal about the city’s ethnic and labor history. Another product of the research will be a convenient guide to the most accessible and useful local resources for those who want to research other cemeteries in Fall River.

NANCY GARDNER PRINCE: POSSIBLY THE MOST OBSCURE OVERACHIEVER OF NINETEENTH CENTURY MASSACHUSETTS

Nancy Gardner Prince, the granddaughter of an African slave and an enslaved Indian woman, was born in 1799 in Newburyport, Massachusetts. She was an entrepreneur, world traveler, fundraiser, benefactress, activist, and author. According to the Schomburg Center and New York Public Library’s Digital Reference Database, “To date, nothing is known of Nancy Prince’s later life and the circumstances of her death.” What we know about this amazing woman, comes from her memoir, A NARRATIVE OF THE LIFE AND TRAVELS OF MRS. NANCY PRINCE. The main goal of this project is to “illustrate” — with background information and visual materials — her book. The final product will be a charting of her life and travels, represented in the format of a map and a timeline. The research will try to fill in some huge gaps: her life before and after her book, as well as, her extended family’s stories and her death. One other aspect of this project will be to examine why so few historians have mentioned, never mind researched, Nancy Gardner Prince’s life story.
This research project was initiated; in order to understand better how alcoholism, diabetes, and HIV/AIDS affect Native American populations. Information regarding the health status of indigenous peoples suggests a virtual invisibility among the United States Amerindian populace. That is why any other ethnic group. A compilation and analysis of data from various sources reflect these major health issues. The dearth of quantitative, in-depth adjusted for reporting delays, the data from 1989-90 indicate that the rate of HIV/AIDS infection is increasing more quickly among Amerindians than the rest of the country, Native Americans have a disproportionately higher prevalence of diabetes—2.8 times that of Caucasians of similar age. When population, Native Americans experience four times the alcohol-related mortality of Caucasians. According to the Centers for Disease Control and Prevention, Native Americans have a disproportionately higher prevalence of diabetes—2.8 times that of Caucasians of similar age. When adjusted for reporting delays, the data from 1989-90 indicate that the rate of HIV/AIDS infection is increasing more quickly among Amerindians than any other ethnic group. A compilation and analysis of data from various sources reflect these major health issues. The dearth of quantitative, in-depth information regarding the health status of indigenous peoples suggests a virtual invisibility among the United States Amerindian populace. That is why this research project was initiated; in order to understand better how alcoholism, diabetes, and HIV/AIDS affect Native American populations.

Three families with young children volunteered to participate in a pilot study that compared family values with the child's level of cognitive development. All six parents completed a Q-sort questionnaire, which included ratings of obedience, competition, and education, and the development of ethical values. The Q-sort suggested that the 2½-year-old child did not have as stimulating an environment as the other two children. The children were presented with age appropriate cognitive tasks and observed to determine their stage of development according to Piaget's theory. Each child was in the sensorimotor stage that Piaget posited for ages 0 to 2. Since the 2½-year-old boy was still in the sensorimotor stage of development, this suggests that he may be behind in his cognitive development. The results suggest that there may be a relationship between family values, composition and cognitive development. Future research should explore this question further using families of varied compositions, ages, cultures, and races and a blind experiment procedure.

This project presents the history of Poles in New Bedford, Massachusetts. It attempts to answer questions such as: who came first, when, why, from where in Poland, and why to New Bedford? It will also aim to reveal the peak period of Polish immigration to, and the formation of a Polish community in New Bedford, as well as the construction of, and/or maintenance of a Polish and/or a Polish American identity.

For many years, Native American families have struggled for survival; it is, therefore, no surprise that Amerindians continue to face, and now to fight, major health issues. Native communities, experiencing increased rates of substance abuse, HIV/AIDS, and diabetes mellitus, now wage a battle more sinister than the major epidemics of smallpox, measles, tuberculosis, and cholera, which in centuries past destroyed whole nations. Now, many believe these current epidemics could decimate all Native peoples. Although a demographically small portion of the American population, Native Americans experience four times the alcohol-related mortality of Caucasians. According to the Centers for Disease Control and Prevention, Native Americans have a disproportionately higher prevalence of diabetes—2.8 times that of Caucasians of similar age. When adjusted for reporting delays, the data from 1989-90 indicate that the rate of HIV/AIDS infection is increasing more quickly among Amerindians than any other ethnic group. A compilation and analysis of data from various sources reflect these major health issues. The dearth of quantitative, in-depth information regarding the health status of indigenous peoples suggests a virtual invisibility among the United States Amerindian populace. That is why this research project was initiated; in order to understand better how alcoholism, diabetes, and HIV/AIDS affect Native American populations.
THE QUAKERS OF BERKLEY, MASSACHUSETTS: “FRIENDS” TO THE FIRST PEOPLES, FUTURE EUROPEANS, AND FUGITIVE SLAVES

Today, Berkley, Massachusetts, appears to be a sparsely-settled, mostly-white, country-like community. However, the presence and influence of the Quakers in this area nourished a thriving, multi-racial community of Native peoples, Africans, and Europeans. Because two rivers frame it, Berkley was a vital point on the Underground Railroad.

Researching this early history is particularly urgent: old residents, who possess passed-down knowledge and oral histories, are dying; meanwhile, new residents want to know more about the town—the fastest-growing town in the state at the moment—which they intend to make their home. The research will use the following methods and resources: interviews and walks with local elders—to hear about and try to locate “hidden” connections on the Underground Railroad; visits to local churches and meeting houses, historical societies, libraries, and the town hall—wherever materials such as birth, marriage, and death certificates, property and tax records, and grave site information can be found; and a visit to the New England Yearly Meeting of Friends Archives in Providence.

BEYOND THE CLASSROOM 3: LINKING MULTIMEDIA SKILLS WITH A COMMUNITY BUSINESS

Creating a website for a local photographer was a project I undertook as part of CIS 28 Electronic Publishing at Bristol Community College, Fall River MA. As part of the Electronic Publishing course at BCC, I volunteered to create an e-commerce website showcasing a Lighthouse series of photographs taken by Matthew A. Poyant, a local photographer who provides services in the areas of: editorial portraiture, editorial fashion, weddings, and entertainment photography. The objective of this project was to create a website which would focus on the display and sale of his Lighthouse series of photographs. I chose this project because I wanted to increase my ties and visibility within the local small business community. The software I utilized is from the Adobe suite of programs namely Illustrator, Photoshop, and GoLive. I used this software because the assignment required the use of GoLive. Initially I sat down with Matthew A. Poyant of Lighthouse Photographics and obtained his objectives, goals, and preferences pertaining to the project. The client's objective was to have an Internet presence, which would showcase and sell his lighthouse series of photographs. The client wanted the site to allow for the sale of the prints through an order form that the consumer would mail in with their payment. As Mr. Poyant's Lighthouse series grows, so does the website, which has been created to Mr. Poyant's satisfaction and has been successfully uploaded to a server.

BEYOND THE CLASSROOM 2: LINKING MULTIMEDIA SKILLS WITH A COMMUNITY BUSINESS

Creating a unique business identity for a local historian was a group project undertaken as part of CIS 69 Seminar in Desktop Publishing, Imaging, and Multimedia Design at Bristol Community College, Fall River MA. As part of the Seminar in Desktop Publishing, Imaging, and Multimedia Design at BCC, we volunteered to create a business identity for Neighborhood Preservation Consultants, which provides consultant services to public and private clients engaged in the conservation, restoration, and reuse of historic properties, sites, and artifacts. The objective of this project was to create a consistent look and feel for the identity of this business through the creation of a logo, business card, letterhead, envelope and website. We decided to do this project for reasons which range from an interest in local history to increasing the students ties with local area businesses. The software we utilized was Adobe Illustrator, Quark Xpress, and Macromedia Dreamweaver. We used this software because these are the programs that we have to
build our knowledge on for real world tasks. Initially we sat down with proprietor of Neighborhood Preservation Consultants and obtained her objectives goals and preferences pertaining to the project. The client's objective was to have a business identity in print as well as an Internet presence, which would demonstrate that the business's objective was to preserve the built environment for the benefit of the people.

CAROLYN SWIFT (MAUREEN SOWA), DEPARTMENT OF HISTORY, BRISTOL COMMUNITY COLLEGE, FALL RIVER, MA 02720

THE AMERICAN INDIAN MOVEMENT: THE REBURTH OF SPIRITUALITY, HOPE, AND UNITY
This project examines the success of the American Indian Movement (AIM) from the perspective of Native Americans. Traditional historians focused on the media events of "The Movement," such as the takeover of Alcatraz, the seizure of the Bureau of Indian Affairs Building in Washington, DC, and the occupation of Wounded Knee. They argued that the movement faltered because its actions did not produce significant economic and political gains for American Indians. The fact that the American Indian Movement no longer exists as a national organization also appeared to support their viewpoint. A review of material by Native American writers, such as Vine Deloria and Mary Crow Dog, reveals that Native peoples never viewed AIM as simply a political organization. Likewise, authors sympathetic to the American Indian people expressed the view that AIM was more than a reflection of the civil rights movements of the 1960s. AIM was seen as one of the long line of "prophets" who came to help THE PEOPLE throughout their history. Every Indian man or woman who fought for THE PEOPLE is a member of the movement. Essentially then, AIM as an activist movement, fit into a movement that has always been present in Native cultures and was simply given a distinct name at that time. The evidence of AIM's achievements is found in the words of those influenced by it. AIM gave voice back to the people; it reintroduced "City Indians" to their culture; and it gave a new sense of hope to American Indian people, which has continued into the twenty-first century.

DAVID VIEGAS (DOROTHY SWEENEY), DEPARTMENT OF PSYCHOLOGY, BRISTOL COMMUNITY COLLEGE, FALL RIVER, MA 02720

PROGRAM ANALYSIS OF MATH ANXIETY AND THE COLLEGE STUDENT WITHIN MASSACHUSETTS
Math anxiety is a prevalent, persistent problem within the college community. This analysis is being conducted to discover a definitive, productive means of educating and promoting the awareness of math anxiety to college students by incorporating statewide approach and methodology. A questionnaire has been devised, as a guideline for selected public college personnel interviews and data is continually being collected and analyzed. Up to this point in time, there has not been a direct focus on addressing math anxiety. The results should provide a medium through which organization and promotion of math anxiety awareness can be administered.

Britt Zartman, Jennifer Conway (Ellen Olmstead), Department of Humanities, Bristol Community College, Fall River, MA 02720

IT'S RIGHT BEFORE OUR EYES: A WALKING TOUR THROUGH 300 YEARS OF NEW BEDFORD, MASSACHUSETTS' AFRICAN AMERICAN HISTORY
The ultimate goal of this project is to create a tool which will make New Bedford's African American past come alive. The tool will be a map which could be used for a guided walking tour of the city's first three centuries of Black heritage. It will be more than a map, however, as it will provide illustrations, photographs, and detailed information about all of the sites indicated on the tour. This increased documentation of the historic sites will broaden the walker's understanding and, more importantly, function as a touchstone for other researchers who want to fortify a permanent legacy for future generations.

Mari Black (Robert Steeper), Department of Science, Bunker Hill Community College, Boston, MA 02129

A TASTE OF THE NEOTROPICS: A STUDY ABROAD EXPERIENCE
In January of 2002, a group of ten students from Bunker Hill Community College participated in a two-week study abroad trip to study the neotropical rainforests of Central America. This trip provided the students with an opportunity to observe and experience aspects of the neotropical that could never be realized in the classroom. Traveling from the island of Ometepe in Lake Nicaragua to the La Suerte Biological Field Station in Costa Rica, the students climbed a volcano to view waterfalls, explored a bat cave, and hiked on trails that were covered with waste deep water. The group studied the diversity of rainforest plants and animals, rainforest abiotic factors, rainforest preservation, and local cultures and customs. The project follows their many adventures and discoveries and describes the educational value of a study-abroad experience.
THE DECLINE OF BATTLE ETHICS
What are the ethical implications of electronic warfare? Now that mass destruction can be delivered miles away with the simple press of a button, less thought seems to be given to the carnage that is actually being caused. Before war involved computers, it seems that waging battle was considered more carefully, and more of a value was put on human life. Opposing sides in a conflict seemed to have more respect for each other. Soldiers on opposite sides of a barricade could even visit with one another while waiting for their next call to be enemies. This happened often during The War of 1812. Going back even further, to the pre-gun era, warfare more resembled a kind of "gentlemen's game." A battlefield, away from civilians, was chosen beforehand and agreed upon by both parties before the battle even began. Each army would then line up its troops and advance upon the other. The Germans of the time best explain this style of warfare, with each of the warlords involved engaging in single combat with each other without interference from their armies. The families of the soldiers stood on the sidelines to make sure that the proper code of battle was upheld, and the wounded were allowed to be dragged away unthreatened. Text-based and online research will analyze the decline of this "code of battle" as the result of the more passive role in warfare offered by more modern technology, from the pre-gun era, through early gun use, to modern day.

TRISOCLAN
Recently, the spread of antibiotic-resistant bacteria has become a popular topic. This experiment was conducted to see if the bacteria, E-coli, could be cultivated to become resistant to the anti-bacterial agent Triclosan, which is a common active ingredient in antibacterial soaps. The experiment proves that E-coli can successfully mutate into a stronger strain, more resistant to Triclosan soap. E-coli thus has the potential to become immune to Triclosan and other anti-bacterial agents. This experiment further demonstrates that to kill bacteria a large concentration of Triclosan is needed to completely eradicate the colony, otherwise the bacteria will be exposed to the antibacterial agent and become more resistant to it.

A PSYCHOLOGICAL COMPARISON OF WAR & DISEASE
What are the psychological perceptions, thoughts and feelings of a person who is engaged in war compared to a person who has been afflicted with a life threatening disease? They are both faced with many fears and emotions. To better understand what they felt and thought, I will be questioning and analyzing the writings of these people's journals who have been in these situations. By evaluating the writings of soldiers of war a better understand and analytical conclusion can be drawn. For example, of Major Damon Gause, his journal takes you through his journey of escaping the Bataan Death March of World War II. He encountered death, blood, disease, fear, despair, victory and encouragement. In view of disease, Audre Lorde's The Cancer Journals, informs us that people, whom have to face such a horrific disease, go through similar reactions, mind-set, thoughts, and feelings. These shared emotions were strongly linked in fear and despair but at the same time had victory and encouragement. Other writings that will be used in the research of this discussion include and are not limited to, A Physician Faces Cancer in Himself by Samuel Sanes, M.D., Hiroshima Diary, Lance Armstrong's It's Not About the Bike: My Journey Back to Life, Charles Henderson's Marine Sniper: 93 Confirmed Dead along with true stories written by war veterans and POWs for sites found via the internet. People in the time of war and battling disease are both fighting for what they strongly believe in. This is best portrayed in their biographies and memoirs. Other areas of research will be in the battles of Leo Tolstoy's War and Peace and the memoirs of people afflicted with AIDS. The result of my research is to better understand what goes on in the minds of the ones fighting the battle.
THE BIOLOGICAL ACTIVITY OF MELALEUCA ALTERNIFOLIA (AUSTRALIAN TEA TREE) EXTRACT AND ITS REPORTED ACTIVE CONSTITUENTS.

Melaleuca alternifolia has a long history of therapeutic use as an Aboriginal folk medicine. Recent studies have verified that the oil has substantial antimicrobial activity and is currently marketed commercially. This study generates a laboratory experience suitable for the introduction into the undergraduate curriculum, which verifies the efficacy of this natural product extract as an antimicrobial. Individual components of the commercial oil were separated by chromatography and their biological activity as an antimicrobial was measured using Escherichia coli and Staphylococcus aureus. The activities of analytically pure, commercially prepared components known to be effective were also measured. Terpinen-4-ol, a major component of known antimicrobial activity, was further studied to determine if this material is the primary source of biological activity in the extract. The effect of stereochemistry on the biological activity of this material was examined by screening the R-, S-, and a racemic mixture of terpinen-4-ol for biological activity.

SERVICE LEARNING AND COMMUNITY SERVICE PROMOTIONAL VIDEO

A 10 minute promotional video will be produced, providing an overview of Service Learning and Community Service activities at BHCC. Interviews with participants (faculty, students, community partners) will be shot, edited, and integrated with footage of actual class project activities, in the classroom and at the community location. The overall intent of this video will be to provide both the BHCC community, especially administration and faculty, and current and potential community partners with an understanding of what the Service Learning and Community Services Program at BHCC is about, and to encourage participation. The service learning component of this course will be utilizing production skills to produce a professional quality promotional video as described above, and will include self-reflection by students, both written and taped. Some of the taped self-reflections and activities of the production class will become part of the promotional video's content.

EXPANSION OF THE UNIVERSE

The purpose of this paper is to explore possible causes for the recently discovered acceleration in the expansion of the universe. It is generally considered that the density of mass in the universe is directly linked to the geometry of space. If this density is observed to be equal to a calculable “critical density”, space would be considered “flat”. From direct observations, only about 10% of the critical density needed for a flat universe has been found, suggesting that the universe has a negative curvature. However, using recent data from the COBE satellite and predictions of the inflationary universe theory, it is proposed that the actual density of the universe is very nearly equal to the critical density. This suggests that some as yet undiscovered “dark energy” may constitute the missing energy.

GHOST SOLDIERS; THE USAGE OF CHILDREN IN ARMED CONFLICT

Nearly 300,000 thousand children between the ages of fifteen and twenty are currently being used as soldiers in countries such as Columbia, Uganda, Afghanistan, and Cambodia. Militia and government groups are eager to recruit children as soldiers. Because they are physically vulnerable, children are also easier to condition into fearless fighting and blind obedience. These are most likely to be children who are economically and/ or socially deprived, from separated or disrupted families, and from other marginalized groups and minorities. They are also most likely to be the children exploited during peacetime. Though one could argue that they have little choice, these children are in fact willing to join government groups and militias for various reasons. The number one reason is to avenge themselves against atrocities committed against them and their families. Sometimes, it is the only way for these children to survive. This is especially true of the children of Cambodia’s civil war. Separated from their parents and put into labor and soldier training camps, these children were brainwashed to accept the ideas of the new government. Many of the torturers and killers of the Khmer Rouge regime were merely children. How does a former child soldier reintegrate into society? How do they learn to accept the past in which they lived? By looking at the issue of using children as soldiers, specifically in the context of Cambodia, answers to these questions will be explored.
I plan to concentrate on Soviet strategies involving sex and espionage used throughout the existence of the U.S.S.R., focusing on World War II and the Cold War. Women using sexuality to obtain secrets, as we think of it today, began with Mata Hari, housewife turned spy, although she is atypical compared to all other female spies that followed her. Espionage and the use of sensuality to obtain information first became widely used in World War II. I will cover the use, history, policies, developments, and training of spies and seductive skills by the Soviets. Also, I will research individual Russian Femme Fatales like Lizi Friedman, Elizabeth Bentley, and Larissa Fedorovna Dubanova and write about how they became involved in espionage and their techniques for extracting information. Large scandals and spy rings will also be a part of my report. The purpose of my paper will be to prove the power women have through exploiting sex by following the changes and progress of the Soviet use of sex and espionage.

Fitchburg State College

30  EDUCATION  ART GALLERY  11:00 - 12:00

REBECCA BENNETT (SHARI STOKES), DEPARTMENT OF EDUCATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420

SOLAR SYSTEM THEMATIC UNIT USING THE MULTIPLE INTELLIGENCES

Howard Gardner's theory of multiple intelligences proposes a new method of interpreting intelligence. He defines intelligence as an ability or skill to solve problems or to fashion products. Instead of the traditional unidimensional theory of intelligence, Gardner believes that there are eight different areas of intelligence. His theory states that people often show distinct individual differences in their abilities of intelligence. The multiple intelligences include verbal, logical-mathematical, musical, visual, bodily-kinesthetic, intrapersonal, interpersonal and naturalist abilities. Verbal and logical-mathematical intelligences seem to be more valued in Western society because they are measured most often in traditional intelligence tests and during school activities. This thesis is a thematic unit incorporating all the multiple intelligences. The solar system is the focus of the unit and it is designed for a general fourth grade classroom. The thesis contains three parts. The first is an introduction explaining the unit's rationale and integration of curriculum areas. In addition, the introduction presents general information about the multiple intelligences. The second part is the unit development and implementation. This section provides the motivation, goals, lessons, modifications and culmination of the unit. The third part is an assessment where the students are evaluated using activities that incorporate all the multiple intelligences so that not just verbal and logical-mathematical skills are assessed. The purpose of this thesis is to create a unit that can be easily used in other general classrooms.

31  COMMUNICATION  ART GALLERY  2:00-3:00

SARAH BILLINGTON (JOHN CHERTO-SZIVOS), DEPARTMENT OF COMMUNICATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420

WORDS AND MUSIC BY BILLY HULME

Billy Hulme is a man that captivates all he encounters. At 92 years of age, he is more active in his community than most thirty year olds. Billy's uniqueness lies in his history. Everyday, donning a bow tie and with harmonica in hand, Billy travels the city of Pawtucket, RI to put a smile on the face of everyone he meets. Billy Hulme's ultimate mission is to literally spread love to each of the 6 billion people in the world.

32  BIOLOGY  NEW ENGLAND  10:00 - 11:00

DENNIS CICCONE JR. (MICHAEL NOSEK), DEPARTMENT OF BIOLOGY, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420

MULTIDRUG RESISTANCE (MDR-1) GENE TRANSFER INTO HEMATOPOIETIC STEM CELLS AND ITS ROLE IN CHEMOTHERAPY PROTECTION IN PATIENTS WITH NON-HODGKIN'S LYMPHOMA

This research focuses on protecting the hematopoietic stem cells from the toxic effects of chemotherapy by introducing the MDR-1 gene into the hematopoietic progenitors through gene therapy technology. The main objective of this study was to test the effectiveness of the retroviral vector, SF1m, in transferring the MDR-1 gene into autologous stem cells of patients with non-Hodgkin's lymphoma. Four different chemotherapy drugs were added to the patient's cells in culture to assess the functional property of chemotherapy protection by virtue of transfer of the MDR-1 gene into the transduced stem cells. Taxol, Doxorubicin, Vincristine, and Etoposide, were tested to determine the optimal concentration of each drug when placed in the presence of the transduced stem cells. The effectiveness was measured by the percent of cell growth after being in contact with the chemotherapy drug for 14 days. For Taxol, Doxorubicin, and Etoposide, optimal concentrations were found at, 1 ng/mL, 5 ng/mL and 50 ng/mL, respectively, that significantly increased the percentage of cell growth in those cells transduced with the MDR-1 gene. Although the peak protection for Vincristine was observed with the lowest concentration tested, 1 ng/mL, none of the transduced cells were significantly protected relative to nontransduced cells at any of the concentrations tested. The SF1m retroviral vector appears to be effective in transferring the MDR-1 gene into autologous hematopoietic stem cells. Clinical trials are now underway using this retroviral vector for transfer of this gene in vivo, thus protecting the stem cells from various chemotherapy drugs.

33  COMMUNICATION  ART GALLERY  2:00-3:00

BRIAN COLLINS (JOHN CHERTO-SZIVOS), DEPARTMENT OF COMMUNICATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420

JUST A GIRL

My thesis project is a film made nearly entirely by myself. I have written, produced and directed all scenes, and I have worked as the editor/ animator. While I have had crew members (at most, 2, as opposed to the usual 6 or 7), at one point or another I have tackled the responsibility of every facet of
the film production (sound recording, lighting, camera operator, cinematographer, slate, even standing in for actors). The film concerns a brief setback in the life of a character named Chris Heywood. As he attempts to ask a female friend if they can become “closer”, he discovers she has recently started seeing someone. Distraught, he seeks the advice of his best friend, who unintentionally leads him into a confrontation with the boyfriend. The catch is that the boyfriend is an animated robot and the best friend is a bear. The animated characters were created in programs such as Adobe Photoshop, After Effects, Cinema 4D, etc. The thesis lies in whether or not the film education I received taught me everything I should know about making a film (as opposed to just one certain area such as editing or camerawork). The completed thesis will include: 1. The finished film, 2. The shooting script (may slightly differ from final project), and 3. Shooting journal, carrying reader from scriptwriting to final editing processes.

### 34 COMMUNICATION ART GALLERY 2:00-3:00

**NICOLE FERNALD (JOHN CHERTO-SZIVOS), DEPARTMENT OF COMMUNICATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420**

**A FAMILY PORTRAIT: ALZHEIMER’S IN MY FAMILY, A DOCUMENTARY**

After being exposed to the tragedy of Alzheimer’s Disease through my mom’s experience in working for an elder day care, I began to empathize and become aware of the heartbreak a family faces when one develops Alzheimer’s Disease. My Great Aunt Ginnie was diagnosed with Alzheimer’s in 1986, when I was very young. I don’t remember my Aunt before she was diagnosed and because of my youth I was not aware of the affects her condition had on my family. I researched Alzheimer’s and studied by interviewing family members and its affects on them. The most effectual way to understand the affects was through the memories they shared and the emotions they showed. My Uncle Jeth, (Ginnie’s husband) was her main caregiver and I was inspired and touched by his strength and unwavering devotion to caring for her even when it got to the point where she couldn’t speak, eat, or even swallow. The documentary records, but also interprets the feelings, memories, and stories of members of a family who are affected by Alzheimer’s Disease. My piece is intended to help my family remember and others realize the struggle that nothing but love can overcome.

### 35 COMMUNICATION ART GALLERY 2:00-3:00

**JULIE FISHER (GEORGE BOHRER), DEPARTMENT OF COMMUNICATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420**

**CENSORSHIP OF THE MEDIA BY THE GOVERNMENT DURING TIMES OF WAR**

This thesis will focus on the censorship of the media by the government during times of war, specifically the Persian Gulf War and the current War on Terrorism. The media’s job essentially is to inform the public about significant events that are occurring. Stories are published and broadcasted so the public knows what is going on. Some say that the media functions as a watchdog over the government. It reports on the government’s doings and we, as people of the country, are able to evaluate the government and make sure they are doing what is right. The media and the government/military have sharply different views on the media’s role during time of crisis. The media still feels that it has a right to report on almost all aspects of the war and that the government cannot stop them. The government, on the other hand, believes that the media, during times of war, should support the war effort and even rally the public for national support. The government, as far back as the Civil War, imposed censorship on the media. Even during the World Wars, the media did not complain. They felt it was their duty to support the government. However, since the Vietnam War, the media’s thoughts have changed. The government’s, however, have not. This thesis will examine how the government justified censorship during the Persian Gulf War and how it was used to its advantage. It will also discuss the responses, both by the public and the media, to this censorship and discuss the implications it has for the future of the First Amendment. Finally, the thesis will examine the role of the media during the current War on Terrorism and talk about the possible restrictions the government is again placing on the media.

### 36 CULTURAL ART GALLERY 3:00 - 4:00

**CAITLIN HURD (JOHN CHERTO-SZIVOS), DEPARTMENT OF COMMUNICATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420**

**SILENT VOICES: STORIES OF THE COLLEGE INTERNATIONAL STUDENTS**

International students make up a small portion of college campuses across the globe. The experiences of these students in American schools is really not fully understood. The idea of this project was to communicate with the international students at Fitchburg State College and find out their stories, their experiences, and their input on how the system can be improved for them. This project was previously recorded by another college and made into a video, but the video was very static and dealt less with the students and their experiences and more with what problems they had and how horrible they thought America was. So an idea to remake the video was born. Same idea, but through circular questioning and a greater focus on the students to learn who they are and how the system could change. What was learned was not a hatred of this country but stories of change, adaptation, and growth. These students were happy to be able to voice their opinions about things without fear of criticism and contempt. Through photography, their lives at the college are depicted to give a greater meaning on the words they say. These international students represent their country and themselves as individuals. They feel they have a lot to say to teach people about other cultures, but no one is truly listening.

### 37 EDUCATION ART GALLERY 11:00-12:00

**MICHELLE HUTCHISON (LAURIE DEROSA), DEPARTMENT OF EDUCATION, FITCHBURG STATE COLLEGE, FITCHBURG, MA 01420**

**THESIS ABSTRACT FOR MICHELLE HUTCHISON**

The purpose of this month long interdisciplinary unit is to create an interest on the study of dinosaurs. It will also work to enhance student knowledge on the subject matter. This unit focuses on many aspects of dinosaurs. Students explore baby dinosaurs, dinosaurs’ eating habits, how the dinosaurs protected themselves, why the dinosaurs died, dinosaur fossils, etc. Throughout the unit, students learn new concepts through a variety of modes.
They use math for an activity on dinosaur babies. Students utilize their art abilities in a variety of activities including “Draw a Dinosaur” spelling game and creating a large dinosaur to be displayed in the hallway. Language Arts is a big part of the unit. Students express themselves through writing when they create their own dinosaur and write about its characteristics. They also work in small groups to research a dinosaur and write about it. Many other disciplines such as science and social studies are also included with the unit. The presentation of the interdisciplinary unit includes work samples of second grade students from a Fitchburg public school. Pieces of the unit were implemented in the classroom as a “mini-unit”. It served as a focus during two full weeks of instruction without the aid of the cooperating teacher. The unit was a success. Students continually discuss the dinosaurs they have learned about and are eager to pick up a book on dinosaurs to learn more information.

**THE IMPORTANCE OF FORENSIC GEOLOGY**

Jessica White

Some of the ways Sherlock Holmes, the famous character created by Sir Arthur Conan Doyle, solved crimes were due to forensic geology. Forensic Geology is using science, namely geological materials and techniques, to aid in an investigation; the investigation could be criminal or simply for seeking information. Forensic Geology focuses in on all fields of Geology and Earth Science. It involves knowledge of mineral types, maps, fossils, sand, water, and soil, to name a few concepts. To find geological evidence, forensic geologists use techniques such as optical and electron microscopy and x-ray diffraction. Whenever two or more objects come into contact with each other, material is transferred between them. This idea is known as the Transfer Principle. The materials and techniques will be further discussed within the thesis as well as the impact forensic geology has had on the world. Though the idea of using geology to help in an investigation has been around since the times of Doyle, it has barely just begun its use on the world.
This study examines the primitivist qualities in the work of the German painter Paula Modersohn-Becker (1876-1907). The Western concept of “primitivism” is an underlying principle in the genesis of twentieth-century modernism. It is associated with abstraction, essentialism, spiritualism, intuitiveness, and timelessness. Primitivism is a fundamental concept in Modersohn-Becker’s art, as her art focuses on the beauty found in a pure and uncorrupted nature. The painter’s natural settings project her subjects’ inner feelings. Modersohn-Becker paints indigenous peasants, mainly women and children, as well as herself in a candid, sincere way. She renders her subjects with monumental simplification of forms and colors, thereby producing paintings she described as “runic scripts.” I demonstrate these “runic” or “primitive” qualities in Modersohn-Becker’s art by analyzing the subject matter, style, and sources of her images and comparing them to their inspirational sources. The “primitive” qualities in Paula Modersohn-Becker’s work were means by which the artist created an individualistic, intimate representation of humanity’s basic affinity to nature.
perceive it to be more acceptable for a woman to hold a non-traditional job than they will perceive for a man to hold the same job. In addition, it is predicted that non-traditional college-aged female students will gender stereotype less than traditional college-aged female students when rating occupational choices for both men and women. Finally, women with more traditional gender identities will rate individuals in non-traditional occupational roles as less positive than individuals in traditional occupational roles as compared to women with less traditional gender identities.

GENDER DIFFERENCES IN ACADEMIC ATTRIBUTION AND THE EFFECTS OF SELF-ESTEEM AND NEGATIVE FEEDBACK
Many factors are perceived by students as influencing their academic performance with these factors being facilitating and debilitating. The purpose of this study was to examine students’ academic attributions relative to grades received on a midterm exam and investigate the effects of self-esteem and gender differences. Surveys were administered to 500 undergraduate students ranging in age from 18 to 30, half of whom were women. The students were randomly assigned to 1 of 9 scenarios depicting expected and earned midterm exam grades. Within the scenarios, the expected grade (A-, B, C-) and the earned grade (A-, B, C-) varied creating the nine versions. Participants then rated items assessing anticipated effects on self-esteem, anxiety, and blame. Information on students’ attributional style and self-handicapping tendencies was also collected. It is anticipated that results will show that men have a higher tendency than women to attribute failure or disappointment externally. It is also expected that students with low self-esteem will lack self-handicapping tendencies and will attribute failure internally. In addition, it is anticipated that students will report experiencing higher academic anxiety and lower self-esteem after receiving a disappointing grade. Awareness of the debilitating effects of receiving lower than expected grades may help instructors understand students’ decreasing motivation levels to succeed.

PERCEPTIONS OF FEMALE SEXUAL EXPERIENCE AND FANTASY
Fantasies are a common part of life from daydreams to night dreams. Sometimes, they are of a sexual nature. Sexual fantasies consist of images or actions that are erotic for the individual. Current research shows that societal perception of women’s morality decreases when she has more sexual partners. However, little is known about perceptions of women who have sexual fantasies. The purpose of this study was to examine how moral and acceptable do women perceive female sexual fantasies and whether they differentiate them from female sexual behavior. A total of 120 female college students read one of four scenarios that varied the number of sexual partners and type of fantasy (i.e., occupation or sexual) for a fictional female character. The participants answered questions about the scenario character and completed a series of personal information scales. It is predicted that participants will perceive the scenario character with high sexual experience as possessing fewer moral characteristics (e.g., trust and honesty). In addition, participants will perceive the scenario character with sexual fantasies as possessing fewer morals. Third, participants will perceive the scenario character with low sexual experience and no sexual fantasies as more moral than the scenario character with low sexual experience and sexual fantasies. Finally, participants who have higher sexual experience will rate the scenario character with high sexual experience and sexual fantasies as more moral than participants with less sexual experience.

PERCEPTIONS OF EFFECTS OF PHYSICAL ATTRACTIVENESS ON GRADES
People often make judgments of others based on limited information. Specifically, one social stereotype suggests that it is common for most people to rate those individuals who are attractive as having more positive characteristics than those individuals who are not attractive. As a result, attractive individuals are stereotyped as intelligent, successful, and socially competent, whereas unattractive individuals are stereotyped as incompetent, unpleasant, and anti-social. This study explored the association between levels of physical attractiveness and causes for academic performance. A total of 120 female college students viewed photographs of alleged female college students who varied in physical attractiveness (i.e., attractive and unattractive). The participants also read a brief fictional scenario under each photo in which the character had just received an “A” or “D” on a term paper. The participants answered a series of questions regarding the character and possible causes for receiving the term paper grade. It is anticipated that participants will perceive that the attractive person receiving a high paper grade as due to internal ability, while the unattractive person receiving the high paper grade will be attributed to positive external causes such as luck. Furthermore, it is anticipated that participants will perceive the attractive person receiving the low paper grade as due to negative external causes and a negative teacher, whereas the unattractive person receiving a low paper grade will be attributed to lack of internal ability.
BRONTE’S “SHIRLEY” AND SHAKESPEARE’S “CORIOLANUS”: MULTIPLE VOCALITY AND THE RESHAPING OF HISTORY

Shirley, Charlotte Bronte's historical novel set in Napoleonic England during the time of the Luddite riots, is deemed by contemporary and modern critics alike a failure. Vacillating between a sweeping, “condition-of-England” novel and an intensely psychological, intimate exploration of the interiority of two women and their would-be husbands, Bronte leaves readers grasping for the loosely woven and contradictory threads of meaning in the book. Interestingly, in Chapter 6 of Shirley, two of the main characters, Caroline, the shy clergyman’s niece, and Robert, the mill-owner, read Shakespeare’s Coriolanus to each other. Caroline pedagogically uses the text to instruct Robert of the dangers of arrogance and pride and of suppressing the will of the people. Coriolanus, like Shirley is a precarious work: like Shirley, it is a less-widely read Shakespearean play, and also like Shirley, is essentially ambiguous about the relationship between figures of power and the common people. The fascinating relationship between the two texts has been insufficiently addressed. In this paper, I shall examine first, the nature of these texts and the reasons that they wobble between hero-worship and sympathy for the oppressed, and second, Bronte’s curious absorption of the theatrical and ideological structure of Coriolanus into her own novel. What starts out as a novel which mimics the typical Victorian style with its omniscient narrator disintegrates into a multi-vocal medley, blurring, rather than illuminating the debate on owner/worker relations as Coriolanus blurs the debate on leadership relations. It is this dubious quality of Bronte’s novel which perhaps renders it an unloved book; nevertheless, it is this same facet which makes it an artistically and narratologically significant work which shiftingly challenges the way in which we view history and the way in which we absorb the narrative voices which command (and whisper) to us the story.

THE PERCEIVED EFFECTS OF POSITIVE AND NEGATIVE TEACHER COMMENTS ON WRITTEN ASSIGNMENTS

The most common form of corrective feedback on writing assignments is teacher comments in the margins of the paper. The types of comments teachers choose to provide could effect the development of students writing skills. This study was designed to investigate the combined effects of defendant and victim race and position on perceptions of criminal behavior. College students (n=118) were randomly assigned to one of four scenarios conditions depicting a hypothetical violent crime. Within the scenarios, the race of the crime victim and defendant varied in terms of race (black or white) and gender (male or female). After reading the assigned scenarios, participants rated items assessing perceived defendant guilt and remorse (if the defendant felt remorse for the crime committed) and sentencing appropriateness. Results indicated that race and gender were not factors in determining guilt or sentencing. However, gender and age were important in determining remorse. Specifically, younger participants perceived defendants as more remorseful than older participants. Further, when the victim’s gender and defendant’s gender matched, defendants were perceived as more remorseful and given more lenient sentences. Such results suggest that jury composition may affect judicial outcomes, meaning the younger jury members may judge defendants to be more remorseful and give more lenient sentences than older jury members.

E. B. WHITE’S

To writer E. B. White, the individual is essentially indivisible. Accordingly, as noted by critic Clifton Fadiman and biographer Scott Elledge, White has an exquisite sense of both the part and the whole. This paper asserts that in his essay, “Back to the Lake,” White interweaves part and whole through a series of dualities: prosaic and poetic language, timelines of past and present, and preferences for stasis and change. Thus his essay offers the reader perceptions of a very earthly, everyday particularity enlarged to the universal cycle of life. This detailed yet expansive style deepens the reader’s receptivity and level of feeling because it dovetails with the reader’s own organic left- (sequential) and right- (metaphoric) brain abilities, as outlined by researcher James Iaccino. In special passages created through his intertwining, White reveals his own deepest concern: that human interference in nature jeopardizes the greatest of personal freedoms—feeling interconnected with all things. Drawing from other essays by White, this paper concludes that “Back to the Lake” guides careful readers to holistically tune into the White terms “the one frequency” linking us all.
THE ONSET OF BODY IMAGE DISSATISFACTION IN GIRLS AGES 5 TO 11

Body dissatisfaction is prevalent among adolescent girls. However, the problem does not suddenly emerge with puberty. The purpose of this study is to examine the age of onset of body image dissatisfaction and contributing factors. Girls (n = 50), between the ages of 5 to 11, were individually interviewed. Demographic information as well as ratings of self-esteem, body image, and fear of weight gain was collected. The girls were also presented with three models of girls varying in body size, which were rated for perceived self-esteem, body image, and fear of weight gain. Initial results indicate that body dissatisfaction increases with age as does fear of weight gain. Further analyses will compare self and model ratings, as well as examine home and family factors contributing to feelings of dissatisfaction. The findings highlight the need to give attention to pre-adolescent girls’ body image concerns.

THE PERCEPTION OF MEN AND WOMEN AND THE PETS THEY OWN: DOES FEMALE NECESSARILY EQUAL FELINE?

While much research has investigated factors that influence the decisions to own pets, little is known about perceptions of people who own pets. In an examination of the perceptions of people who own animals that do not fit the gender stereotype for pet ownership, 120 volunteer college students were randomly assigned to read one of four scenarios. The scenarios depicted either a man or a woman living with three cats or three dogs. After reading the scenario, participants rated the character's perceived level of masculinity or femininity. Participants also completed measures of comfort around animals, empathy, liking of animals, and masculinity and femininity. It is anticipated that analyses will demonstrate that men will perceive dog ownership as indicating a higher level of masculinity than cat ownership. It is also expected that analyses will demonstrate that when a man owns several cats, participants will rate him more feminine than a man who owns dogs. It is further anticipated that analyses will reveal that a woman who owns multiple dogs will be perceived as less feminine than a woman who owns cats. It is finally anticipated that results will show that women will be more likely than men to own cats.

COMPARING THE MANAGEMENT PERSPECTIVE AND THE PSYCHOLOGICAL PERSPECTIVE ON GROUP WORK

The author hypothesized that differences in the perception of group work exist between the management community that focuses on group work as a competitive advantage and psychologists who focus on the effects of social group involvement on the individual. The literature research suggests that the perceived values of working in groups differ depending on whether the observer comes from a management or a psychological point of reference. Secondly, the literature search shows many areas in which commonalities can be noted between management views and psychological views. In either discipline the level of cohesiveness within the group has the greatest impact on the group’s performance. Both agree a moderate level of cohesiveness is necessary for optimal performance. The literature search also shows how the differences between management and psychology become pronounced as management puts more emphasis on the group as a whole as part of the organization while psychologists focus more on the individual members. Lastly, the literature search shows points to aspects of group involvement that are praised in management are seen as problem areas in psychology.

AN INVESTIGATION OF EPILEPSY AND THE LOCAL COMMUNITY’S AWARENESS OF ITS SYMPTOMS, DIAGNOSIS, AND TREATMENT

The purpose of this paper was to investigate epilepsy-related literature and to examine the local college community’s awareness of its symptoms, diagnosis, and treatment. A thorough review of existing literature was completed, along with a survey of 75 members of the Framingham State College community on epilepsy facts and myths. The survey developed for this study consisted of brief demographics section, followed by a 15 items true-false epilepsy quiz. It is expected that quiz scores will indicate a general lack of awareness of epilepsy-related facts and acceptance of common myths regarding its frequency and causes. Despite large amounts of information available on epilepsy, the public lacks a clear understanding of epilepsy.
PERCEPTION OF CREATIVITY IN INDIVIDUALS WITH DOWN’S SYNDROME

The issue of creativity has been widely researched in both children and adults. However, little research to date has examined perceptions of creativity in mentally handicapped individuals. The purpose of this investigation was to examine perceptions of creativity in both adults and children diagnosed with Down’s Syndrome. A sample of 120 college student volunteers was randomly assigned to read one of four scenario conditions. The scenario was paired with a photo of the same oil painting. Each scenario depicted an individual varying in age (7,42) with or without the presence of Down’s Syndrome. After viewing the art and reading the scenario, participants rated the character on creative ability and first impression measures. Next, the participants rated themselves on creativity, exposure to individuals with Down’s Syndrome, body satisfaction, and personal attitudes. It is expected that the participants will rate an adult affected with Down’s Syndrome as less creative than a non-affected adult. It is also expected that participants will rate children with Down’s Syndrome as more creative than adults with Down’s Syndrome. Furthermore it is anticipated that individuals with limited contact with Down’s Syndrome individuals will perceive both a child and an adult with Down’s Syndrome as less creative than a non-affected child or adult.

INFLUENCE OF ACCULTURATION STYLES ON PERCEPTIONS OF CONFORMITY AMONG IMMIGRANTS AND NON-IMMIGRANTS

Despite the differences in culture, language and lifestyle, one commonality among all immigrants is the fact that they all go through an acculturation process. Factors such as acculturation styles and group identity have been researched separately as having an influence on the perception of adjustment among immigrants. The purpose of this study was to examine the effects of these factors on perception of conformity. Most cross-cultural studies thus far have focused on a particular ethnic group or culture, which makes generalizing the results more difficult. By looking at individuals with different acculturation styles, instead of looking at a particular ethnic group, the findings in this study may be more generalized to the larger population of immigrants. A total of 180 college students (90 immigrants and 90 non-immigrants) were solicited from a small college in the northeast, and randomly assigned to read one of three scenarios involving an immigrant with an assimilation, integration or separation acculturation style. They completed a questionnaire that included measures of conformity, cultural attitudes, self-esteem, and self-monitoring tendencies. It is anticipated that results would show that college students would report more positive attitudes toward individuals with an integration acculturation style than with either an assimilation or separation style. Also it is expected that college students would rate scenario characters with assimilation acculturation style as more conforming than those with either integration or separation style.

THE ROLE OF FACIAL EXPRESSIONS IN GENDER AMBIGUOUS SITUATIONS: THE PERCEPTION OF TRAITS

Judgments of others are often based on the presence of gender-specific features, such as eye and chin size, and cheek prominence. This study was designed to examine the influence of such gender-specific facial features on people’s first impressions. Participants included 119 undergraduate students who were presented with one of four pictures of a young adult. The pictures varied by sex and by specificity or ambiguity of gender-related features. Participants were then asked to evaluate the depicted adults’ personality traits, femininity, masculinity, and appearance concerns. Demographic information and personal ratings of attractiveness were also collected. The findings indicated that participants ascribed more positive personality traits to models possessing gender-ambiguous facial characteristics than to models who possessed gender-specific facial characteristics. Specifically, the gender-ambiguous models were viewed as being more stable and more extroverted than the gender-specific models. Further, the gender-specific models were rated as more traditionally masculine and feminine compared to their gender-ambiguous counterparts. These results indicate that gender stereotypes are not consistently linked to the presence of specific facial features. Specifically, gender ambiguous models appear to be perceived as possessing a mix of masculine and feminine traits. This pattern suggests that stereotyping of traits on the basis of gender alone may be lessening.

PERCEPTIONS OF SOCIOECONOMIC STATUS ON PHYSICAL ATTRACTION: DOES ANYONE REALLY CARE WHAT YOU DRIVE OR HOW YOU EARN YOUR MONEY?

Historically, mate preference has been investigated as it relates to factors that include physical attractiveness, age, gender, and ability to provide resources. This ability to provide resources often has been defined in terms of socioeconomic status. However, methods of obtaining wealth have not been thoroughly investigated. This study was designed as a first look at whether or not method of obtaining material wealth plays a role in mate desirability and whether the type of car one drives affects perceived socioeconomic status. To examine the influence of socioeconomic status...
This project examines the value of utilizing gender target marketing strategies within a society of increasing equity between the sexes. Even as gender targeting continues to induce positive responses from the respective sexes for which the advertisements are structured, within modern American society, increasing gender equality is subjectively expected and highly visible. Nevertheless, findings also suggest that advertisements and personal perceptions of gender differences in modern society were recorded. Survey conclusions help to support the hypothesis that within modern American society, increasing gender equality is subjectively expected and highly visible. Nevertheless, findings also suggest that gender targeting continues to induce positive responses from the respective sexes for which the advertisements are structured.

Holyoke Community College
MAGIC FOR EVERYONE: HARRY POTTER'S CROSSOVER PHENOMENON

Harry Potter has captivated readers for years now, setting adults and children alike in J.K. Rowling's multi-million dollar world of witchcraft and wizardry. "Premiere" magazine reported that the series, which began its career exclusively on the shelves of the children's section, has sold "more than one million copies and are now available in two hundred countries and forty seven languages." It is obvious that Harry Potter has become a phenomenon for fantasy lovers of all ages, but why? This essay will illustrate the perspectives of Potter fans ages five to fifty seven by examining interviews, critical articles, newspaper and magazine clippings, and Potter fanclub paraphernalia. It will discuss the Potter obsession that has taken over American culture and question whether Harry is a soon-to-be classic or merely a passing fad.

MYTHOLOGY AND HARRY POTTER AND THE SORCERER'S STONE

This paper examines the relationship between the ancient myths as described by Joseph Campbell in The Hero with a Thousand Faces and their application in current popular children's literature. Joseph Campbell, a leading authority on Mythology in Western Culture, tells us "Myth is the secret opening through which the energies of the universe pour into human culture." In this year of the billion-dollar film of Harry Potter and the Sorcerer's Stone, we see J.K. Rowling using Campbell's five principals of the monomyth — The Call to Adventure, Crossing of the First Threshold, Initiation, The Meeting with the Goddess, and Return — to create a young boy struggling to overcome adversities in this life, to find himself in a whole new existence and to eventually return to life with his worldly family. In Harry Potter and the Sorcerer's Stone, Harry has been able to do what ordinary humans only dream of: traverse from the real world into the magical world and return. J.K. Rowling has used her knowledge of the monomyth as described in Joseph Campbell's The Hero with a Thousand Faces to bring us successfully along on Harry's journey.

FAIRY TALE GONE ASTRAY: MARILYNNE ROBINSON'S "HOUSEKEEPING"

Children's character development is greatly influenced by fairy tales, as Sheldon Cahsdan contends. He spoke about this impact in his book "The Witch Must Die" when he wrote, "fairy tales are ultimate journeys of triumph and transformation." As a child transforms into an adult, there are stages they go through that can be identified in fairy tales. Cahsdan identifies these stages as the crossing, the encounter, the conquest, and the celebration. Once the four stages are complete, the child is then ready to enter adulthood. What would happen if the fairy tale ended before all the stages have been completed? Marilynne Robinson's novel "Housekeeping" tells us. "Housekeeping" compares the lives of two sisters as they grow up and go through the stages of transformation while dealing with the death of their mother. One sister, Lucille, gets past the grief of her mother's death by going to school, learning how to be a lady, and getting married, completing the stages, while the other, Ruth, refuses to get over her mother's death and rejects society's expectations of her, stopping the transformation process. A close examination of "Housekeeping" will explain what happens when Ruth doesn't conform to societal expectations and refuses to complete the stages of transformation.

"HARRY POTTER" THE MOVIE: ENHANCING OR DIMINISHING IMAGINATION?

J. K. Rowling noted in "Harry Potter and the Sorcerer's Stone," "He'll be famous—a legend...every child in our world will know his name" (13). So who is this Harry Potter character that everyone seems to be talking about? Author J. K. Rowling and director Chris Columbus have similar answers to this question, along with two thirds of the children in the United States who have already read at least one of the "Harry Potter" books. Both Rowling and Columbus give Harry an identity, one through literature and the other through visual media. This paper argues that the movie was in fact a good idea to make. The movie will continue to inspire children and adults to read on in the "Harry Potter" series and make people who haven't read a "Harry Potter" book yet do so. Columbus's objective in making the movie was to enhance the images that readers already had in their minds, not to diminish them. His work proved true, as was suggested through personal interviews, magazines, and the researcher's own experiences with the "Harry Potter" book and movie. To classify a movie or a book as a success, creators need the audience to have strong feelings and emotions towards characters and/or events. In both, Rowling and Columbus made their audiences feel and sympathize with the characters and the situations, and that is what led to the success of both works. Columbus's movie is neither better nor worse than the book; it was intended to supplement rather than replace Rowling's novel.
Children in developing countries continue to excel when attention is given to them from outside sources, mostly from volunteers. This project, VOLUNTEERISM IN DEVELOPING COUNTRIES, that, in turn, will have a major impact on the future of both countries involved. Emotions and habits: the volunteers from a developed country had many positive impacts on the children from the traditional Ecuadorian society. From the experiences and exposure, two different societies and groups of people became intertwined in their South America. The children involved in the service projects showed extreme improvements in attitude and respect toward other human beings, shows the positive effects on children in developing countries when they are given the opportunity to work with volunteers from more economically advanced sectors of society. This poster presentation examines past experiences and service with children in Ecuador, a developing country in South America. The children involved in the service projects showed extreme improvements in attitude and respect toward other human beings, animals, and their environment. From the experiences and exposure, two different societies and groups of people became intertwined in their emotions and habits: the volunteers from a developed country had many positive impacts on the children from the traditional Ecuadorian society that, in turn, will have a major impact on the future of both countries involved.
THOMAS MCCAFFREY (ABBOT CUTLER), DEPARTMENT OF ENGLISH, MASS COLLEGE OF LIBERAL ARTS, NORTH Adams, MA 01247

ORIGINAL CREATIVE WRITING

The creative pieces, “Tide Lines,” and “Horses I,” were chosen by the faculty of the English/Communications department for outstanding work. The pieces were selected by the English department faculty for submission in the Conference on Undergraduate Research as a creative presentation. “Tide Lines” is a short work of fiction that explores the relationship between two brothers. One brother is a gnarled, sea-beaten fisherman tied to the ocean. The other, not much of a fisherman, is about to head off to college at the end of the summer, and starts to see the other side of his tough-minded fisherman brother. “Horses I” is a narrative poem that examines the changes in the mind, body, and surroundings of someone in love. It moves through various images that evolve into a new openness in the world around the narrator.

JANE WRZESINSKI (DAVID LANGSTON), DEPARTMENT OF ENGLISH, MASS COLLEGE OF LIBERAL ARTS, NORTH Adams, MA 01247

WHITMAN’S FEMINISM

Walt Whitman sought not only to create a new poetry for a new world, but a new social order that would match the promise of “the greatest poem,” American democracy. Only through improving American society would a true democracy be realized. One barrier to true democracy that Whitman repeatedly addresses in his work is the limited status and role of women, both in matters of personal choice and as contributors to larger society. The honest, vital democracy would include the equally valuable contributions of women. Restraining feminine influence, by contrast, would compromise the very foundations of the American experiment. The inclusion of women in Whitman’s poetry, seen in his extensive use of sexual and birth imagery, combined with his use of personae culminate in a prophetic vision of the emergence of the new American citizen. “Leaves of Grass,” he wrote, “is essentially a woman’s book.” In their inclusion of “feminist” concerns, Whitman’s poems urge the reader, male and female to incorporate cross-gender characteristics in order to become more complete human beings. From this more balanced perspective, the new citizen would propel American democracy forward to realize its most ideal form.

Massachusetts Bay Community College

JUAN CARLOS CANIDO, ANOUCHA FAMCHON, CONSUELO FIGUEROA, MICHAELA HARMANOVA, PAMELA KIWARUKA, ANDREA MIKYNNOVA (CHARLES PHAIR), DEPARTMENT OF BUSINESS, MASSACHUSETTS BAY COMMUNITY COLLEGE, WELLESLEY HILLS, MA

HOW TO MANAGE PEOPLE FROM DIFFERENT CULTURES

Diversity... what is the first thing that comes to your mind, race, color, or gender? The reality is, diversity is more encompassing than most people believe. How can a leader manage with diversity? Think of how you are different from everyone else...this is your culture, your diversity. As a leader, you will be faced with a multitude of diverse people with whom you will be working. A leader (manager) has to have an understanding of how broad diversity is and how you can work with people with different cultures than your own. Furthermore, as a leader/manager you will be put into situations with varying degrees of comfort levels. How will you react? How will you prepare yourself? Much of what you need to know about working with diverse people can be obtained from educating yourself. This research takes into account different cultural perspective in order to interpret what managers should look for when they work with diverse people. This research will also help a manager to develop multicultural communication skills, which are essential to create a good working environment and achieve good job performance.

KEVIN LOWE, SHAUN BOTI, GREGORY DELUCA, RYAN DONOVAN, EUGENIA SACHEK, PARTHENA SALAMASIDIS (CHARLES PHAIR), DEPARTMENT OF BUSINESS, MASSACHUSETTS BAY COMMUNITY COLLEGE, WELLESLEY HILLS, MA

CULTURE AND ETHICS IN WORKFORCE MANAGEMENT

The intent of this research is to explore the connection between culture and ethics and the influence it has on the relationship between managers and employees in a business. Management sometimes changes the way they manage their employees based on their culture. So it is only natural to address the ethics of management that can sometimes be influenced by someone’s culture. Cultural diversity in business can affect the ethical decisions of management. How do you gain equality for all employees in a business? Are there different codes of ethics for employees and management? How do cultural differences affect the environment within the organization? In today’s society many businesses are becoming more culturally diverse, which require special attention. Managers and employees face different roles, together with the mix of cultures it can sometimes make these roles confusing. In order to run a successful business, management needs to establish a foundation of rules which guide all employees in making ethical decisions. Our research study examines these differences and suggests ways to avoid these types of workplace issues.
### MARKETING BRIDGE 11:00 - 12:00

**MARKETING TO A DIVERSE MARKET**

Marketing towards today's population is becoming increasingly difficult. The ethnic make up of America is changing constantly, along with societies values, beliefs, morals and needs. To recognize these changing values businesses must transform marketing tactics to satisfy these changes. This is vital for business's survival and prosperity on the battlefield of today's market. Failure to notice this demographic shift would be an economic disaster. The ability to understand your diverse consumer's wants, needs, and expectation has become one of the most important aspects of one's marketing strategy. Our research shows how important it is to target different diversities and the different forms of marketing per ethnic group. We will describe what marketing is and the different strategies needed to target each individual ethnicity. Satisfaction of ethnic products on market will be shown from the information collected in our survey. How new pockets of un-marketed or under-marketed items can be found, through surveys. Ethnic groups cannot be ignored in the marketplace; business must identify their needs, wants, and expectation through data analysis that can provide business with new sources for consumers to spend their money.

### ANTHROPOLOGY NEW ENGLAND 2:00 - 3:00

**THE NATIVE AMERICAN-VIKING PROJECT**

A growing body of evidence suggests that the Vikings reached North America long before Christopher Columbus did. The one authenticated Viking settlement in North America is L’Anse aux Meadows in Newfoundland. This settlement was established by Leif Eriksson around 982 A.D. and it is believed to have served as a base of operations for subsequent Viking voyages. Evidence suggests that Eriksson established several settlements somewhere between current-day Massachusetts and Newfoundland. The research that I am conducting utilizes forensic DNA methodologies to identify Scandinavian (e.g. Viking-specific) DNA “signatures sequences” among the Indian tribes of the St. Lawrence Seaway. Viking admixture into Indian populations could be discerned by comparing Y-chromosome haplotypes of Indians to Y-haplotypes of male Viking descendants or the Y-DNA from Viking remains. The major portion of the Y-chromosome never undergoes recombination and is passed from one generation to the next virtually unchanged. Viking Y-chromosomes introduced into the Indian population centuries ago would still persist in descendant Indian families where there has been an unbroken chain of males.

### MARINE ENGINEERING NEW ENGLAND 3:00 - 4:00

**EVALUATION OF ADHESIVES FOR UNDERWATER USE AND INVENTION OF AN APPLICATOR DEVICE**

Our mission was to test several marine adhesives to see if one would work at the bottom of the ocean. The requirements are: to cure in a reasonable time (minutes) and at a temperature near 3°C. The selected adhesive would assist the research submarine ALVIN in marking evolving geologic forms and to help in the study of the magnetic properties of the sea floor. The US Navy also has an interest in underwater technology related to adhesives. We used test fixtures of aluminum, mild carbon steel, stainless steel, and oak wood. We applied the various adhesives on a predetermined area of the fixtures and allowed them to cure in air, in refrigerated conditions, and in sea conditions hanging from our campus dock. This process gave us four variables: first, the mixing of epoxy in air; second, the mixing underwater; third, the application in air; fourth, the application underwater. Polymeric Systems epoxy product PSI-326 proved to be the best choice for deep submergence work. To apply it underwater, we developed and tested new devices. Two devices, an applicator using sponges, and another using “Baggies” with solution A and solution B, were constructed and tested.

### LITERATURE AV-1 3:45

**HAMLET: A VILLAGE UNTO HIMSELF**

In Shakespeare's “Hamlet” there can be seen to be a double entendre created by the name of the main character and the title of the play. Hamlet in the play is a person. The dictionary defines a hamlet as a small village. An examination of “Hamlet” from this perspective can aid in the understanding of this work of art. “Hamlet” is about a small group of people who live in the same area, the castle. Since some small groups or
families of people live within one large dwelling, they collectively could constitute a hamlet, or a small village. The word hamlet can also be used as a reference to the small village of people that lives inside each human being. This small village of people is made up of our different emotions, feelings, thoughts, reactions, and beliefs that create our character. Shakespeare's character Hamlet may through this interpretation be considered a small village unto himself. Splitting Hamlet, the man, into separate identities is not to be considered an indication of his madness but from a literary point of view can help us come to terms with the man in the play.

81  AFRICAN AMERICAN STUDIES  AV-3  1:45

FATMATA BRAIMA (DAVID LAFONTAINE), DEPARTMENT OF ENGLISH, MASSASOIT COMMUNITY COLLEGE, BROCKTON, MA 02402

PHILLIS WHEATLEY: A POET, A SLAVE, AND THE NATION'S FIRST AFRICAN AMERICAN WOMAN TO PUBLISH A BOOK
The life, times, and poetry of Phillis Wheatley, the nation's first African American woman to publish a book, will be examined in this presentation. Phillis Wheatley was an African slave who spent most of her life in Boston, Massachusetts. She suppressed her anger over the sub-human conditions slaves endured. The objective of this presentation is to talk about the life of Phillis Wheatley, to give some historical background on the general living conditions of slaves, explore some of Phillis Wheatley's literary works, and evaluate several critics' assessment of her position as an American literary figure. The works of several authors will be used to examine the life and works of Phillis Wheatley. Some of these sources include Charles Johnson's "Africans in America: America's Journey Through Slavery" and William H. Robinson's "Critical Essays on Phillis Wheatley". The following Wheatley poems will be interpreted: "On Being Brought from Africa to America", "To the Right Honourable William, Earl of Dartmouth, His Majesty's Principal Secretary of State for North America, &c", "To the University of Cambridge, in New England", and "On Imagination." In her writings, Phillis Wheatley hid behind a hideous mask and wrote poems which at face value were meant to please her white audience. However, through interpreting the deeper meanings of her poetry, one can catch a glance of the real Phillis Wheatley, a sensitive and very complex black young woman whose saddest and most genuine thoughts are buried deep within her, and who portrays a deceptive mask, a happy and grateful Phillis Wheatley.

82  ETHICS  ART GALLERY  11:00 - 12:00

ELIZABETH CASSIDY (ELIZABETH MARCONI), DEPARTMENT OF ENGLISH, MASSASOIT COMMUNITY COLLEGE, BROCKTON, MA 02402

HUMAN PLURIPOTENT STEM CELL RESEARCH: AN ETHICAL DILEMMA
Human pluripotent stem cell research has the potential to revolutionize healthcare. Research using human pluripotent stem cells is being done all over the world to find treatments and cures for many deadly and debilitating diseases. Researchers are finding that stem cells respond better to diseased or injured cells than to normal cells. However, since President Bush announced his decision on August 9th, 2001 to allow Federal funding for research using pluripotent stem cells derived from existing supernumerary in vitro fertilized embryos, the American public has been struggling with the moral issue of the destruction of an embryo for research. The ethical issues arise not from the research as such, but from the sources of the stem cells. There are currently three sources of human pluripotent stem cells: supernumerary in vitro fertilized embryos, tissue from aborted fetuses, and a process called somatic cell nuclear transfer, also known as therapeutic cloning. Each source of stem cells has its own ethical issue, as well as advocates and opponents. The ethical questions that are raised are: is it ethical to destroy an embryo for research? Is it ethical to create an embryo for research? Also, are women being encouraged to have abortions so the fetal tissue can be used for research? This poster presentation will explain the basic embryological terminology and the history of the technology involved in stem cell research. Current guidelines regulating the acquisition and use of embryonic and fetal stem cells will also be presented.

83  FAMILY STUDIES  AV-3  10:15

BRANDON DUFRESNE (RICHARD VAN DYKE), DEPARTMENT OF ENGLISH, MASSASOIT COMMUNITY COLLEGE, BROCKTON, MA 02402

FOOD AND THE BREAKDOWN OF AMERICAN FAMILY TRADITIONS
This kinaesthetic presentation is the product of field research into a box of family recipes belonging to the researcher’s great-great-grandmother in the Poupolo family. The research is focused on interviews and analysis of members of four generations of this family, concentrating on the social and economic changes that altered and modernized ingredients and methods of food preparation. This research has led to speculation on the reasons why members of the Poupolo family have changed their recipes from one generation to the next and theorizing concerning the impact of the loss of the original recipes on the extended family. These changes may indicate a general trend in the devolution of the American extended family. The presentation examines one social connection, food, as an element of this devolution. If this box of recipes belonging to the researcher’s great-great grandmother had not been found, it would have been the death of food preparation traditions that have lasted since the beginning of the family here in America. Sharing some of the Poupolo family’s traditional foods with the audience is an attempt to provide a reason for recovering endangered family traditions against the regularizing forces at work in modern America.
This presentation will examine the strength, intelligence, and great hope of one woman born before her time. Zora Neale Hurston shows us that only after we set aside racial division and gender inequality can real freedom be enjoyed. After years of writing stories and plays and collecting African-American folklore, Hurston finally discovered that the way to true happiness required that she not deny her racial and gender identity, but revel in it and let herself evolve. In her most well-known novel “Their Eyes Were Watching God”, the changes in Hurston's character Janie can be compared to the metamorphosis of a butterfly. Janie changes from a caterpillar through a cocoon stage into a more liberated and fuller being. This presentation will work through Hurston's early representation of insurmountable race and gender boundaries as a context for recognizing the magnitude of her achievement of liberty in “Their Eyes Were Watching God”. For Hurston, the long history of her writing and scholarship forms a sort of cocoon stage awaiting the emergence of the beautiful and free butterfly.

These original poems represent the struggles of working people in New England. The poetry comes from the perspective of living in the remains of an old mill town as it changes, the old waves of immigrants reacting to the new waves arriving, and working people's struggle to survive on meagre wages while maintaining some personal dignity. The poems reflect this contemporary struggle while celebrating and cherishing the humanity of people such as the grandmother who will not be cheated, the peeler of grapefruit in the factory, and the black man who never wanted to be white. The poems portray the reality of what it is like to be working class, an immigrant, and from a racially mixed background while living in an old New England town. Through drawing upon autobiographical experiences and the lives of family members and co-workers, the poet calls attention to the disparities between the haves and the have nots.

Jonathan Swift's alternate written use of both satire and brutal honesty to express his political opinion was unparalleled during the time in which he lived. In the eighteenth century, the Irish felt betrayed and abused by the English who ruled over them. Swift, an Irishman who had lived in both countries, shared this feeling that the English rule was tyrannical and abusive of the rights of the people of Ireland. In writings such as “A Modest Proposal” and “A Short View of the State of Ireland,” Swift tries to bring this point to light. Swift was regarded as a voice of Ireland's growing agitation with English rule, and as such he became an important figure in the promotion of reform in Ireland. As time passed in his life, Swift's political, social, and literary opinions developed, and his writing reflected this change. This presentation will provide a description of the historical suffering and poor living conditions of the Irish wrought upon them by England's rule, as well as Swift's role in making such a lack of respect for human rights known to people beyond Ireland itself.

This presentation aims to provide an analysis of the social elements and community role of Haitian voodoo. Haitian voodoo is often seen as purely a cultural element, or viewed by many western people as a religion devoted to evils. However, voodoo is practiced by about eighty percent of the Haitian population and plays a predominant role in Haitian life in the areas of medicine, education, recreation, and resolving community conflicts. This presentation will give a brief historical overview of the origins of Haitian voodoo, from its beginning when it was brought from Africa until the present day. In Haitian life today the importance of voodoo is underestimated by the government. Voodoo is most integrated into poor regions of the country, and it helps to bring solutions to social problems such as a lack of schools and inadequate medical care. In her book “The Legend of the Loas”, the Haitian writer Mercedes Foucard Guignard uses the words of one of the spirits of Haitian voodoo or “loas” to highlight the role of voodoo practices for medical purposes. The voodoo priests or “houngans” use the virtues of plants to cure some diseases. The “lakous” and the “hounfors” are places where voodoo ceremonies are held, and where people learn how to read, write, and understand some daily problems in their environment. The patriarch of the “lakou” is a respectable personage who usually plays the role of judge to resolve conflicts between individuals. This presentation will suggest a new vision of the way Haitian voodoo can be effectively used to resolve many pressing problems faced by the people of Haiti.
This presentation will examine the writing of selected late nineteenth century and early twentieth century Irish-American women as they rose to positions of prominence in our society. Over time, Irish immigrant women gained a new degree of freedom in their lives and were able to liberate their minds to explore the possibilities of fulfillment through significant contributions to the arts, education, science, and the labor movement. Analysis of Irish-American women authors will reveal that they wrote of the emotions and experiences in their lives. As women who emigrated from Ireland to America, they brought with them the strength of their Irish Catholic background, as well as the pain that their culture’s strictures imposed on women. Because Irish women left Ireland on their own, often without husbands, in order to escape the Great Famine’s inevitable poverty and death, they learned to be self-sufficient in America. While they worked to establish new lives in America, they heard the cry for suffrage and greater civil liberties for women. In the anthology “Motherland: Writings by Irish American Women about Mothers and Daughters”, edited by Irish-American author Caledonia Kearns, women write of what bonds them to their mothers and to the customs of Ireland. A discussion of the lives of these women reveals how they parted from their Irish maternal influences to become Irish-American women who opted for fuller participation in America’s promise to all its citizens.

In Kate Chopin’s stories “Desiree’s Baby” and “The Storm” she expresses her condemnation of the oppression of women. In the 19th century, when these two stories were written, women’s lives were trite and powerless because of the constraints of society. Chopin shares with us the depths of women who are socially, emotionally, and physically repressed in this historical generation. Chopin’s feminist themes in her fiction may be compared with the advocacy of strong-willed women such as Elizabeth Cady Stanton and Susan B. Anthony. Through the pioneering leadership of the Women’s Suffrage Movement and the fiction of Kate Chopin, women were awakened and challenged their subordinate roles in society. Using diverse and complimentary strategies, Chopin, Stanton, and Anthony were determined to change the lives of women in America from selflessness, self-sacrifice, and submission to ones of self-worth, independence, and assertion. The presentation will combine literary analysis with historical and biographical research regarding the women’s movement of the 19th century and its leading voices. Sources include “Kate Chopin” written by Emily Toth and “In Her Own Right: The Life of Elizabeth Cady Stanton” written by Elisabeth Griffith.

In the Portuguese-speaking world, saudade is the emotion, often associated with the pain of emigration, which recognizes that for everything gained, something is lost. This presentation draws parallels between the 1908-1910 demise of the royal Braganza family in Portugal and the immigration experiences of my maternal grandparents, the Rocha family, originally servants to the Braganzas and later United States immigrants. Discussion of the Braganzas will focus on what happened to Queen Amelie’s belief in the moral obligation of divine right royals to provide for its peoples. The question is raised: how did republicanism give way to the repressive government of Salazar, which dismantled social programs in the name of national fiscal solvency. Discussion of my grandparents focuses on my grandmother’s adoption of royalist attitudes to social programs. Convinced that freedom was tied to land ownership and community, my grandparents bought a southern style antebellum house, worked the land, and boarded peoples from all social classes in America. Unfortunately, escalating costs and the intrusion of corporate conglomerates forced my family to trade in their landed homesteads for condominium living. This presentation concludes that while republicanism in Portugal and the United States may have worked to dismantle social hierarchies, neither necessarily managed to retain a sense of community pride in social programs for the less fortunate or to maintain a close contact with the land, both ideas central to Royalist ideologies.

This presentation will discuss the basic principles of genetic engineering and will examine its uses, dangers, and whether or not the benefits are worth the risks. Genetic engineering expands the application of Biotechnology almost infinitely through the direct manipulation of DNA in an organism to achieve a desired effect. Potentially beneficial applications in the area of disease treatment include the alteration of DNA in bacteria to produce more powerful versions of naturally occurring antibiotics, the use of recombinant viruses in the fight against cancer and neurological degenerative diseases, and the development of new vaccines for AIDS. A discussion of the controversy surrounding genetically modified foods will...
explore the claims of organizations in opposition to this technology, the need for objective testing and measures, and the potential for the reduction of world hunger. Research included in the presentation will be culled from professional sources such as the Journal of the American Medical Association (JAMA) and the website of the National Institute of Health. Recognition of the potential of genetic engineering to alleviate human suffering and enhance living conditions should be tempered with a comprehensive system monitoring and overseeing progress in this rapidly expanding field.

### INTERNATIONAL STUDIES

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**RICHNESS IN POVERTY: DISCOVERING A RELATIONSHIP BETWEEN CULTURE AND EXPERIENCE IN CAPE VERDE**

This multimedia presentation addresses how difficult circumstances in the lives of Cape Verdians inform, but do not extinguish the Cape Verdean spirit. Beginning with a pictorial discussion of the location and history of Cape Verde, this presentation describes the poverty of these islands as well as the people’s struggles for survival. These background details provide a context for looking more deeply into the culture that emerges both out of and despite material scarcity. Poetry and music will serve as the vehicles for discovering the essence of an unquenchable Cape Verdean spirit. The poetry reveals that despite the hardships and the endurance of colonization and slave ships, the unity of the people remains. The Cape Verdean spirit is best revealed through the unique Cape Verdean musical form of the “morna”, which combines profound sadness with celebration of life itself. Ultimately, study of Cape Verdean culture provides a model for how to live life as a dance, overcoming the daily obstacles that stress people’s lives.

### ENGLISH LITERATURE

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**A VENTURE TO A WORLD UNCHARTED: HAWTHORNE’S THOUGHTS ON NEW LOVE AND INTIMATE RELATIONSHIPS**

This presentation explores Nathaniel Hawthorne’s personal life experiences with love and romance in order to discover the doppelgangers of himself dwelling within his tales. Hawthorne’s life in the mid-1830’s was one of seclusion, and his universe of love was quite a lonely, starless one where the stories “Young Goodman Brown” and “The May-Pole of Merry Mount” were written. Hawthorne’s own nervousness and fears about love and relationships with women are mirrored within the personalities of his lost lovers, particularly the male characters Young Goodman Brown and Edgar. New love’s unacquainted mysteries tend to leave young lovers lost in a pitch-black universe of uncomfortable feelings and star-crossed entanglement. The biography “Nathaniel Hawthorne in His Times” by James R. Mellow divulges the author’s psychological conflicts at the time when he composed many of his greatest and darkest short stories, in the writing era before his eventual marriage. Hawthorne voraciously opposed Puritanical ways of thought. However, as a young man in his thirties he was nevertheless plagued with repression and fears about potential sexual relationships.

### ART & GRAPHIC DESIGN

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**PORTRAIT OF THE ARTIST AS A CHINESE PRINCESS**

The drawing selected for the poster exhibition is a life size self-portrait that was completed as a final project in Drawing II. The assignment was for students to portray themselves in a particular historical period of the past or the future. The artist chose to portray herself as a Chinese Princess of the Ching Dynasty, dating back two hundred years. The portrait features a highly patterned dress of silk with elaborately hand-embroidered designs on the neck band and sleeve cuffs. The square shaped headdress is decorated with flowers, jewels, and tassels that hold important meaning. For example, the length of the tassels indicates the rank of the noblewoman as first, second, or third princess. Although the colors of the costume would most likely be bright yellows, oranges, or blues, the contrast of black and white in charcoal is effective in showing off the many interesting textures and patterns of the costume. The portrait captures the noble dignity and unique character of the First Princess in the Ching Dynasty.
THE EFFECTS OF READING ALOUD ON CHILDREN’S SCHOOL PERFORMANCE

Reading fiction aloud to children has the potential to stimulate their appreciation of learning and engage their interest in a variety of educational pursuits. This presentation will explore the value of fiction as a vehicle to generate children’s involvement in new concepts or cultures in a non-threatening, easily understood avenue of delivery. The effects of reading fiction aloud will be examined through describing a project involving four school-aged children. The children range in age from six to fourteen, and in grade levels from kindergarten to seventh grade. The read aloud sessions which will be analyzed include individual readings and readings as a group. The reading material will vary by age group and will be chosen from the readings recommended in Jim Trelease’s “Read Aloud Handbook”. The project affords an opportunity to implement and begin to evaluate Trelease’s learning and developmental theories. According to Trelease, children of all ages and at all stages of academic development derive great benefit and observable improvement in all school disciplines when a parent reads aloud to them on a regular basis.

ON THEME AND SYMBOLISM IN “MY LIFE WITH THE WAVE” BY OCTAVIO PAZ

In the short story “My Life with the Wave”, Octavio Paz, winner of the Nobel Prize and a representative of Mexico’s culture and literature, poetically describes an unusual affair between a man and an ocean wave. The wave is a metaphor for a woman deeply in love. Images depicting love, passion, surprise, and the warmth of summer arouse feelings of happiness and vivacity, while contrasting with the bleak life of the narrator before he encounters the wave. But these images are replaced with ones describing jealousy, fear, smothering, and hate as the relationship deteriorates. In “My Life with the Wave,” the thematic concept of life and death runs parallel with the tumultuous affair between the man and the wave/woman, showing a stream of symbolism and Paz’s use of magical realism, a literary style in which the ordinary and the extraordinary combine, as the author creates magical essences in a reality based world.

ENHANCING THE DEVELOPMENT OF A LEARNING DELAYED CHILD THROUGH CHILDREN’S LITERATURE

Children’s literature can be a primary tool in fostering a child’s success, not only in academic development and in acquisition of language skills, but also growth in all learning areas. Literature can help a child develop positively through Erik Erikson’s first five psychosocial developmental stages. This presentation will detail the progress of a five-year-old boy, Matthew, who has been diagnosed with Sensory Integration Dysfunction, a condition which inhibits his attention span. Easily distracted and overly sensitive to a light touch, Matthew requires a longer than normal processing time to respond to activities. A change in Matthew’s learning will be looked for as a result of a daily diet of a fifteen-minute read aloud. This presentation will feature Matthew’s reading log, reference books that support Erikson’s developmental stages, and the book that prompted this study, Jim Trelease’s “Read Aloud Handbook.” Rather than using traditional behavior modification techniques, this presentation will use children’s literature as a tool to enhance the development of a learning delayed child.

A SUITE OF PRINTS INSPIRED BY THE CITY OF PRAGUE IN THE CZECH REPUBLIC

This suite of four relief prints was inspired by a recent trip to the city of Prague in the Czech Republic. Four city scenes are depicted in color: the Tynsky Chram Cathedral, the River Vlatava, a busy street scene during the day, and a view of Prague at night. Each image is framed by an arched gothic window from Castle Bezdez, an ancient and famous stone castle in the Czech landscape. Two relief mediums are used: linocut and woodcut. Each city scene is framed by a highly textured, simply embossed window matrix, which serves to unify the series. Each color image is executed in the white line woodcut style also known as the Provincetown Print. A recent show of the prints of Blanche Lazelle, a prominent Provincetown artist and teacher, served as the inspiration for the selection of this woodcut method.
Robert Earl Hayden was the first poet of African-American descent to be selected as Consultant on Poetry to the Library of Congress (1976-78), ARS LONGA, VITA BREVIS: A STUDY OF THE LIFE OF ROBERT EARL HAYDEN

This presentation is a discussion of the spiritual, social, medical, and ethical dilemmas surrounding the issues of dying in America today. The range of patients involved in the ethical dilemma includes patients who demand complete autonomy in making decisions on how and when to die, even retaining the right to cause death in some cases, and patients who would let the medical community make all the difficult decisions, relinquishing self-control to the “experts.” Often in opposition to autonomous decisions by health care consumers are members of the medical community, who are committed to healing, and those of a spiritual community who impose guilt on questionable practices. These medical dilemmas are mediated by a court system that is strangling in “red tape.” How can our society best serve everyone involved, assuring personal freedoms while preserving public sensibilities? Rather than allowing procrastination, we need to design a structured program that requires each adult citizen to make advance directives. Included is a discussion of the devastating consequences a family suffers in the absence of such directives. The patient risks losing any control he or she may have had over his or her existence. Tempers flare as the medical community squares off against the legal community. Wesley J. Smith, an attorney for the Anti-Euthanasia Task Force, publishes his organization’s views in his book, “Culture of Death: The Assault on Medical Ethics in America.” His views are convincingly countered by Dr. George D. Lundberg, the author of “Severed Trust: Why American Medicine Hasn’t Been Fixed.” Ultimately, the way to a happy ending will be paved with information, introspection, communication, and cooperation.

This poster presentation comprises art that reflects a love of Native American culture and the American West. The variety of media features five pieces of artwork: two paintings, one piece of beadwork, and two etchings. The first painting, “Churchyard”, was done with gouache. The artist attempts to capture the desert colors and solitude of a quaint New Mexican church. The second painting, “Pottery”, is a still life of Hopi and Zuni pottery with an eagle feather, which again recreates the earthy colors and textures of the southwest. The beadwork represents another art form, and is approximately three inches across and circular in shape, consisting of a multi-colored beaded pattern made with size thirteen cut beads. The two Hopi kachina etchings (front and back view) portray one of the many carved Hopi sacred spirits. Museums, powwows, and library research provided inspiration for these designs and artwork, expressing the artist’s emotional and cultural ties to the West and its people.
labeled a “black poet” would separate and degrade the standards of good literature, the Black Aesthetic movement in the 1960’s ostracized him for not supporting his race. His acceptance of the Bahá’í Faith was viewed as turning away from his religious as well as his cultural roots. Ironically, Hayden was awarded the Grand Prize of Poetry and Poet Laureate position in Senegal for his expression of African culture, rhythm and ideals. In addition, he was invited to read his poetry to President Carter, Vice President Mondale and their wives at the White House.

104 DIAGNOSTIC MED. NEW ENGLAND 3:00 - 4:00
SONOGRAPHY

DEBORAH THOMAS (THOMAS WALSH), DEPARTMENT OF HEALTH CAREERS, MIDDLESEX COMMUNITY COLLEGE, BEDFORD, MA 01730

PARALYSIS AND THE PREVENTION OF DEEP VEIN THROMBOSIS.
Deep vein thrombosis may be located in the upper and/or lower extremities. Pulmonary embolism is a potentially lethal complication of acute deep vein thrombosis, therefore, it is a process which needs to be avoided. Because immobility is seen as one of the greatest risk factors for deep vein thrombosis a paraplegic must take precautions to prevent it from occurring. So what are the contributing factors and what can be done to prevent this deadly process? Knowledge alone about vascular disease is not enough. Motivation is needed to provide the action necessary to prevent an occurrence of deep vein thrombosis.

Mount Wachusett Community College

105 HISTORY NEW ENGLAND 2:00 - 3:00

JESSICA BOUDREA, CARRIE-ANNE HALE, ERICA COTE, KARLA SUND (TOM MALLOY, ELENA NATALIZIA), DEPARTMENT OF HISTORY, MOUNT WACHUSETT COMMUNITY COLLEGE, GARDNER, MA 01440

FRANCO-AMERICANS IN NORTHERN WORCESTER COUNTY, MASSACHUSETTS
This presentation intends to examine the contributions of the French Canadian population in four communities of Northern Worcester County, Massachusetts and thus demonstrate both the historical and contemporary influences that this ethnic group has brought to the diversity of that region. Through the use of site visitations, interviews, archival research, and secondary sources, the project will seek to explain the causes of emigration, careers pursued, intergenerational social mobility, and cultural contributions of French Canadians in Athol, Gardner, Fitchburg, and Leominster.

106 HISTORY NEW ENGLAND 2:00 - 3:00

JONATHAN CORBETT, DIANNA DECAROLIS, ERIK JOHNSON, SAM SPOFFORD, TIFFANY TESTAGROSSA (TOM MALLOY, ELENA NATALIZIA), DEPARTMENT OF HISTORY, MOUNT WACHUSETT COMMUNITY COLLEGE, GARDNER, MA 01440

NATIVE AMERICANS IN MASSACHUSETTS
Native Americans have a rich history as well as a physical presence in the state of Massachusetts. The historical tradition of the state’s Native Americans is generally well known. However, the current situation and the contemporary challenges of these people are not fully realized. Today, there is one federally recognized tribe of Wampanoags at Aquinnah on Martha’s Vineyard, who are also known as the Gay Head Wampanoag. Federal recognition is pending for two tribes, the Wampanoags of Mashpee on Cape Cod and the Nipmucks of Central Massachusetts. Through the use of site visitations, interviews, secondary, and primary resources, this poster presentation will demonstrate the social, political, and cultural structures of these tribes and the problems they face in maintaining their ethnic identity.

107 HISTORY BRIDGE 2:00 - 3:00

SUZANNE LAYTON, CHRISTOPHER BRACKETT, NICOLE CARVILLE, NICOLE LEWIS (TOM MALLOY, ELENA NATALIZIA), DEPARTMENT OF HISTORY, MOUNT WACHUSETT COMMUNITY COLLEGE, GARDNER, MA 01440

IRISH INFLUENCE IN CENTRAL MASSACHUSETTS
During the 1840’s, Irish immigrants began to form ethnic enclaves throughout the eastern United States. As in other areas of the eastern seaboard, Irish immigration had a significant influence on towns of Central Massachusetts. The introduction of their culture to the municipalities of Fitchburg, Worcester, Gardner, and Clinton impacted the politics, economics, and religion of these communities. Through primary and secondary sources, site visitations, and oral history this project will demonstrate the many ways in which Irish immigration has influenced the cultural development of Central Massachusetts.

108 HISTORY NEW ENGLAND 2:00 - 3:00

MEAGAN MURRAY, LORI ASHFORD, ANN-MARIE AIESI (TOM MALLOY, ELENA NATALIZIA), DEPARTMENT OF HISTORY, MOUNT WACHUSETT COMMUNITY COLLEGE, GARDNER, MA 01440

ITALIANS IN NORTH CENTRAL MASSACHUSETTS
During the late nineteenth and early twentieth centuries, a large wave of immigrants arrived in the United States from southern and eastern
Europe. Many of these immigrants were Italians who settled primarily into the cities of the eastern seaboard, including many of the metropolitan areas of Massachusetts. To examine this phenomenon, the Italian-American enclaves of three cities in North Central Massachusetts, Fitchburg, Leominster, and Worcester, will be studied. The research will be conducted through the use of primary and secondary sources, site visitations, and interviews in order to demonstrate the social, political, economic, and religious aspects of these enclaves.

**Northern Essex Community College**

**109**  
**BUSINESS/MARKETING**  
**NEW ENGLAND**  
11:00 - 12:00

**RENAY MCMANUS**, (GINGER PROIETTI), DEPARTMENT OF COMPUTER, NORTHERN ESSEX COMMUNITY COLLEGE, HAVERHILL, MA 01830

**CREATION OF THE HONORS EXPERIENCE WEBSITE WEB DESIGN**
Creation of the Northern Essex Honors Experience Website Renay McManus (Kathy Proietti) Computer Technology Department, Northern Essex Community College, 100 Elliott Way, Haverhill, Ma, 01830 This informational website was created to publicize and therefore expand and enhance the Honors Experience program at Northern Essex Community College. The main objectives are to inform potential new members about the Honors program, offer an online application, and provide guidance and tips to current Honor students. The site is accessed directly from the Northern Essex Homepage under the “Academics” link. The pre-established visual style of the Honors Experience program’s printed material is maintained on the site. External links are provided to access broad-based knowledge of the criteria of other Honors programs. A secondary objective was to create a stronger sense of community within the Honors program. Photos of students taken at various Honors events lend a socially dynamic feel to the site. The Honors Experience website went live on February 1, 2002. Its link on the homepage of the Northern Essex website boosts the college's academic reputation as well as enhancing credibility of its fledgling Honors Experience program. Goals of the website are to expand enrollment in the program and to achieve a higher ratio of students who complete all requirements of the program.

**110**  
**MATHEMATICS & STATISTICS**  
**NEW ENGLAND**  
3:00 - 4:00

**MARIA RIOS-MOYA, STEPHEN GAUNT (PAULETTE AND JIM REDMOND AND BROWN), DEPARTMENT OF MATHEMATICS & STATISTICS, NORTHERN ESSEX COMMUNITY COLLEGE, HAVERHILL, MA 01830**

**CALCULUS APPLICATIONS: MAXIMUM SUSTAINABLE HARVEST AND INCOME ELASTICITIES**
Calculus techniques can be used in a variety of situations, as exemplified in the two applications described here. The first application explores the overgrowth of the deer population and the need for human management. The second application provides an example of Income Elasticity of Demand—responsiveness of the quantity demanded to a change in income. Application (1) was conducted to determine the mathematical functions that can define the number of deer that can be harvested to keep a stable deer population. Mathematical functions were used to study the population change, initially in the theoretical situation of unlimited growth from unlimited resources, and subsequently with the presence of factors that set limits. The deer population has been stable in Massachusetts for several decades, at 85,000; 9,600 were harvested in 1999. This equals the natural yearly growth of the population. Well-planned harvest is needed. In application (2), statistics were gathered primarily from the US Census Bureau and fed through a custom application to calculate the Income Elasticities of Computers in the US over several time periods. By graphing the basic elasticities provided by the application and determining the least squares regression equation for these points, one may then use the application of the derivative to obtain an approximate value at any given income range. Computer ownership has grown dramatically in the US over the years analyzed in this study. It was also noticed fewer Americans still consider a computer a luxury item.

**111**  
**VISUAL ARTS**  
**ART GALLERY**  
2:00 - 3:00

**DENA SMULSKI** (TERRY CARGAN), DEPARTMENT OF ART HISTORY, NORTHERN ESSEX COMMUNITY COLLEGE, HAVERHILL, MA 01830

**CELTIC ILLUMINATED ALPHABET**
The Celtic culture has a fascinating and mystical background. This project is an attempt to portray a few of the many traditional aspects of the Celts, such as the people, places, legends, or the many historical and sentimentally valuable events within their lives. An illuminated alphabet was created where each letter represents particular facets of Celtic tradition and philosophy. Each letter is presented on a tile; most are rendered in ink,
although other materials are also used. Each illustration portrays the Celts’ love for complex artwork, and an appreciation for women and their cultural influences as Goddesses, as well as the Celts’ brutal nature as seen through wars, battles, and headhunting. These alphabetic representations not only symbolize their cultural history, but also the ideology of the many legends that have been passed down for centuries. These legends are narrated through the artistic composition of each individual letter of the illuminated alphabet.

Salem State College

**ACCOUNTING**  
**NEW ENGLAND**  
11:00 - 12:00

**REBECCA BROWN**(JOHN LANNAN), DEPARTMENT OF ACCOUNTING, SALEM STATE COLLEGE, SALEM, MA 01970

**TAX SEASON RELIEF**
This presentation reports on a community-service project involving the experiences of an accounting student who volunteered for two tax seasons assisting low-income residents of Lynn and Swampscott, Massachusetts, through the Volunteer Income Tax Assistance (VITA) Program, a program established by Congress and implemented across the nation to provide tax help for the disadvantaged and elderly. Those who take advantage of this program receive free help in completing their tax forms. At Salem State College approximately ten student volunteers participate in the program each year. Through volunteering, the students gain knowledge of the tax return process in addition to the satisfaction that comes with helping others.

**NURSING**  
**ART GALLERY**  
11:00 - 12:00

**JEANETTE CERULLO**, ALICIA PALLADINO (CHARLENE CAMPBELL), DEPARTMENT OF NURSING, SALEM STATE COLLEGE, SALEM, MA 01970

**RESPIRATORY INFECTIONS IN CHILDREN: TRANSMISSION AND PREVENTION**
Respiratory infections are the leading cause of illness in people, especially in young children because of a weaker immune system and lack of health-promoting knowledge. Four to eight colds a year could be prevented with some positive health behaviors. The purpose of this paper is to examine the knowledge, attitude, and behavior of kindergarteners related to the spread and prevention of respiratory infections. An open-ended questionnaire and group interviews are used to evaluate the responses of the thirty-five children selected at random from kindergarteners in Stoneham Public Schools. The information gathered will be used to assess the educational needs of the children and will later be used to develop a teaching plan. These results are important to the school nurse, teachers, classmates, children, and their families, allowing for a healthier environment for everyone.

**BIOLOGY**  
**NEW ENGLAND**  
10:00 - 11:00

**RACHEL CIFUNI**(JOSEPH BUTTNER), DEPARTMENT OF BIOLOGY, SALEM STATE COLLEGE, SALEM, MA 01970

**POLYCULTURE OF STRIPED BASS (MORONE SAXATILIS) AND SUMMER FLOUNDER (PARALICHTHYS DENTATUS)**
Striped bass (n = 180; avg. wt. = 1.7g) and summer flounder (n = 198; avg. wt. = 98.0g) were placed in a recirculating system that consisted of two aerated 1900 L tanks with shared particulate and biological filters. Thirty striped bass were stocked into each of six floating, 3-6 mm mesh cages, three floated in each tank. Flounder were released and remained free-swimming throughout the study in each tank. Survival and growth of both species and the impact of handling on the striped bass was monitored. Handling involved weighing bass in two cages weekly, two cages monthly and two cages at the start/end of the four-month study, July-November 2001. Water quality was monitored three times a week: pH, temperature, alkalinity, salinity, nitrite, nitrate, ammonia and dissolved oxygen. Water quality was maintained at levels requisite for good fish survival and growth of fish. Striped bass (94% survival; 929% weight gain) and summer flounder (91% survival; 249% weight gain) grew and survived well. Bass growth was correlated with handling, as frequency of handling increased fish growth decreased (weekly = 775%, monthly = 958% and start/end = 1142%). Data indicate that polyculture of striped bass and summer flounder with minimal handling is a potentially viable option.

**DANCE**  
**ART GALLERY**  
2:00 - 3:00

**ALAINA DANIELS**(CAITLIN CORBETT), DEPARTMENT OF SPORTS FITNESS AND LEISURE, SALEM STATE COLLEGE, SALEM, MA 01970

“A JOURNEY INTO THE CHOREOGRAPHIC PROCESS”
This project examines the art of dance and the process of choreography. To experience the choreographic process first hand, I choreographed two dances: one on my own and one in collaboration with another choreographer. I was not influenced by one particular style or methodology, but rather drew collectively on all of my dance experiences to create these pieces. Both pieces were hip-hop dances, running approximately three and
a half minutes each. The piece I choreographed myself used thirteen dancers; the collaborative piece used four pairs of male and female dancers. A journal was kept to keep track of every aspect of the creative process, including auditions, rehearsals, choreography, and the recital. Considered at length are such topics as form, content, and interaction with the dancers. Both pieces were taught to a group of Salem State College students and performed in the Fall 2001 Repertory Dance Theater production. A videotape of the performance accompanies this presentation.

116 MANAGEMENT BRIDGE 11:00 - 12:00

THADEUS DAVIS (LITTLE LILLIAN), DEPARTMENT OF MANAGEMENT, SALEM STATE COLLEGE, SALEM, MA 01970

THE IMPLEMENTATION OF THE TOYOTA PRODUCTION SYSTEM IN THE U.S

The success of the Toyota Motor Corporation has been attributed largely to the company's unique production system, now known as the Toyota Production System. Despite the development of TPS in the different cultural, political and legal environment of Japan, the system has gained widespread recognition in America and is being adopted by production companies operating on American soil. This project investigates perceived and actual barriers to complete implementation, and the results of both full and partial execution within the United States. The findings of this study are based on information from personal interviews and a review of literature on the subject. These results will be useful to manufacturers operating on American soil due to an increasing competitive environment.

117 ACCOUNTING BRIDGE 11:00 - 12:00

DENA DOMEY (ROD KESSLER), DEPARTMENT OF HONORS DIRECTOR, SALEM STATE COLLEGE, SALEM, MA 01970

ACCOUNTING SOFTWARE FOR SMALL BUSINESSES; BEYOND THE DEBITS AND CREDITS

Accounting Software for Small Businesses: Beyond the Debits and Credits Retaining professional bookkeepers and accountants is an expense that many small businesses cannot afford. Small business owners can now turn to the many recently available do-it-yourself-accounting software programs such as QuickBooks, Peachtree Complete, WinFiler and One-Write Plus. Are such programs equally good or equally appropriate for the wide range of small businesses? This project is a study of these programs in terms of their costs, user friendliness, advantages and disadvantages. It presents an easy-to-read guide designed to assist the small business owner. The guide features a breakdown of each software program, and gives advice on incorporating accounting software to fit one's small business, including selecting the right software for the type of business (service, manufacturing, retailing or nonprofit). The user will find suggestions on how to establish a chart of accounts, track cash, as well as understand the payable and receivable functions of these programs. The guide also features a comparison of two actual small businesses and the development of their accounting systems.

118 MULTIMEDIA ART GALLERY 2:00-3:00

BRIGITTE FRANK (LYNN MARGULIS), DEPARTMENT OF GEOLOGICAL SCIENCE, UMASS AMHERST, SALEM, MA 01970

USING DESIGN AND INTERACTION TO INCREASE SALES

This project consists of the design of an interactive demonstration program and its testing as a sales tool on an end-cap in a major chain computer retail outlet. This kiosk, or display, will help customers determine which digital imaging product best fits their needs by presenting questions and having the customer input an answer. The project includes the design of the multimedia interface, cd label and cd case while staying within the brand's design guidelines. To track the impact of the end-cap, sales of the products featured will be recorded prior to and after the end-cap is displayed. A questionnaire will be posted next to the display inviting users to give feedback. Twenty random entries will be drawn for prizes including t-shirts, hats and gift certificates, which should entice more customers to participate in the survey.

119 NURSING ART GALLERY 11:00 - 12:00

ERIN HAGEMEISTER, JENNIFER SOOD (CHARLENE CAMPBELL), DEPARTMENT OF NURSING, SALEM STATE COLLEGE, SALEM, MA 01970

NURSING AND HEALTHY SCHOOLS: TESTING THE VILLAGE MODEL.

The alarming rise in dual income households and single-parent families has increased interest in the health needs of school-aged children. The responsibility of keeping America's children healthy frequently falls on the education system—more specifically, school nurses. While conducting research, we examined differences in the practices of school nurses in relation to maintaining the overall health of the students. Our research compares health statistics in two Lynn, Massachusetts, elementary schools, one a traditional school, the other making use of the innovative “Village Model.” This particular school utilizes involvement of parents, teachers and students in such areas as nutrition, hygiene and safety. Our data, including reasons for ER visits, injuries on campus, medication patterns and multi-disciplinary collaboration, are taken from student health records from 1997-2001. Our purpose was to determine whether special programs make a positive difference in children's health outcomes.

120 CROSS-CULTURAL STUDY NEW ENGLAND 2:00 - 3:00

KATERINA KAHOVCIOVA (ROD KESSLER), DEPARTMENT OF ENGLISH, SALEM STATE COLLEGE, SALEM, MA 01970

COMPARISON OF CZECH AND AMERICAN NORMS/VALUES IN AREAS RELATED TO THE UPBRINGING OF CHILDREN

A comparison of two cultures, Czech communist society and contemporary America, in regard to important areas of rearing children is the focus of this poster presentation. Such areas of concern as religion, alcohol use/smoking, attitude to sex/nudity, school ethics, physical punishment and the
influence of television are shown and explained in the contexts of their cultural and historical settings. In addition to first-hand observations in both cultures, resources used include Czech psychological studies as well as the reports of the American Association of Pediatrics. The purpose of the presentation is to increase awareness of the impact of culture, to highlight deep cultural differences even within Western civilization within a relatively short timeframe, and to promote tolerance between groups that think and act differently.

**121 CHEMISTRY BRIDGE 10:00-11:00**

**APRIL KAYE (TODD WIMPHEIMER), DEPARTMENT OF CHEMISTRY, SALEM STATE COLLEGE, SALEM, MA 01970**

**DETERMINATION OF AMMONIA LEVELS IN BOSTON HARBOR**

An ammonia monitoring study was performed on the Winthrop coast of Boston Harbor. This study was performed in the months of October and November 2001. The samples were analyzed through the use of a Spectrophotometric method. The results of this study indicate that the ammonia levels in the Winthrop area are within acceptable parameters. Ammonia levels can serve as an indicator of pollution levels; specifically, pollution that comes from the disposal of human waste into marine environments. The fact that these levels are normal shows that the Deer Island Treatment Facility is doing its job in decreasing ammonia levels.

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**122 CHEMISTRY BRIDGE 10:00-11:00**

**ANDREW LATHAM (CHRISTINE MACTAYLOR), DEPARTMENT OF CHEMISTRY, SALEM STATE COLLEGE, SALEM, MA 01970**

**: STUDY OF ION-MOLECULE SPECIES**

This research project was based on the fact that simple hydrogen halide acids (eg. HCl and HBr) have surprising properties at high concentrations in terms of reactivity. Research groups have proposed a model for reactivity on the surface of Polar Stratospheric Clouds (PSCs) that involves a chloride ion with water molecules associated with it, which is in contact with a molecule of HCl to form the Cl(aq)--HCl species. It is proposed that this interaction of the chloride ion with HCl coordinates the HCl on the surface of a PSC. This coordination actually causes the Cl(aq)--HCl species to become more reactive. The increase in reactivity is termed MASC, an acronym for Molecular Activation by Surface Coordination. This MASC model provides insight into the Cl(aq)--HCl species using PSC as a catalyst, yielding forms of chlorine which are actively depleting the ozone layer. Related studies have reported results of an ion-associated species NO3--HCl reacting with chlorine nitrate causing an increase in the reaction rate constant of several orders of magnitude over reaction with HCl. In this project the Cl(aq)--HCl was identified using UV-Vis and NMR and related to the potential reaction with ozone.

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**123 FINANCE BRIDGE 11:00-12:00**

**BRIAN MACKIE (RAMINDER LUTHER), DEPARTMENT OF ACCOUNTING & FINANCE, SALEM STATE COLLEGE, SALEM, MA 01970**

**A COMPARISON OF EXCHANGE TRADED FUNDS WITH INDEXMUTUAL FUNDS**

Exchange traded funds (ETFs) have been one of the fastest growing investment trends during the last few years. ETFs combine the trading flexibility of stocks with the diversification of mutual funds, making them a type of investment hybrid. Given this information, are ETFs a better investment opportunity than index mutual funds? To answer this question, a description of the top 25 exchange traded funds (according to overall trading volume) will be given, noting the advantages and disadvantages they have over other investment opportunities, most notably mutual funds. Following this will be an analysis on the performance of the top 10 ETFs. Because ETFs are a new investment trend, some funds have been around much longer than others. Thus, the list of ETFs will be broken into different categories, and their performance will be analyzed on 3-month, 1-year, or 3-year returns. Finally, the analysis will include a comparison of ETF performance with mutual funds that track a similar portfolio of securities.

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**125 COLLEGE DRUG ART GALLERY 3:00-4:00**

**ANGELA MERLUZZO (ROD KESSLER), DEPARTMENT OF ENGLISH, SALEM STATE COLLEGE, SALEM, MA 01970**

**I’M HIGH AND DRUNK BUT I STILL MADE THE DEAN’S LIST: STUDYING THE ALCOHOL AND DRUG TENDENCIES OF HONORS STUDENTS.**

National studies reveal high rates of binge drinking and recreational drug use among American college students. Do these findings hold true for a higher-achieving subset of this population, notably students in the Honors Program? This study was done to assess alcohol and drug use, attitudes, and perceptions of Honors Program Students in comparison with other students at Salem State College. The Core Alcohol and Drug Survey, distributed to Honors Program students during the 2001-2002 school year, asked students for their opinions, attitudes, and perceptions as well as the frequency of use and consequences they had experienced. The results, when compared to data of the college as a whole and to national norms, will test the hypothesis that Honors Program students are different.
THE EFFECTS OF NURSING SHORTAGE IN BOSTON MASSACHUSETTS 2001

This study surveys the situation of nurses in Boston, identifying that situation as a crisis, analyzing the reasons why the profession is in crisis, and considering an initiative to improve the field’s prospects. No one doubts that there is a nursing shortage in Boston. Nationally, nursing schools report lagging admissions, and nursing is the fastest aging profession: in 1996 only 10% of nurses were under the age 30. Considered in this study are data concerning changes in both initial enrollment as well as completion rates for students in nursing programs. Also analyzed are comparative statistics for RNs during 1945 to 1965 with the cohort of their current and projected counterparts. This research also explores the effects on the nursing profession and on health care delivery — of the trend for nurses not to join and work within national professional organizations for nurses. The Clara Barton Nursing Excellence Program, proposed by Massachusetts State Senator Richard Moore in response to the shortage of nurses, is considered as a model for addressing problems facing the field. The problems within nursing affect everyone; any continuation of the nursing shortage crisis will mean even greater problems than what the healthcare industry is encountering today.

A COMPARISON OF THE ORGANIZATIONAL COMMITMENT OF EMPLOYEES OF SMALL ORGANIZATIONS WITH THAT OF EMPLOYEES OF LARGE ORGANIZATIONS WORKING IN THE RETAIL INDUSTRY

Establishing a workforce with employees who are dedicated and believe in the organizations for which they work plays a key role in creating and maintaining a successful company. This is true whether the company is a small neighborhood store or a large corporation. This study compares the organizational commitment of employees working in small organizations with that of employees working in large organizations in the retail industry. For the purpose of the study, small organizations are those employing 100 or fewer people. Large organizations employ over 500 people. Data has been obtained through survey and interview research with a sample size of 45 people working in the North Shore area of Massachusetts. There were two related hypotheses being tested by the research. These hypotheses were as follows: H1: Leaders of small organizations make more of an effort to hire people who have shown previous patterns of high organizational commitment. H2: Employees who are employed in small organizations exhibit greater levels of commitment than those who work in large organizations. H2 was not supported by the research; H1 was supported. Implications for this study and future directions for such research are also included.

GLOBAL IMPACT OF THE ANTHRAX SCARE

Recent anthrax scares have led to changes in many areas of the local and global business world and the impact of such scares on the global economy is far-reaching, affecting many economic indicators including consumer confidence, the stock market, and demand and supply. The implications of anthrax spores appearing in unsuspecting locations have permeated the world. This study, undertaken in the fall of 2001 as the anthrax situation was unfolding, analyzes literature relating to anthrax scares, secondary data that are correlated in an attempt to understand and map the aftermath of this form of terrorism. Predicated on the understanding that new data could emerge at any time, our analysis seeks more to clarify and characterize the economic consequences than to state or test formal hypotheses. We argue that with today’s conglomeration of business activities, within and outside the United States, no one can afford to completely overlook the possible effects of the Fall 2001 anthrax crisis. This is demonstrated with examples of beneficial and costly effects that the anthrax scares caused. The after-effects will continue to unfold and reveal themselves in the months and years to come.

BOSTON GLOBE AND BOSTON HERALD - ARE THERE DIFFERENCES?

This study compares the coverage of local news in the Boston Globe and the Boston Herald in order to find out how these newspapers set themselves apart, covering and being distributed in the same local area. Through content analysis, the two papers will be examined to determine
similarities and differences with regard to space allocation, balance, placement, and use of graphics in local news stories. Hypothesis: The Boston Globe tries to sell copy through prestige, meaning accurate, credible, and balanced reporting, while the Boston Herald attracts readers through tabloid-like sensationalism, but the content is covered somewhat seriously.

134  
EDUCATION  
AV-3  
10:30  

KRISTIN SMITH (ROD KESSLER), DEPARTMENT OF ENGLISH, SALEM STATE COLLEGE, SALEM, MA 01970

PASS THE CHALK, PLEASE

“Pass the Chalk, Please” is a work of creative nonfiction narrated in the first-person and detailing the experiences of a future teacher in the state of Massachusetts. Some of the issues covered in this memoir are the impact of the newly instituted teacher test, the challenges of substitute-teaching middle school students, the trials and tribulations of a first student teaching assignment, and the experience of being a member of a family of teachers. This memoir spans from experiences from childhood to present day. The excerpts presented potential serve as a guide of sorts for future education students and as a window into the profession.

135  
INTERDISCIPLINARY STUDIES  
BRIDGE  
2:00 - 3:00  

LEE SPATAFORE (G. EARL SCHARFENBERGER), DEPARTMENT OF INTERDISCIPLINARY STUDIES, SALEM STATE COLLEGE, SALEM, MA 01970

FOCUS ON VOLUNTEERISM: AN INSIDER’S VIEW OF THE LADIES AUXILIARY TO THE VETERANS OF FOREIGN WARS WITHIN MASSACHUSETTS

As noted in Robert D. Putnam’s book “Bowling Alone,” American participation in voluntary associations has sharply declined. In this poster session, an active member of the Department of Massachusetts Ladies Auxiliary to the Veterans of Foreign Wars of the United States provides an overview of the volunteer programs and projects that this organization supports and promotes despite any decline in its membership numbers. Primary and secondary sources are used to consider how the focus of this organization has and will continue to evolve as a result of changes within the organization, the veteran population, and society.

136  
MARKETING  
BRIDGE  
11:00- 12:00  

MICHAEL WOOD, JULIET ROHRER (LINDA J. COLEMAN), DEPARTMENT OF MARKETING, SALEM STATE COLLEGE, SALEM, MA 01970

MARKETING OF HEALTH CARE IN THE THIRD WORLD

There are many moral, legal, cultural considerations and occurrences regarding the marketing of health care in third world countries. Health care is universal in that all people need it no matter where they live, their income, or occupation. However, the level, quality, and expense of health care vary throughout the world. The first world and the third world health care needs and solutions differ greatly. This paper examines the imbalance of need and expense of health care throughout the world, specifically situations, challenges, and opportunities in third world countries. Numerous diseases, countries, companies, and creative solutions are discussed. There are a variety of influences, systems, successes and “work in progress” in regards to health care. These are reviewed along with short-term and long-term, urgent and ongoing, present and potential, dilemmas in health care internationally. Marketing encompasses the components of planning, product development, pricing, promotion, and distribution. Our research looks at the health care industry internationally and how marketing translates in these environments. The emphasis is on the third world with glances at developed and developing nations.

Springfield Technical Community College

137  
TELEPRODUCTIONS/  
MULTIMEDIA TECHNOLOGY  
ART GALLERY  
2:00 - 3:00  

CHRISTOPHER ZUNIS (LUANNE CARBAUGH), DEPARTMENT OF TELEPRODUCTION/MULTIMEDIA TECHNOLOGY, SPRINGFIELD TECHNICAL COMMUNITY COLLEGE, SPRINGFIELD, MA 01105

DOCUMENTARY ON SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

For my honors project, I wrote and produced a documentary dealing with the history of Springfield Technical Community College. To produce my documentary I researched in newspaper archives and interviewed several individuals involved with the college, including college President Andrew M. Scibelli, Vice President of Academic Affairs John H. Dunn, Director of Institutional Quality Theresa Worthley, and the Liberal Arts/General Studies Coordinator Theresa Burr. Using their interviews, newspaper articles, and ideas from an earlier produced film, I wrote and produced my documen-
will provide a more thorough picture of the balance control activity that goes on while individuals with MS accomplish daily tasks. Before and after progressive reaching tasks. Data collection and analysis is ongoing and in the final stages of completion. Results from this study reaching. Center of pressure amplitude and variability are calculated as well as time-to-boundary. Maximum reaching distances are compared aspects of balance control in women with MS compared to a control group as they perform postural manipulations common in every day tasks.

Decreased postural stability is a major symptom experienced by individuals with Multiple Sclerosis (MS). The purpose of this study is to assess

Balance control is assessed using data from a force plate during quiet stance and during more challenging postural conditions such as leaning and reaching. Center of pressure amplitude and variability are calculated as well as time-to-boundary. Maximum reaching distances are compared before and after progressive reaching tasks. Data collection and analysis is ongoing and in the final stages of completion. Results from this study will provide a more thorough picture of the balance control activity that goes on while individuals with MS accomplish daily tasks.
anthropogenic influence, with the exception of winter road salt, is minimal. The metallic odor may be caused by the elevated iron concentrations. Water chemistry is within limits for natural waters suggesting 49 ppm. Potential sources of iron include oxidation of spring water, weathering of bedrock minerals, biological activity, or an untested component compared to other trace metals. Total extractable iron ranged from 853 to 2044 ppm, whereas total extractable lead concentrations were 12 to 2002. Conductivity values of the surface waters were low (<120 μS), and dominant ions included calcium, silicon, chloride, and sulfate. Sodium and chloride had strong seasonal fluctuations and peaked in January, and iron and manganese concentrations exceeded drinking water limits. Average water chemistry is nearly identical to Foskett Mill Brook, located approximately 5 miles NE of Conant Brook. The exception is iron, which averaged 0.7 mg/l in Conant Brook and 0.2 mg/l in Foskett Mill Brook (Dietz, 1992). Sediment extractions yielded high concentrations of iron or anthropogenic. Bedrock is the Silurian Rangeley Formation sulfidic and graphitic schists, containing the primary minerals quartz, plagioclase, and biotite (Peterson, 1992). Five surface water sites and two groundwater wells were sampled every two months from May 2001 to January 2002. Conductivity values of the surface waters were low (<120 μS), and dominant ions included calcium, silicon, chloride, and sulfate. Sodium and chloride had strong seasonal fluctuations and peaked in January, and iron and manganese concentrations exceeded drinking water limits. Average water chemistry is nearly identical to Foskett Mill Brook, located approximately 5 miles NE of Conant Brook. The exception is iron, which averaged 0.7 mg/l in Conant Brook and 0.2 mg/l in Foskett Mill Brook (Dietz, 1992). Sediment extractions yielded high concentrations of iron compared to other trace metals. Total extractable iron ranged from 853 to 2044 ppm, whereas total extractable lead concentrations were 12 to 49 ppm. Potential sources of iron include oxidation of spring water, weathering of bedrock minerals, biological activity, or an untested component. The metallic odor may be caused by the elevated iron concentrations. Water chemistry is within limits for natural waters suggesting anthropogenic influence, with the exception of winter road salt, is minimal.

GEOCHEMISTRY OF THE CONANT BROOK DAM WATERSHED, MONSON, MASSACHUSETTS
Conant Brook Dam is a recreational area in western Massachusetts maintained by the US Army Corps of Engineers. Stream water in the watershed commonly has a distinctive metallic odor. The purpose of this project was to identify the source of this odor and determine if the cause is natural or anthropogenic. Bedrock is the Silurian Rangeley Formation sulfidic and graphitic schists, containing the primary minerals quartz, plagioclase, and biotite (Peterson, 1992). Five surface water sites and two groundwater wells were sampled every two months from May 2001 to January 2002. Conductivity values of the surface waters were low (<120 μS), and dominant ions included calcium, silicon, chloride, and sulfate. Sodium and chloride had strong seasonal fluctuations and peaked in January, and iron and manganese concentrations exceeded drinking water limits. Average water chemistry is nearly identical to Foskett Mill Brook, located approximately 5 miles NE of Conant Brook. The exception is iron, which averaged 0.7 mg/l in Conant Brook and 0.2 mg/l in Foskett Mill Brook (Dietz, 1992). Sediment extractions yielded high concentrations of iron compared to other trace metals. Total extractable iron ranged from 853 to 2044 ppm, whereas total extractable lead concentrations were 12 to 49 ppm. Potential sources of iron include oxidation of spring water, weathering of bedrock minerals, biological activity, or an untested component. The metallic odor may be caused by the elevated iron concentrations. Water chemistry is within limits for natural waters suggesting anthropogenic influence, with the exception of winter road salt, is minimal.

GEOLOGY NEW ENGLAND 2:00 - 3:00
REBECCA BUDAJ (RICHARD YURETICH), DEPARTMENT OF GEOLOGICAL SCIENCE, UMASS AMHERST, AMHERST, MA 01003

GEOCHEMISTRY OF THE CONANT BROOK DAM WATERSHED, MONSON, MASSACHUSETTS
Conant Brook Dam is a recreational area in western Massachusetts maintained by the US Army Corps of Engineers. Stream water in the watershed commonly has a distinctive metallic odor. The purpose of this project was to identify the source of this odor and determine if the cause is natural or anthropogenic. Bedrock is the Silurian Rangeley Formation sulfidic and graphitic schists, containing the primary minerals quartz, plagioclase, and biotite (Peterson, 1992). Five surface water sites and two groundwater wells were sampled every two months from May 2001 to January 2002. Conductivity values of the surface waters were low (<120 μS), and dominant ions included calcium, silicon, chloride, and sulfate. Sodium and chloride had strong seasonal fluctuations and peaked in January, and iron and manganese concentrations exceeded drinking water limits. Average water chemistry is nearly identical to Foskett Mill Brook, located approximately 5 miles NE of Conant Brook. The exception is iron, which averaged 0.7 mg/l in Conant Brook and 0.2 mg/l in Foskett Mill Brook (Dietz, 1992). Sediment extractions yielded high concentrations of iron compared to other trace metals. Total extractable iron ranged from 853 to 2044 ppm, whereas total extractable lead concentrations were 12 to 49 ppm. Potential sources of iron include oxidation of spring water, weathering of bedrock minerals, biological activity, or an untested component. The metallic odor may be caused by the elevated iron concentrations. Water chemistry is within limits for natural waters suggesting anthropogenic influence, with the exception of winter road salt, is minimal.

NEUROSCIENCE NEW ENGLAND 10:00 - 11:00
LAURA BURKE (GEERT DE VRIES), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

CHALLENGING THE DOGMA: DO SEX CHROMOSOMES DIRECTLY AFFECT SEX DIFFERENCES IN THE BRAIN?
Differences between males and females have been discovered in a number of brain regions. One such sex difference is arginine vasopressin content in the lateral septum of the brain. Vasopressin is a neurotransmitter that has been implicated in the control of behaviors such as social memory, aggression, and sex behavior in rodents. The central dogma of sexual differentiation states that all sex differences in non-gonadal tissues are the result of the action of gonadal steroid hormones. However, a number of sex differences exist that cannot be adequately explained by the dominant hypothesis. This project examines the alternative hypothesis of sexual differentiation, which suggests a direct genetic role of sex chromosomal genes expressed in the brain. The established sexually dimorphic trait of vasopressin projections to the lateral septum was analyzed in male mice of six different sex chromosome constitutions. Whereas no effect of genotype on vasopressin immunoreactivity was observed, there was a significant effect on behavior. Analysis of these genotypes suggests that vasopressin is a classic example of the dominant theory of sexual differentiation. Sexually differentiated behavior, by contrast, appears to have a genetic component that is independent of steroid hormones.
the treat. Under these conditions, monkeys did better than chance only when a window separated the two available doors. These experiments also failed to provide support for a gravity bias. Instead, one monkey consistently followed a door preference strategy, while it remained inconclusive what strategies the other monkeys used. The initial experiment suggests that monkeys appear to follow the “last seen” strategy. The remaining experiments may have been inconclusive due to the subjects having trouble differentiating between doors in close vertical sequence.

146 POLITICAL SCIENCE BRIDGE 2:00 - 3:00

BRENDAN CHENEY (LAURA JENSEN), DEPARTMENT OF POLITICAL SCIENCE, UMASS AMHERST, AMHERST, MA 01003

CONTROLLING THE PURSE STRINGS: A LOOK AT LEGISLATIVE BUDGETING CAPACITY IN THREE STATES

Of all the decisions the government makes, the budget is one of the most important. It represents a consensus on policy priorities among all government actors. The legislature is the branch of government that allows the easiest access by the people. This research is being conducted to determine what role the state legislatures have on the state budget and what their capacity is for that role. This research will study three states with legislatures of different capacities and will also contain an extensive literature review. Massachusetts, Connecticut, and Vermont have been chosen because of their variation and because they are close by allowing easier access to information. To get a more complete understanding of the budget process in these states, legislators and professional budget staff will be interviewed. Based on the literature review already completed, this research expects to find that all three of the state legislatures have a strong budget capacity but that Massachusetts is the strongest and Vermont the weakest of the three.

147 LINGUISTICS BRIDGE 2:00 - 3:00

& ANTHROPOLOGY

ANNA COHEN-COLE (DAVID SAMUELS), DEPARTMENT OF ANTHROPOLOGY, UMASS AMHERST, AMHERST, MA 01003

“¡OIGA! ARE YOU READING WHAT I’M SAYING?” FROM SUBTITLING TO DUBBING: LANGUAGE AND POWER IN FILM TRANSLATION IN SPAIN

In Spain five years ago, the majority of movies were subtitled. Today, of all the foreign market films, the majority of them are dubbed. This paper seeks to illuminate how this art form, these practices of translation, are shaped within a system of film production that is apparently interested in capitalizing on ticket sales, and how the community and public opinion are affected. Using Jane Hill as a starting point, this research examines the referential and indexical value of dubbing versus subtitling in Spain. Through participant observation at Abaira, a dubbing organization in Madrid, interviews (ranging from 15 minutes to 2 hours each) were conducted with employees in areas of production, acting, technical, and directorial facets. Interviews were also conducted with “regular” moviegoers to judge the general feeling of this shift, along with research at the Spanish National Archives to explore the political history that may have added to the cultural climate. Thus, using a multifaceted approach to research, and including work from various disciplines, this research could contribute to an anthropology of film translation in terms of culture and power.

148 SOC./CULTURAL STUDIES AV-4 1:30

ESTHER CUESTA (SUSAN MCKENNA), DEPARTMENT OF COMMUNICATIONS, UMASS AMHERST, AMHERST, MA 01003

GAY LATINOS IN NEW YORK CITY: A REVISIT TO THEIR LIVES AND AN AUGURY OF OVERCOMING IDENTITY OBSTACLES

New York City’s population is 27 percent Latino. For some time now, people in the United States have been discussing the Latinization of New York City landscapes. Gay Latino men’s community networks and social institutions have contributed to the dramatic cultural and physical transformation of the city. Like other minoritarian (and majoritarian) subjects, many gay Latino men interface with different subcultural fields in the process of identity formation. This work explores the life strategies and cultural productions of gay Latino men in the city as well as their role in the Latinization process of the city. An interdisciplinary approach-that includes sociology, queer theories, and cultural studies-was taken. The result of qualitative informal interviews of nine gay Latino men, participant observation, and fieldwork shows that although gay Latino men constantly confront prejudice and discrimination from the Hispanic heterosexual community, they still seem to identify more with the larger Hispanic community than with the mainstream queer one. This bonding is due to the many cultural aspects they share, such as language, religion, social class, and ethnoracial identity. Reflections of this project suggest that coalition of gay Latino men with different social organizations based on a combination of shared identities, values, and goals is needed in order to give rise to major social and political changes. Another strategy is the disidentification of the subject as a practice to work on and against the dominant ideology to seize social agency. This work will add to the understanding and the importance of queer studies in the social sciences.

149 CHEMISTRY/BIOCHEMISTRY AV-1 10:45

PATRICK DECOUCRY (MICHAEL MARONEY), DEPARTMENT OF CHEMISTRY, UMASS AMHERST, AMHERST, MA 01003

STRUCTURE AND FUNCTION OF NICKEL SUPEROXIDE DISMUTASE (NISOD)

The general objective of the project is to study the processing and reconstitution of NiSOD. Superoxide dismutases (SOD’s) are part of our body’s defense against oxidative damage to cells caused by highly reactive oxidative species, such as the superoxide anion. Oxidative damage has been shown to cause cells to malfunction and can cause cells to die. There has been evidence linking diseases such as postischmatic tissue injury, inflammatory diseases, and a number of pathological conditions to oxidative damage to cells. The specific goals of this project are to determine the role of nickel in producing the hexameric quaternary structure of the enzyme (which is the SOD in this case). And also a further goal is to
begin to understand the mechanism and role of redox chemistry in NiSOD. Discovering the structure and mechanism of NiSOD could lead other researchers to be able to propose new methods to study these diseases and could lead to treatments for them. This presentation will look at the biochemical techniques used in the production of the NiSOD enzyme and the chemical analysis of the of the enzyme using techniques such as polyacrylamide gel electrophoresis, mass spectroscopy, EPR experiments, and reconstitution of the enzyme with isotopically pure 61Ni to gain insight into its structure and properties.

### 150 PSYCHOLOGY ART GALLERY 10:00 - 11:00

**ALLYSON DELORENZO** (LINDA ISBELL), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

Art Gallery Research suggests that jurors sometimes lack the motivation and/or ability to adhere to judge's instructions to disregard inadmissible evidence. In fact, jurors are not particularly good at discounting this evidence (Sue, Smith, & Caldwell, 1973, Kassin & Studebaker, 1997), and it frequently influences their judgments. Given this, it is essential to gain a comprehensive understanding of the role that inadmissible evidence plays in shaping jurors' verdicts, as well as ways to reduce this influence. In this study, the timing of the judge's instructions to disregard evidence is examined as one factor that can influence the likelihood that inadmissible evidence is relied upon when making judgments. All participants listened to an audio-taped recording of excerpts taken from a criminal trial. Participants were randomly assigned to listen to one of nine versions of a rape case. The case contained critical evidence (prior rape conviction) deemed either admissible or inadmissible, or contained no critical evidence. In addition, within each of these evidence conditions, participants were assigned to one of three instructional conditions. Participants heard the judge's instructions to disregard inadmissible evidence either before or after the case was heard, or at both times. After listening to the case, participants reported their perceptions of the defendant's guilt. The results of the study are expected to reveal that the timing of the judge's instructions play a significant role in whether individuals use inadmissible evidence. Specifically, providing jurors with instructions both before and after the case should help to reduce their use of this evidence.

### 151 EXERCISE SCIENCE NEW ENGLAND 10:00-11:00

**ELIZABETH DEVINE** (JOSEPH HAMILL), DEPARTMENT OF EXERCISE SCIENCE, UMASS AMHERST, AMHERST, MA 01003

**INFLUENCES OF GENDER AND EXERCISE ON ACL LAXITY**

The goals of this study were to determine the extent to which exercise-induced anterior cruciate ligament (ACL) laxity differs between genders, as well as to investigate the influence of exercise on ACL laxity across menstrual cycle phases. Subjects consisted of six females (age: x=26 years, mass: x=64 kg) with a history of a menstrual cycle lasting 28-32 days and six males (age: x=24 years, mass: x=82 kg). All subjects had intact knee ligaments bilaterally and had been exercising regularly for six months prior to testing. Data collection for the female subjects began at either the onset of menses or the onset of ovulation. Serial estrogen levels of the female subjects were measured using radioimmunoassay procedures. Knee laxity was measured with a KT-1000 knee arthrometer. Data was collected for the female subjects on five specific days to represent the three menstrual cycle phases. ACL laxity was measured just prior to as well as immediately following an exercise protocol consisting of 15 minutes of self-paced treadmill running, two minutes of both weaving and cutting, and 25 jump downs from a 12-inch surface. No significant differences in the effect of exercise on ACL laxity between males and females were found. In addition, the effect of exercise did not differ across the menstrual cycle phases. However, there were significant differences in ACL laxity between genders both pre-exercise and post-exercise. These results suggest that ACL laxity is increased in both genders following an exercise protocol and that females demonstrate greater laxity than males overall.

### 152 BIOLOGY NEW ENGLAND 10:00 - 11:00

**CAROLYN DONG** (JOHN NAMBU), DEPARTMENT OF BIOLOGY, UMASS AMHERST, AMHERST, MA 01003

**ANALYSIS OF DROSOPHILA MORGUE AND GRIM PROTEIN INTERACTIONS IN THE UBIQUITIN-PROTEASOME PATHWAY OF PROGRAMMED CELL DEATH**

Programmed cell death is an active process that eliminates unnecessary and deleterious cells. It is vital for organogenesis, homeostasis, and as a response to infection. Misregulation of cell death is associated with cancers and neurodegenerative disorders. The Drosophila grim-reaper genes are crucial cell death activators. They are required for embryonic cell death and each gene is expressed in dying cells. The Grim-Reaper proteins act upstream of caspases and functionally interact with DIAPs (Drosophila Inhibitors-of-Apoptosis Proteins). DIAPs are crucial cell death inhibitors. They come from a large family of viral and cellular proteins and contain one or more BIR (Baculovirus IAP Repeat) domains. DIAPs can inhibit Grim-Reaper induced cell death by binding to Grim-Reaper proteins. A genetic screen was used to identify genetic modifiers of the Grim-Reaper pathway. 26 defined gene products were found including Uba-1, SkpA and F-box ubiquitination factors such as Morgue. In this study, the roles of Drosophila Morgue, a novel ubiquitin-ligase protein and Grim, a cell death activator, in the Ubiquitin-Proteasome pathway of programmed cell death were explored using protein assays. Results indicate that Morgue physically interacts with SkpA in-vivo and in-vitro, supporting the model of an SCF (Skp-Cullin-F-Box) E3 complex as a mediator of Programmed Cell Death in Drosophila.
ARS POETICA: A CREATIVE WRITING POETRY PROJECT

In my creative writing poetry project, I have sought to explore and attempt various poetic forms. Reaching beyond “free verse,” I have worked on forms ranging from sonnet to Sapphic. In the modern view of poetry, form seems often to have fallen out of favor and been dismissed as trite or, at best, quaint. In my project, I seek to defy those opinions and create work which is original in its subject and execution while at the same time paying homage to the mastery of past poets and their formal, metrical work. The final product of this project will be a portfolio of some twenty to twenty-five poems culled from the entire body of work I have written this year. The portfolio will include both formal pieces as well as some of the less-structured free verse pieces I had worked on previously, though with substantial improvement in tone, precision and economy of language. The portfolio will be arranged as a coherent whole, and the poems ordered so as to suggest some interconnectedness or theme which has emerged over the course of the project.
the study was not designed to specifically test this because the researchers failed to match the subjects for their initial strength levels, which appeared to confound the results. Their study illustrated the importance of matching and controlling initial strength levels in future studies that would examine gender differences in response to disuse. Six men and six women will have their isometric strength and fatigue measured pre and post two weeks of immobilization using a tabletop device specifically designed to measure force generated by the muscle of the thumb. The men and women will be matched as closely as possible for similar initial strength levels. Controlling strength levels in men and women will allow me to accurately compare changes in strength and endurance caused by muscle disuse. The following hypotheses will be tested: 1) The amount of adductor pollicis strength loss after two weeks of immobilization of the thumb will be less in women compared with men. 2) Women will demonstrate greater muscular endurance both before and after two weeks of immobilization.

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**159**  
**CHEMISTRY BRIDGE**  
**10:00 - 11:00**  

**THOMAS HILL** (D. VENKATARAMAN), DEPARTMENT OF CHEMISTRY, UMASS AMHERST, AMHERST, MA 01003

**HETEROHELICENES**

Heterohelicenes are a new class of organic compounds that have numerous interesting properties and potential applications. We propose to synthesize building blocks to these conjugated helical systems and study their electronic properties. Although hexahelicene is both conjugated and helical, its applications are limited due to the facts that it is difficult to synthesize and is not easily functionalizable. Hexahelicene is also limited by its entirely carbon backbone which is resistant to reduction and/or oxidation. Other compounds that have been shown to be electroactive are triarylamines. These triarylamines are more easily functionalized and are used widely in applications such as organic light emitting devices (OLED's). We would like to incorporate the helical structure of helicene and the electronic properties of the triarylamines by synthesizing the building blocks for these electroactive helices. Future applications may include the use of the compounds for circularly polarized light emission in LCD displays. This would decrease the cost to manufacture LCD displays and also make them more efficient. This new class of compounds promises to be not only structurally and chemically interesting, but also widely applicable for electronic devices.

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**160**  
**CHEMISTRY BRIDGE**  
**10:00 - 11:00**  

**PETER HOTCHKISS** (VINCENT ROTELLO), DEPARTMENT OF CHEMISTRY, UMASS AMHERST, AMHERST, MA 01003

**GIANT VESICLES AS RECOGNITION-SELECTIVE MEMBRANES**

Self-assembly is an essential process occurring in biological systems. Functionalizing a flexible random copolymer of styrene-chloromethylstyrene with complementary three-point hydrogen bonding units such as thymine and diacyldiaminopyridine results in the formation of giant vesicles. This study was conducted to determine whether these self-assembled giant vesicles could be used as a recognition-selective membrane that would only permit certain molecules to pass through via 3-point hydrogen bonding. Diacyldiaminopyridine has to be synthesized through a 6-step process. Then it can be combined with thymine polymer to form vesicles. These vesicles will then be put on a filter that will separate two airtight tubes. One tube will have just chloroform in it. The other tube will contain chloroform with a small sample of flavin diluted in it. Flavin is known to attach to the vesicles via 3-point hydrogen bonding, making them even larger, then over time leaving the vesicle. Over time, the flavin (a bright yellow molecule) should be seen passing through the vesicle filter into the other tube. As a control, N-methylflavin will be used. It does not attach to the vesicles via 3-point hydrogen bonding, making them even larger, then over time leaving the vesicle. Over time, the flavin (a bright yellow molecule) should be seen passing through the filter. Quantifying the amount of flavin that passes over will be performed using UV-Vis Spectroscopy as well as Fluorescence Spectroscopy.

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**161**  
**PSYCHOLOGY ART GALLERY**  
**3:00 - 4:00**  

**KAREN HOWARD** (SALLY POWERS), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

**GENDER DIFFERENCES IN THE RELATION OF SOCIOTROPY-AUTONOMY TO SELF-SILENCING IN THE PREDICTION OF DEPRESSION**

Previous studies have examined sociotropy, autonomy, and self-silencing as independent risk factors for depression. This study investigated gender differences in the relation of these variables to depression in order to elucidate women's increased vulnerability to depression. It was hypothesized that women's self-silencing would be associated with sociotropic goals and that an interaction between sociotropy and self-silencing would positively predict depression. In contrast, men's self-silencing was hypothesized to be linked to independence goals, and that an interaction between autonomy and self-silencing this would negatively predict depression. Results suggest that self-silencing does moderate the relation of sociotropy to depression, but the relationship is not different for men and women. Furthermore, self-silencing was found to moderate the relation between autonomy and depression for women, but not for men.

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**162**  
**HISTORY AV-1**  
**3:00**  

**JAMIE JEE** (LARRY OWENS), DEPARTMENT OF HISTORY, UMASS AMHERST, AMHERST, MA 01003

**FANTASIZING WEAPONS IN THE AMERICAN IMAGINATION: BUCK ROGERS AND VISIONS OF COLD WAR AMERICA**

Buck Rogers, the first science-fiction comic strip, appeared in daily newspapers in 1929 and soon gained international popularity with its combination of scientific interest and suspense. By the time a radio serial appeared in 1932—another science fiction first—Buck Rogers had become a household name. The focus of the strip is fighting the Mongols, with their “evil faces,” and their plot to dominate the world, 500 years future, after a mining
accident leaves Buck in suspended animation. He spends thirty-eight years battling the Mongols with various weapons: disintegrators, paralysis rays and a series of Cold War weapon anticipations, such as the bazooka, jet plane, walkie-talkie, and infra-red ray gun. Despite Buck Rogers’s popularity, little discussed is how strip writer Phil Nowlan and artist Dick Calkin eerily forshadow the concerns and fascinations of Cold War America, particularly the role of weapons systems and their communities. Historian H. Bruce Franklin has attempted to show how the American “cult of the super-weapons” originated as a distinct phenomenon between 1880 and World War I. If this is so, Buck Rogers represents an important phase and extension of that phenomenon. It is dense with Cold War themes, including the blurring of scientific, civilian, and military boundaries, the militarization of American culture, and an aggressively masculine world. Buck Rogers serves as an example of how literature and popular culture, including science fiction, can provide a useful window into understanding the profound changes the Cold War has had on American life.

163  
FRENCH AND SPANISH  
AUDITORIUM  
10:00

ELIZABETH JOHNSON (RAQUEL MEDINA), DEPARTMENT OF SPANISH, UMASS AMHERST, AMHERST, MA 01003

A COMPARISON OF BASQUELAND ON BOTH SIDES OF THE FRENCH/SPANISH BORDER AND THE ECONOMICAL, CULTURAL AND POLITICAL DIFFERENCES RESULTING FORM THIS DIVISION

Borders were designed to separate nation-states and, unfortunately, today’s world is all too familiar with what can occur when these political frontiers divide nations themselves. Such is the existing condition of the Basque population, stretched between Spain’s northeastern region and France’s southern Mediterranean coast. This paper follows the efforts to preserve and defend the Basque identity as it has changed and been modified throughout the past centuries. There exists a pattern of Basque defensive reaction to action taken on the part of the French and Spanish governments to oppress, negate and destroy this evolving identity. The second half of the 20th century reverses this pattern with the development of political terrorism in both France and Spain. It is now Paris and Madrid that are reacting to Basque offensive actions and the “new” methods of preserving Basque identity. Even without the support of the vast majority of the Basque population, ETA and other such terrorist groups unfortunately continue to represent the 20th century Basque situation to international community. The Basque identity stands for, and has always stood for, more than the violence of masked, armed terrorists. The use of French and Spanish language sources combined with primary and secondary research allowed for a more complete analysis of the Basque situation and contributed to the final conclusions.

164  
PSYCHOLOGY  
ART GALLERY  
3:00 - 4:00

KENNETH JOHNSON (JERROLD MEYER), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

THE LONG-TERM EFFECTS OF MDMA ON THE RAT 5-HT SYSTEM WHEN GIVEN DURING DEVELOPMENTAL STAGES

3,4-methylenedioxyamphetamine (MDMA) or “Ecstasy” is a drug that has seen widespread use in the past decade, due to its hallucinogenic and psychostimulative effects. Evidence shows the drug produces serious neurotoxic effects, including the degeneration of serotonin (5-HT) nerve terminals and pruning of fibers. Animal studies show significant decreases in 5-HT fiber concentration following the administration of the drug, though these levels can return to normal over time. This study’s prime concern was the effect a pregnant mother’s MDMA use could have on her unborn child, since the drug’s effects on development are relatively unknown. Using a rat model this experiment investigated the long-term neurotoxic effects of MDMA on the 5-HT system when exposure was during early development. Rat pups were given administrations twice a day of 10 mg/kg MDMA or saline during postnatal days (PD) 1 - 4 (a period correlating with the third trimester in humans). After the injection period, the pups were raised into adulthood (approx. 9 months). They were then sacrificed and immunocytochemically stained for the transporter protein, SERT, a specific marker for 5-HT fibers. A silver-gold intensification was used to improve fiber contrast. Abnormal 5-HT fiber densities will be looked for in specific brain areas, including the hippocampus, striatum, and cortex. Using computer imaging, densities will be compared between control and experimental animals. Further analysis of data must be done before final conclusions can be made.

165  
COMMUNICATION  
BRIDGE  
2:00 - 3:00

LISA JOLLIMORE (SUSAN MCKENNA), DEPARTMENT OF COMMUNICATIONS, UMASS AMHERST, AMHERST, MA 01003

I’M A SLAVE FOR YOU: THE ROLE OF THE MEDIA IN SHAPING THE LIVES OF ADOLESCENT GIRLS

The purpose of this cross-disciplinary study in the areas of communication, psychology, and sociology is to examine the role the media play in the lives of young women and compare the findings with the extensive body of research that already exists on the topic of media and youth. Previous researchers of media effects have determined that media exposure can have drastic effects on the ways in which adolescents view themselves and their world. The images youths view on television, in magazines, and in music videos can affect the ways they interact with others and, particularly in girls, their body image. Also, most teenagers choose media role models to emulate. As part of my Community Service Learning assignment, I observed students at Amherst Regional Middle School in their natural environment for a total of 21 hours. The results of this informal ethnography based on participant observation were then compared to other research gathered from various journal sources in the field. Clearly the media have a profound effect on the youth of Amherst as exhibited by their body image disturbance and hyper-consumerism, consistent with previous research in the field that suggests that media exposure lead to similar problems in the adolescents in those studies. Measures must be taken by parents, educators, and health care providers in the immediate future to provide young adults with a supportive environment that promotes a healthy lifestyle and creates smart consumers.
A HIGH-SPEED BIT ERROR RATE TESTER (BERT)
The purpose of this project is to design and fabricate testing equipment for a high-speed wireless communication system under development in the Communication Systems Laboratory. The system communicates at speeds ranging from 12.5-100 Mbps and uses any of the following modulation schemes: Bit Phase Shift Keying (BPSK), Quadrature Phase Shift Keying QPSK, 8-Phase-Shift Keying (8-PSK), or 16-Quadrature Amplitude Modulation (16-QAM). A pseudorandom sequence, generated and modulated by the tester, is transmitted via an external radio frequency (RF) transmitter. The sequence, obtained from an external RF receiver, is demodulated and compared to the intended value by the tester. Any errors in the transmission are recorded. The testing equipment can accommodate up to 1000 ns of propagation delay in the transmitted sequence. The tester is controlled and the error rate reported by a Java application running on a Windows-based or Solaris-based workstation.

DIFFERENTIAL EXPRESSION OF THYROID HORMONE RECEPTORS, TRA1 AND TRB1, IN SUB-POPULATIONS OF RAT WHITE BLOOD CELLS
The long-term goal of this project is to develop a clinically useful assay for thyroid hormone action. There are two major isoforms of the thyroid hormone receptor, TRa and TRb. Existing clinical tests assess thyroid hormone action only through the b-receptor. Using rat white blood cells, we aim to identify thyroid hormone-responsive genes that may be useful as markers for a-receptor function. In the first phase of the project, we need to find a sub-population of white blood cells that expresses TRa1 but not TRB1. Reverse transcription-polymerase chain reaction (RT-PCR) was performed on isolated buffy coat, which contained lymphocytes and monocytes; we found the presence of both TRa1 and TRb1 in the Buffy coat. Furthermore, the mRNA level of TRa1 was higher than that of TRb1. We then separated the two populations of white blood cells: lymphocytes and monocytes. So far, our results indicate that monocytes expressed predominately TRa1, with very low TRb1 expression; lymphocytes expressed only TRB1. In the next phase of the project, we will attempt to determine whether thyroid hormone-responsive genes in monocytes are reliable markers for assessing thyroid hormone action.
EVALUATING TEMPORARY THRESHOLD SHIFT WITH DISTORTION PRODUCT OTOACOUSTIC EMISSIONS IN YOUNG ADULT COLLEGE MUSICIANS
It has been shown that over-exposure to high levels of sound can cause a hearing loss, starting first with a temporary threshold shift (TTS) and then potentially leading to a permanent threshold shift (PTS). Such a permanent shift has been identified in professional musicians. Since this music-induced hearing loss is gradual, prevention and early detection are crucial to the preservation of hearing throughout a musician's career and/or life. This study in humans evaluated the TTS in college aged brass instrumentalists using 2f1-f2 distortion product otoacoustic emissions (DPOAEs). TTS was examined by measuring DPOAEs prior to and following a one-hour practice session during which time the musician is typically exposed to high noise levels. Preliminary data indicates DPOAE growth and recovery patterns consistent with TTS often associated with eventual noise induced hearing loss. Therefore, it is predicted that the level of sound to which a musician is exposed during a typical one-hour rehearsal can lead to a TTS and, therefore, over time, a potential PTS.

DIFFERENT ADJECTIVES AFFECT ON IDENTIFYING A NOUN
Word recognition is at the core of understanding the fundamental cognitive process of reading. The present study examined how the context in which a noun is read influences its identification. Previous researchers have examined the time to identify the second word in a pair of words presented in isolation. Results indicated that the frequency of occurrence of both words affected the processing time of the second word: less frequent words slowed processing. Other researchers have used an on-line reading paradigm to examine the processing time of a noun immediately preceded by an adjective in a sentence. Once again, the frequency of the first word (adjective) affected the processing time of the second word (noun). The present experiment determined whether the length of an adjective interacts with its frequency to affect the processing time of an adjacent noun in a sentence. A dual Purkinje eye tracker was used to monitor eye movements and record reading times (1 ms temporal accuracy, 10 min of arc spatial accuracy). Preliminary results demonstrated that lengthening the adjective slowed the processing time of the noun. Results also suggest that readers skipped target nouns preceded by short adjectives more often than nouns preceded by long adjectives. And most importantly, results support the idea that length and frequency interact to affect processing time of a noun; increasing the frequency of the adjective speeded reading time of the noun only for short adjectives. These results suggest that the characteristics of an adjective preceding a noun can affect processing time on the noun itself.

VENTILATION DURING TREADMILL LOCOMOTION IN A SEMI-AQUATIC TURTLE
The characteristic hard, bony shell is a unique feature of turtles. The shell is essentially fixed in volume, and much of its volume is occupied by air in the lungs. Limb protraction and retraction during locomotion may displace air within the lungs. This may cause a mechanical conflict so that turtles are unable to walk and breathe at the same time. Previous research by Jackson and Prange (1979) has shown that aquatic adult green sea turtles (Chelonia mydas) do not locomote and breathe simultaneously. However, in a recent study with the terrestrial box turtle (Terrapene carolina), there appears to be no constraint, because box turtles can breathe during locomotion. What about a semi-aquatic turtle with an intermediate lifestyle between the box and sea turtles? I hypothesize that due to anatomical and phylogenetic similarities between the slider and box turtle I will not find a constraint in the slider. Preliminary analysis of the slider ventilation data indicates there is no fixed phase relationship between ventilation and locomotion, and no mechanical constraint (just like the box turtle). Since breaths occur at all points during the stride cycle, sliders cannot utilize the limb pump ventilation mechanism that resting tortoises (Testudo graeca) have been shown to use at rest, Gans and Hughes (1968). Our results indicate that lifestyle type (aquatic or terrestrial) may not be a factor as to whether turtles can or cannot locomote and breathe simultaneously.

THE ARES PROJECT: A NOVEL
Man has long been fascinated with outer space. For thousands of years it was the place no one could visit, shrouded in mystery that has only just begun to be unraveled. Mars, one of our closest neighbors in the solar system, has inspired myths and fantasy stories since it was first identified. We as a human race are reaching a pinnacle point in space exploration: the ability to travel to another planet and walk on its surface. Although books have been written about the processes behind travel to Mars, few books (if any) place human beings in these hypothetical circumstances. Current fiction novels about Mars are usually set decades in the future and rely on technological marvels of which we can only dream. I have written a novel about the first manned mission to Mars while retaining scientific accuracy; accuracy has been affirmed through research in both literature and at the Lunar and Planetary Science Conference. This novel theorizes about real people sent to Mars using the
Monolayer cell cultures are currently the most common in vitro method used to assess the effects of medications on human cells. Unfortunately, the thin layer of cells grown in a monolayer culture do not accurately mimic the three-dimensional nature of tissues and organs. This causes the drugs to react differently with the monolayer cells than with human tissues, and experimental results are often not applicable in the design of treatment strategies. One way to make cells in vitro behave more like human tissues is to encapsulate them in appropriate materials. When these encapsulated cells are treated with medications (e.g., Taxol), they will give a more accurate prediction of the effects of the drugs on clinically relevant cell types (e.g., liver, endothelial, and cancer cells). My research has been focused in two areas. First, characterizing the effects of Taxol on relevant monolayer cell cultures in terms of viability and apoptosis. These results serve as the basis for comparison with encapsulated cell systems. The second focus of my research has been the development of appropriate cell encapsulation technologies that maintain cell viability and functionality for extended time periods (1-4 weeks). Both alginate and collagen were investigated as potential matrix materials. Preliminary experiments with HepG2 cells encapsulated in 2% sodium alginate beads showed significantly decreased viability (28% compared to 85% in control cultures). Lower alginate concentrations of 1% and 0.75% significantly improved viability to a level of 70%. I will additionally report data from ongoing experiments in thin-film encapsulation in a collagen matrix and the addition of medium components to improve viability in alginate systems.

FACTORY FARMING: HUMANS, ENVIRONMENT, AND DOMESTIC ANIMALS

Industrialization in America has intensified animal “farming” to the point that it is affecting the health of humans, the environment and the animals themselves. When humans deprive animals of the most basic needs in the factory farms, humans become desensitized to the suffering of life. Besides the effect on mental health, intensive farming has been detrimental to Americans’ physical health. The top reasons Americans die today, heart disease and cancer, have both been linked to a meat-based diet. With all the chemicals, hormones and pesticides that are put into the animals Americans eat it is no wonder that humans and the environment are being adversely affected. Industrial farming is a major contributor to topsoil erosion, water supply shortage, global warming, endangering wildlife, and land usage debates. A literary review, along with various fieldwork experiences contributes to this work. An internship at Farm Sanctuary in Watkins Glen, New York showed the other extreme, where non-human animals were treated much better than the humans that took care of them. A slaughterhouse in Athol, Massachusetts and a stockyard in Bath, New York both showed a similar desensitization to the animals they handled; however the small-family slaughterhouse still showed some compassion. This work links current farming practices to ecological and human health problems by comparing small-family farms and plant-based diets to factory farms and meat-based diets. Public education needs to emphasize the interconnections between humans and the rest of nature, encouraging the linkage of morals to money and necessitate small family farming once again.

EUKARYOSIS VIA SPIROCHETE GENOME INCORPORATION

Some proponents of endosymbiotic theory, led by Dr. Lynn Margulis, hypothesize that the symbiosis of a spirochete-like eubacterium and a type of archaeabacterium resembling Thermoplasma gave rise to the undulipodiated eukaryotic cell. The theory suggests that spirochetes attached themselves to and thus provided increased motility for the Thermoplasma-like organisms. The spirochetes eventually entered the host cells and their motility proteins were incorporated into the host, later forming the undulopodia and their underlying kinetosomes as well as systems of cell organization (e.g. mitotic spindles, microtubule organizing centers, etc.). It is expected that certain proteins would be conserved in the evolutionary occurrence described above. Thus, the species of spirochete closest related to the ancestral symbiont would contain many of the same proteins as microtubular structures, including undulopodia (eukaryotic flagella). To test the hypothesis, hindgut preparations from the termites Cryptotermes cavifrons and Reticulitermes flavipes were fixed and incubated in fluorophore-bound antibodies to motility proteins alpha-tubulin, beta-tubulin, gamma-tubulin, cenexin, pericentrin and nuclear mitotic arrest protein. Spirochetes were examined and information concerning the distribution of these cytoskeletal proteins in the hindgut protists was documented. Preliminary results do not indicate the presence of any of the tubulins, nor of cenexin, in the spirochetes, but further work must be done to confirm these data. The protists show the general distribution of the proteins that would be expected, with tubulins localized to kinetosomes, axostyles, and undulopodia, and cenexin found in the general area of the kinetosome.
A high degree of regulation is evident in the genome sequence of Geobacter sulfurreducens, an anaerobe with few metabolic options. For example, efforts to further investigate the potential involvement of Fur in various metabolic processes such as Fe(III) reduction.

Factors affecting nest success of piping plovers (Charadrius melodus) on Cape Cod was evaluated using data collected on the Sandwich beaches, Cape Cod, during 2001, and data collected by the Massachusetts Audubon Society on 33 Cape Cod beaches from 1998 to 2001. A total of 420 nests were monitored and annual nesting success during the period was 73%, 47%, 30%, and 61%, respectively. Logistic regression analyses conducted thus far indicate that year and nest protection exclosures are significant variables affecting nest success. Other variables that will be examined include date of nest initiation, study site location, and human disturbance. Results from this work will help to guide management decisions aimed at producing a viable population of piping plovers on the Atlantic Coast.

A high degree of regulation is evident in the genome sequence of Geobacter sulfurreducens, an anaerobe with few metabolic options. For example, at least 35 genes appear to be associated with Fur (ferric uptake regulator) as suggested by the identification of homologues to the E. coli “fur box” consensus sequence upstream of the genes. This is unexpected as Fur is generally associated with the regulation of iron uptake under iron-limiting conditions in other organisms, and it seems likely that more than enough iron for assimilatory purposes would be available in the anoxic environments in which Geobacter species are generally found. However, Fur has been shown to play a role in regulating flagellar and pili-mediated motility in some organisms and we previously found that Geobacter regulates expression of pili and flagella in response to growth on insoluble Fe(III). Therefore studies were initiated to investigate the potential role of Fur in the regulation of these processes. A Fur homolog was identified from the genome sequence of G. sulfurreducens (http://www.tigr.org) by comparison analysis and PCR primers were designed for amplification of fur. The putative fur gene was cloned into an expression vector and protein was expressed and purified from E. coli in order to initiate DNA binding studies. Construction of a G. sulfurreducens mutant defective in producing Fur is under development to assess the role of Fur in the differential expression of pili and to further investigate the potential involvement of Fur in various metabolic processes such as Fe(III) reduction.

Wild women in Toni Morrison and Louise Erdrich create female characters in their fiction that defy contemporary gender norms and turn our notions about gender on their heads. These protagonists are what Toni Morrison aptly calls, “Wild Women.” These are women who are not refined housewives, and they differ greatly from the plain women in the societies in which they are depicted. They are often “masculine,” independent, and strong-willed women who make the community’s ideals for women seem ridiculous. This paper is an exploration of those female characters, and why the authors chose to convey women in these ways. Close examinations of six texts (three by Morrison: Sula, Song of Solomon, and Paradise and three by Erdrich: Love Medicine, Tales of Burning Love, and The Bingo Palace), as well as literary criticism and published interviews with the authors all yield a tremendous amount of information about characterization and the motives behind the portrayal of deviant women characters. There are social and political reasons for these portrayals, which challenge our notions of the ways in which women behave, and pointing out certain beliefs about women and gender that we tend to take for granted.
demands of his patrons and a keen awareness of the events shaping the history of 19th century America. Although no concrete evidence as to Lane’s political or personal beliefs remain today, it will be shown through his paintings and his associations that Whig politics and maritime issues of his day were among his concerns while painting.

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ELLEN PIANGERELLI (ELLEN PIANGERELLI), DEPARTMENT OF COMMUNICATION, UMASS AMHERST, AMHERST, MA 01003

CREATION AND PERCEPTION: POST-CONSUMER ART

The reception of all art is highly dependent upon the venue in which it is placed. In order to better observe, document, and understand the many ways individuals and the media consume art, I have created sculptures that address issues of consumerism and individuality within a media-infiltrated society. These sculptures were created from salvaged, recycled, found, discarded, natural, and inexpensive items, providing the viewer with an introspective look at consumerism. Upon completion of the sculptures, I displayed them in various solo and group exhibitions. Each venue provided a different environment, and thus, significantly different perceptions and attitudes, where I was able to observe and document viewers’ sensory reactions while acting as a casual observer. In addition, any publications regarding the work or myself were archived in order to compare media representation and individual perceptions to each show. The written portion of this project includes descriptions of the sculptures and venues and an analysis of individuals’ reactions to the art. The presentation of this project includes a slide show display and an oral component explaining the process, materials and objective of each sculpture as well as the observational data collected when exhibiting the work. Art is not completely finished until the public has received it; therefore, if I am able to better understand consumers of art, I am better able to create art indicative of my intentions.

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JONATHON PODOLSKY DEPARTMENT OF GEOGRAPHY & DEPT. OF CLASSICS, UMASS AMHERST, AMHERST, MA 01003

A SPATIAL EXPLORATION OF MULTI-LAYERED HISTORICAL AND GEOGRAPHICAL INFLUENCES ON ROMAN IDENTITY

Residents and citizens of Italy as well as visitors who are not accustomed, trained, or inclined to look throughout the visual landscape for symbols of identity will fail to see a rich pattern of meaning embedded in their surroundings. Viewers actively reading the landscape can find a plethora of symbols that help to describe identity and create a sense of place. These symbols show that Rome is not just one city but many. Geographical layers are multiple; Rome contains the capitals of three sovereign nations: Italy, the Vatican, and the Knights of Malta. Temporal influences are ancient, medieval, renaissance, and modern. Major religious influences are pagan, Jewish, Catholic, and multi-denominational. Rome retains symbols of the Ancient Roman Empire together with its new symbols of Americanization, Globalization, and Europeanization. Symbols of a United Italy as well as Europe uniting under one currency contrast with rallies for better treatment of workers and equal rights for non-citizens. Other visible/readable patterns in the landscape refer to transportation/travel, sports, money, art, mythology, architecture, archaeology, and popular culture. The interactive visual display includes photographs, ticket stubs, booklets, brochures, coins, currency converting graphs, and a visual guide, mounted on a background of colors from the Italian flag. Ideally the viewer will be spurred on to read his or her landscape with greater detail, attempt to derive a sense of place at home and while traveling, study history and/or geography, and most importantly to go Rome and enjoy it. Arrivederci.

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DOROTHY POWER (GERALD EPSTEIN), DEPARTMENT OF ECONOMICS, UMASS AMHERST, AMHERST, MA 01003

EFFECTS OF MONETARY POLICY ON INCOME STRATIFICATION IN THE UNITED STATES DURING THE POST-WAR PERIOD

The distribution of income in the United States has become increasingly inequitable since World War II. While the standard of living of the United States as a whole has improved since World War II, the wealthy have come to control a greater percentage of the country’s wealth and the poor a smaller percentage. One possible factor in this trend is the use of monetary policy by the central bank. There have been many studies that look at this connection, but inquiry into this area has traditionally used relatively unsophisticated econometric techniques to model the relationship. This study seeks to study the connection within the framework of a more appropriate statistical technique, the method of cointegration. Furthermore, it is likely that monetary policy affects different types of income differently. The study will apply the cointegration method to study the effects of monetary policy on several different types of income, including personal income and Rontier income. The results of the study may be used to assist policymakers in creating laws that do not concentrate a financial burden on any.

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SHIVA RASTEGAR (KLAUS NUSSLIEIN), DEPARTMENT OF MICROBIOLOGY, UMASS AMHERST, AMHERST, MA 01003

DIFFERENCES IN BACTERIAL DIVERSITY BASED ON CARBON SOURCE AVAILABILITY

Differences in bacterial diversity based on carbon source availability. S. Rastegar, C. C. Barreto, and K. Nüsslein  

ABSTRACT  
The bacterial community in this study was sampled from Davis Mine, an abandoned pyrite mine located in Charlemont, Massachusetts. The objective was to describe diversity of acidophilic heterotrophic bacteria that can grow on two different media, one containing a higher concentration of total carbon. The molecular technique used to determine the diversity uses the sequence of the gene that codes for the ribosomal small subunit rRNA. DNA was isolated from bacteria cultured on two different types of media. PCR was used to specifically amplify bacterial 16S rDNA. The resulting amplified 16S rDNAs were cloned and cut with restriction enzymes. The restriction patterns were used to identify diversity in the 16S sequence of the environmental
bacteria. The 16S sequences extracted from environmental bacteria were compared to known sequences in databases to give an identification of the environmental bacteria. As expected, we found more intensive growth on the plates containing higher carbon concentrations. However, higher diversity was found in the media that contains a lower concentration of carbon. Our interpretation of this result is that some bacterial species are more effective in converting the carbon sources present in the media to biomass, outcompeting other species that grow slower.

**185**  
**JAPANESE**  
**ART GALLERY**  
**11:00 - 12:00**

**LOUIS REALE** (STEPHEN FORREST), DEPARTMENT OF JAPANESE, UMASS AMHERST, AMHERST, MA 01003

**THE GENBUN ITCHI MOVEMENT: REFORMS IN WRITTEN JAPANESE**

The late 19th and early 20th centuries in Japan, especially the period from 1900-1910, saw a switch in written Japanese from a courtly style which was based not on spoken Japanese, but on literary tradition, to a style which was based on the spoken Japanese language. This reform, spearheaded by the Genbun Itchi Movement, is known as genbun itchi, (unification of the spoken and the written). This paper uses a children's book, Kagamemaru, by Iwaya Sazanami, to illustrate the differences in written Japanese before and after the reforms of the Genbun Itchi Movement. The story was originally published in 1891 using the classical style of writing. Iwaya then rewrote the story 30 years later using the modern style of writing which was based on spoken Japanese. Examples from the two versions are used as a basis for comparison. In order to facilitate greater understanding of the topic, a history of the Japanese written language leading up to the reforms is included to identify reasons why the reforms were necessary, as is a summary of different ideas at the time regarding which direction the reforms should take. A reader of this paper can see why reforms were necessary, what the possible solutions were, and what the eventual outcome was.

**186**  
**PSYCHOLOGY**  
**ART GALLERY**  
**10:00 - 11:00**

**ALICIA REED** (LINDA ISBELL), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

**SEXUAL HARASSMENT, BULLYING, OR TEASING? THE EFFECTS OF RACE ON PERCEPTIONS OF SCHOOL-BASED PEER SEXUAL HARASSMENT LAWSUITS**

Recently legal scholars, educators, and psychologists have started to examine a new area of litigation, school-based peer sexual harassment.

Research has primarily focused on what behavior constitutes this type of harassment, as well as the extent to which K-12 students experience it. However, little is known about how racial factors may influence perceptions of harassment behavior. This study examines this question. Over 200 male and female college students were randomly assigned to read an adapted summary of a school-based peer sexual harassment case. Participants read one of nine versions of the case, reflecting the following manipulated independent variables: victim race (black v. white), harassers race (black v. white), and school district majority (black v. white). An additional case summary included no racial information and serves as a control. After reading the summary, participants' completed questionnaires designed to assess their perceptions of the case. They then completed questionnaires reporting their own experiences with harassment. The data will be analyzed as a function of participant gender, victim race, harassers' race, and racial composition of the school district. It is expected that when the victim's race is different from both the harassers' race and the majority racial composition of the school, participants will report higher judgments of guilt and will award larger settlements. In addition, it is hypothesized that participants may have biased expectations about frequent conduct in different racially composed schools. Consequentially, it is expected that participants will perceive and assign greater guilt when the school is composed of predominately white students.

**187**  
**PSYCHOLOGY**  
**ART GALLERY**  
**10:00 - 11:00**

**VICTORIA SALESMAN** (MAUREEN PERRY-JENKINS), DEPARTMENT OF PSYCHOLOGY, UMASS AMHERST, AMHERST, MA 01003

**THE RELATIONSHIP BETWEEN WORK CONDITIONS AND MARITAL QUALITY FOR DUAL-EARNER HETEROSEXUAL COUPLES EXPERIENCING THE TRANSITION TO PARENTHOOD ABSTRACT**

The purpose of this study will be to explore how the work conditions (e.g., autonomy, flexibility) of dual-earner working-class couples are related to their marital quality across the transition to parenthood. One hundred and fifty couples were interviewed at five time points, from the third trimester of pregnancy to the baby's first birthday. Data from Phase 1 (Time 1, prenatal interview) and Phase 3 (Time 2, postnatal-return to work interview) will be examined in this research. Analyses will examine how spouses' conditions of work, specifically autonomy, flexibility, and support at Time 1, are related to husbands' and wives' reports of marital love and conflict at Time 2.

**188**  
**RESOURCE ECONOMICS**  
**BRIDGE**  
**11:00- 12:00**

**NYSSA SCHLOYER** (BERNARD MORZUCH), DEPARTMENT OF RESOURCE ECONOMICS, UMASS AMHERST, AMHERST, MA 01003

**REVISITING AN ECONOMETRIC APPROACH TO MODELING THE EFFECTS OF WEATHER AND TECHNOLOGY ON CRANBERRY YIELDS IN MASSACHUSETTS**

Every year, the cranberry industry is faced with estimating yield in order to plan marketing strategies. In the early 1980s, Bernard Morzuch (University of Massachusetts) developed a model for predicting cranberry yield in Massachusetts. The model, which produced very respectable one-year-ahead forecasts, was given to Ocean Spray Cranberries, Inc. Substantial changes in the cranberry industry since that time warrant the redevelopment of the model, which expresses cranberry yield-per-acre as a function of selected meteorological phenomena and technology proxies. Technology is incorporated into the model as both a linear time trend, which accounts for standard technological progress, and various slope and intercept dummy shifters. These variables account for changes in yield due to the assimilation of certain technological advancements,
such as wet-harvesting techniques, sprinkler systems, Integrated Pest Management practices, and higher-yielding cultivars. While cranberry yield expressed solely as a linear function of technology captures the general movement in actual yield over time, the inclusion of weather variables serves to explain additional year-to-year variation. Current weather data and recent technological advances are incorporated into the Morzuch model, which is then re-examined to assess its continued accuracy. However, the model may be affected by artificially reduced output due to volume restrictions under the cranberry marketing order. Growers can employ any method to reduce quantity such as bog flooding, other changes in cultural practices, and even costly dumping of excess production. The impact of marketing order changes has not previously been addressed in the model used to predict cranberry yields.

PHENOLS AS BIOLOGICALLY ACTIVE MOLECULES

Phenols have been known for pharmacological activity — for example as mild anesthetics — or as antioxidants due to their radical properties. Phenols with attached imidazole and benzimidazole groups are known for their roles in histidine chemistry. In addition, they are of much interest as possible anti-cancer drugs. Originally desired for studies of electronic structure as a potential building block for electronic materials, a phenol with an attached benzimidazole was synthesized and submitted to the National Cancer Institute for testing as an anti-cancer agent. In a standard 3-cell line, one dose primary anticancer assay, results showed promising activity against breast and CNS cancer cells. Further in vitro testing with 60 human tumor cells were sufficiently promising to warrant in vivo hollow fiber assays in mice, which are currently underway. These promising results of the first compound have prompted the synthesis of a phenol with an attached imidazole. The two compounds have the same phenol backbone with an imidazole replacing the benzimidazole. The synthesis is currently underway using steps with precedent in the literature. And accordingly, it is expected that the imidazole would have the same anti-cancer activity that the benzimidazole does. If the synthesis can be achieved, we have a standing offer from the National Cancer Institute to submit samples for testing. Its radical and magnetic properties will also be investigated for their potential affects as pharmacological agents. Finally, molecules that are structurally related to both compounds will also be investigated where they can readily be synthesized by related chemistry.

POLYMERIZATION CHEMISTRY OF SUBSTITUTED LACTONES

Lactones are a class of compounds that are extremely useful for a variety of chemistry, including both small molecule and polymerization chemistry. Herein we present our studies using substituted lactone monomers, in particular d-valerolactones, for the preparation of several types of polymers. Allyl-substituted d-valerolactone, where the allyl substituent is present alpha to the carbonyl group, forms the basis of the work. We have used allyl-substituted d-valerolactones as monomers in a variety of polymerizations including homo-, co-, and cyclopolymerizations, which yield several different types of polymers (polymers and polyolefins) that are amenable to further modification. These new functional polymers may ultimately find use in the fields of biomaterials and/or degradable thermoplastics.

THE EFFECT OF SEROTONIN RELEASE AS A RESULT OF 3,4-METHYLENEDIOXYMETHAMPHETAMINE TREATMENT IN NEONATAL RATS IN COMPARISON TO ADULT RATS.

3,4-Methylenedioxymethamphetamine (MDMA; “Ecstasy”) has become a popular drug throughout the world, especially among young adults involved in the “rave” culture. The aim of this study was to investigate whether acute MDMA treatment has different effects on 5-HT release in neonatal animals in comparison to adult animals. In order to study this, 5-HT release was assessed by examining the expression of an immediate early gene, c-fos, which is induced by MDMA through activation of post-synaptic serotonin receptors. C-fos induction was examined by immunocytochemical staining for Fos, the protein product of the c-fos gene. Ten adult male rats and twelve 4-day-old male pups were examined to compare the regional differences and amount of Fos staining. Half of the animals received 20 mg/kg of MDMA and the other half received saline vehicle as a control. In the adult animals, the structures that had significant positive staining were the frontal cortex, somatosensory cortex, auditory cortex, caudate putamen, hypothalamus, amygdala, and the amygdala. These findings are consistent with the findings of previous studies examining activation of fos by MDMA in adult rats. The structures stained in the neonatal animals are currently in the process of being analyzed and have not yet been determined. The developmental effects of MDMA are a growing concern to researchers in this field because as MDMA use increases, there may be more expectant females using the drug during their pregnancy and the effects on the unborn child are yet to be known.
CELLULOMONAS UDA: A MODEL SYSTEM FOR CELLULOSE BIOFILMS

Previous research in our laboratory has indicated that Cellulomonas uda (C. uda), a cellulose-degrading, facultatively aerobic bacterium produces exopolysaccharide and forms aggregates of cells associated with cellulose when starved for nitrogen. The aim of this thesis project was to characterize C. uda biofilm architecture and determine conditions necessary for maintenance of biofilm structure. C. uda was cultured in a growth medium containing a limiting concentration of nitrogen. Under these conditions, biofilms formed on filter paper in the culture vessels and formation was monitored microscopically using phase contrast and fluorescence microscopy. Typical biofilm structures were observed closely associated with the cellulose fibers of the filter paper. Biofilms were not removed by washing. Nitrogen levels played an important role in the biofilm formation; only in cultures containing less than 0.01% NH4Cl per 0.0054 g of cellulose did dense, mushroom-shaped aggregations of cells encased in exopolysaccharide form. C. uda biofilms detached from cellulose and resumed planktonic growth when excess amounts of nitrogen were added. Under conditions of nitrogen deficiency, C. uda cells aggregated on cellulose and produced structures with the architecture and dynamic physical characteristics typical of biofilms.

UNDERSTANDING FAITH AND THE FALUN GONG

On April 25, 1999, a modern spiritual group known as the Falun Gong (a.k.a. Falun Dafa) launched a major demonstration, pleading for official recognition from the Chinese government, near Tiananmen Square in Beijing. In response, the CCP (Chinese Communist Party) maneuvered to annihilate the group, utilizing both systematic and violent means. Despite the increasing pressure enforced by the CCP, however, many Falun Gong practitioners remain unwavering in devotion. Using international media sources and documented interviews with practitioners, this paper examines the peculiarities of the preservation of belief as it relates to the Falun Gong. Unique circumstances during the beginnings of the Falun Gong are cited as possible catalysts to the group's widespread popularity. In addition, other factors are noted in an attempt to explain the group's perseverance, displayed in spite of CCP opposition. These justifications attempt to clarify the essence of the Falun Gong and answer why the Falun Gong has not diminished, which is contradictory to the predictions.

PARALLEL COMPLEXITY OF DIFFUSION-LIMITED AGGREGATION

Diffusion-Limited Aggregation (DLA) is a growth process that produces complex fractal patterns from simple construction rules. DLA starts from a seed particle and grows by particles diffusing in the environment of the aggregate until they touch and stick to the growing aggregate. DLA exhibits self-similarity; large aggregates have the same appearance as small aggregates after scaling. We investigate the complexity of DLA aggregates where complexity is defined in terms of the minimum number of parallel steps needed to construct an aggregate of a given size. We define a subset of DLA that consists of the first particle chosen in each such parallel step. Computer simulations show that this subset has the same large scale structure as DLA itself, but a much lower fractal dimension. A theoretical prediction is given for the fractal dimension of the subset in terms of known fractal dimensions of DLA and is confirmed by the computer simulations.

LITERATURE OR POP CULTURE: MAINSTREAM RECOGNITION OF SEQUENTIAL ART

Comics in American society have been considered status symbols, political weapons, trashy papers, collector's items, and modern art. Only within the last two decades, however, has the medium attracted serious attention from the greater part of the artistic and literary communities. Comic books now increasingly appear in public libraries, college classrooms, and conventional bookstores. Reviews and analyses of comics appear in magazines like Time, Newsweek, Entertainment Weekly, and Rolling Stone. This paper explores the shift in public perception of American comics over the course of a century; what leads some comic books to be considered valid art or literature by mainstream audiences and the academic community; and what steps members of the comic book industry have taken to change the face of the medium. Particularly relevant works examined include Art Spiegelman's Maus, Chris Ware's Jimmy Corrigan: The Smartest Kid on Earth, Alan Moore's and Eddie Campbell's From Hell, and other books that exemplify the elements contributing to the recent groundswell in attention for comic art: an increased diversity of genres, experimentation in storytelling, and a move away from traditional periodical format. These elements move the public perception of comics closer to that of traditional art or literature.
DOES SEED MASS DIFFER BETWEEN NATIVE AND INVASIVE PLANTS?
Non-native, invasive species are those which are introduced into a new habitat by humans and then have a negative effect on the native species already there. In plants, one possible explanation for why some non-native species might be able to invade a new habitat is that the non-native, invasive plants have greater seed mass than the natives. Having larger seeds can mean that seedlings have faster initial growth and greater ability to establish when light is limiting, both of which can be associated with greater competitive ability. To test the hypothesis that non-native, invasive plant species have greater seed mass than natives, seed mass was compared between the most common non-native and native grasses in a coastal grassland in northern California. Seeds from four native and eight non-native common grass species were collected at the University of California Bodega Marine Reserve 100 km north of San Francisco and weighed. Analysis of variance followed by pairwise comparison between means using Tukey's test showed that mean seed mass differed significantly between species. However, the seeds of the non-native, invasive grasses were not consistently heavier than the seeds of the native grasses. Therefore, seed mass does not appear to be linked to invasiveness in this system. Other, unknown factors must be responsible for the ability of these non-native species to invade this grassland.

CONDUCTIVITY OF POLYELECTROLYTE SOLUTIONS

The diffusion of macromolecules in living cells is known to occur very effectively. We studied these diffusion processes in a simpler system through measurements of the frequency-dependent conductivity of polyelectrolyte solutions. Our experiments used sodium-poly(styrene-sulfonate) as the simplest charged macromolecule. Solutions of different chain lengths and concentrations were prepared, and the conductivities of the solutions were measured over a wide range of AC frequencies. We did not observe any significant frequency dependence in the conductivity of the solutions. We have also determined that polyelectrolyte solutions do not completely obey Kohlrausch's law for ionic solutions. We wish to integrate the conductivity data to the diffusion measurements made using other techniques, so as to gain a fundamental understanding of the diffusion processes of macromolecules.

ASSEMBLY OF HIGHER ORDER POLYMER STRUCTURES BY MOLECULAR RECOGNITION

Adaptation of self-assembly processes to the controlled aggregation of synthetic polymers provides a useful method for the creation of novel higher order architectures. We have recently incorporated specific recognition elements into polystyrene-based polymers. Unlike biopolymers such as DNA and RNA, these synthetic polymers are highly flexible and randomly substituted. This combination of randomness and flexibility provided recognition induced polymersomes (RIP). By utilizing unbound recognition sites we have selectively incorporated functionalized gold nanoparticles and functional molecules into the polymersome membrane. Specific incorporation not only provides a means of controlled assembly of molecules on many scales but has been observed to allow control of the size of the polymersomes themselves. We have also demonstrated that change in polymer concentration and temperature of the system can control the size of the RIP’s. Recently we have also observed that alteration of nonbinding structures in the recognition units can be used as a method for control of the properties of the recognition induced polymersome system.

ABILITY OF RHESUS MONKEYS TO COPE WITH CHALLENGING EVENTS VARIES AS A FUNCTION OF HOUSING ENVIRONMENT

Coping with daily challenges is an important part of rhesus monkey life. In nature, monkeys are exposed to predators, food shortages, and aggression from troop members. In the laboratory, monkeys are exposed to challenges related to husbandry and veterinary care. This study examined the reaction of laboratory monkeys to strange, novel stimuli. Behavioral data were collected on 23 individually housed male rhesus monkeys exposed to a conflict task wherein monkeys had to overcome their reaction to a strange stimulus in order to obtain a treat. The latency to retrieve the treat and behavioral responses were recorded. Monkeys retrieved a treat under four conditions: on their cage with a covered box nearby, from the covered box, from an open box containing a large-eyed, stuffed animal, and from an open box containing a small-eyed, stuffed animal. Responses were examined as a function of housing (pen vs. baboon sized cage), previous behavioral history (abnormal vs. normal), and rearing. The large-eyed animal produced substantially increased latencies and elicited a higher level of tension-related behaviors than other conditions. Although this response was unaffected by previous behavioral history or rearing, reaction to the novel stimulus was significantly influenced by cage type. Monkeys in baboon cages took significantly longer to retrieve the treat and showed more tension behavior than monkeys housed in pens. These findings suggest a link between cage size and ability to overcome conflicting motivations that may either be related to escape distance or to some more general effect of the cage environment.
THE RECIPROCAL EFFECTS OF ALTERNATIVE SPRING BREAK

The Alternative Spring Break (ASB) program based in the Department of Anthropology at UMass Amherst, is a joint endeavor between students and grassroots organizations to effect social change, focusing on solutions to poverty and political disenfranchisement by blending theoretical knowledge acquired in a professor-less classroom with work in a poor community. This program represents a substantial investment by the university, and consequently its effectiveness ought to be evaluated. Both qualitative and quantitative measures were used to study the effects of the program among students and in the affected communities. Interviews with ASB group members, informal conversations with countless others, questionnaire results, discussions with the founder of the program, and discussions with selected members of two Virginian communities, New Road and Cape Charles, that participate in the program are the sources of data. Written from an insider perspective, the project focuses on the effects of self-perceived identity and inter-personal interactions to the experience of academic and personal growth in ASB participation. Beginning with a historical account of both the university and community's involvement with the program as a context, the predicted results report on issues of personal growth, academic responsibility and integrity. Predicted conclusions will demonstrate the relationship of personal growth to personal identity and inter-personal interactions. Conclusions will likely offer support for the professor-less classroom as an effective setting for developing student academic responsibility while upholding, if not increasing, educational quality.

RISK AND PROTECTIVE FACTORS OF SELF-ESTEEM FOR LATINO ADOLESCENTS

This study will examine risk and protective factors of self-esteem in Latino adolescents. All participants in this study are in the sixth to eighth grades, come from different school districts in a Midwestern state, and were picked by random sampling. They were given student surveys to answer on all variables within a two day period. The variables included demographic information as well as measures of self-esteem, daily hassles, and social support. To find out if these variables are associated with self-esteem in our sample population, we will use descriptive statistics followed by correlations and one way ANOVAs within all ethnic groups. We predict that the ethnic group with the greatest probability of a lower general self-esteem score will be Latinos. After this has been established, we will look at the risk factor of daily hassles and the protective factor of social support. Using a hierarchical regression model, and controlling for demographic variables, we will attempt to determine whether social support will protect the self esteem of Latino adolescents or whether daily hassles is an overriding risk factor.

GENDER, VOCATIONAL ORIENTATION, ATTRIBUTED RESPONSIBILITY, AND EMPATHY

This investigation studied the influence of gender, vocational orientation, and attributed responsibility on empathic responding toward HIV/AIDS sufferers. We hypothesized that: (1) females would show a higher level of empathy than males; (2) Nursing and Psychology majors would show a higher level of empathy than Management and Computer Science majors; and (3) subjects would show a higher level of empathy towards a target who contracted HIV/AIDS through blood transfusion rather than through unprotected sex. Subjects were from classes in Psychology, College of Management, College of Nursing, and Computer Science at the University of Massachusetts Boston. They filled out an anonymous demographic questionnaire, including vocational information. The remaining two steps were counterbalanced. Half the subjects first completed the Interpersonal Reactivity Index (a measure of dispositional empathy). They then read a diary entry in which the target had contracted HIV/AIDS either
through frequent unprotected sex or through a transfusion following an accident, which was followed by a scale intended to measure empathic responding regarding the diary they had just read. The other half carried out these two steps in reverse order.

### CHEMISTRY BRIDGE 10:00 - 11:00

**MARK D’AGOSTINO** (MICHELLE FOSTER), DEPARTMENT OF CHEMISTRY, UMASS BOSTON, BOSTON, MA 02125

**SURFACE REACTIONS ON MAGNESIUM OXIDE AS A FUNCTION OF RELATIVE HUMIDITY**

The elimination of hazardous solvents within a given reaction can proceed by the introduction of a catalyst into the system. Metal oxides are often used either as supports or alone as catalysts. We have developed a sample cell that allows the investigation of the dynamic equilibrium occurring between gas phase adsorbates and the solid substrate at pressures on the order of 1000 Torr. In this manner, we are able to investigate the reactions occurring under conditions typical of catalytic processes. With its simple rock salt structure and single stable low-index surface orientation, magnesium oxide’s lone valence state makes it a model basic oxide. Crystals of MgO were cleaved along the 100 faces and FTIR was used to monitor interfacial interactions of inorganic gases such as CO2, with both the dry MgO(100) surface and one coated with known coverages of water as a function of pressure and temperature under conditions relevant to typical catalytic reactions.

### ENGLISH LITERATURE AV-1 2:45

**KRISTIN BLANK** (RAJNI SRIKANTH), DEPARTMENT OF ENGLISH, UMASS BOSTON, BOSTON, MA 02125

**FOUND TRUTH IN THE HOLLOWS OF FAULKNER’S HOMES**

William Faulkner complicates the story: his intersecting plots, characters and timelines create a complex and intricate style. It is this style of storytelling that engages the reader to search, find, and then accept or refute the truth of his story. Absalom, Absalom! best illustrates the complicated technique and structure which relay truth to the reader. To tell the story of the Sutpen family, Faulkner intertwines facts and fictions, narrators and listeners, the past with the present; the boundaries of conventional storytelling are dissolved and the story becomes truths and untruths. Absalom, Absalom! also provides a meaningful and central image and edifice that the reader can use as a guide for understanding the truth: the home of the Sutpen Hundred. Not only does the home lead to the solidification of the plot for the reader, but it also represents the manner in which the reader encounters truth. It is possible for the reader to envision this structure of the home as a representation of Faulkner’s literary structure. Spatial theory and the interpretation of physical and literary structures will be used to support the idea of the Sutpen home as the literal and figurative home of Faulkner’s truth.

### ENGLISH AV-4 11:00

**EMMA BRITT** (ROBERT CROSSLEY), DEPARTMENT OF ENGLISH, UMASS BOSTON, BOSTON, MA 02125

**“BEREN AND LUTHIEN:” CENTRAL TO UNDERSTANDING TOLKEIN**

The story, The Lord of the Rings, by J. R. R. Tolkien, takes place in the imaginary world, Middle-earth. Although The Lord of the Rings is Tolkien’s most popular work, he also wrote an extensive book concerning the history of Middle-earth called, The Silmarillion. Within The Silmarillion there is a chapter entitled “Beren and Luthien” that is the story of two lovers who must go on a quest to obtain a precious jewel in order to be with each other. Although Tolkien alludes to the tale of “Beren and Luthien” many times in The Lord of the Rings, scholars have under-appreciated its significance within Tolkien’s major work, yet in The Letters of J. R. R. Tolkien, Tolkien refers to “Beren and Luthien” as “the chief work of The Silmarillion.” (p. 180), and also indicates that The Lord of the Rings is an extension of “Beren and Luthien” (p. 180). In studying The Lord of the Rings and “Beren and Luthien” side by side, I have found extensive parallels between the two works, especially in terms of Tolkien’s major literary themes: heroism, destiny, and the function of fairy-stories. By also studying The Letters of J. R. R. Tolkien and major secondary studies of Tolkien’s writing, such as J. R. R. Tolkien: The Author of the Century, by Tom Shippey, I have found that “Beren and Luthien” is central to understanding The Lord of the Rings.

### PSYCHOLOGY ART GALLERY 3:00 - 4:00

**JAMES COSTELLO** (S. TIFFANY CUNNINGHAM), DEPARTMENT OF PSYCHOLOGY, UMASS BOSTON, BOSTON, MA 02125

**EFFECTS OF MORPHINE ON RAT MATERNAL BEHAVIOR AND FOS IMMUNOREACTIVITY IN THE MEDIAL PREOPTIC AREA (MPOA)**

Opiate use among young women is widespread (National Household Survey on Drug Abuse, 1997) and implicated in emotional and physical abuse directed at offspring. To further investigate the impact of morphine on maternal interactions, this study examined dam-pup interactions during the three-week lactation period. The pups in this study were sired by nulliparous, Sprague-Dawley females and tested twice during the three-week lactation period. Dams were administered either saline or morphine (5mg/kg) IP and then tested for changes in maternal behavior (MB). MB testing consisted of placing the mother in the home cage with four pups and recording the indices of pup retrieval, nursing, crouching, and licking. Ninety minutes following the termination of MB tests, each animal was sacrificed and transcardially perfused with isotonic saline followed by 4% paraformaldehyde. Brain tissue was removed, cryoprotected in a sucrose-4% paraformaldehyde solution, and subsequently sectioned at 30 um. Tissue sections were then washed, treated to reduce endogenous peroxidase, incubated in c-fos antibody, and the visualized with Diaminobenzidine (DAB) with Nickel solution. Two blinded researchers then assessed Fos immunoreactivity. Results revealed a decrease in both MB and Fos immunoreactivity in the medial preoptic area.
FAMILY STRESS AND CHILDREN’S TELEVISION VIEWING HABITS

Many aspects of television viewing have been studied in relation to development outcomes. Studies have shown that demographic contributions to the amount of television that a child watches. Children of lower socioeconomic status as well as children of certain ethnicities watch more television than others. Television has been shown to have both good and bad effects on children, including increased vocabulary and aggression. Therefore it is important to thoroughly investigate all of the variables that determine the amount of television that children watch. The present study researches two additional variables: the level of stress in families, measured by the Parenting Stress Index Short Form, and how it relates to the amount of television that children watch. This research also investigates the level of social support that parents have, measured by the Medical Outcomes Study Survey, and how it affects their children’s viewing time.

CATALYTIC PROPERTIES OF MAGNESIUM OXIDE UNDER AMBIENT CONDITIONS

The surface chemistry of metal oxides is important because of their widespread use in catalysis as either supports or active components. Surface studies of oxides are challenging due to the intrinsic complexity of the substrate and the experimental difficulty of performing surface analysis on insulating crystals. Most published studies have been conducted under UHV conditions, even though this environment is not consistent with typical catalytic reactions. The ultimate goal of this study is to design synthetic transformations that occur under ambient conditions, while avoiding the use of organic solvents. Thin films of volatile reagents are adsorbed onto single crystal MgO in equilibrium with the vapor at carefully defined pressures and temperatures near ambient conditions. Using transmission infrared spectroscopy, film thickness can be monitored by recording the vibrational absorption of active transitions. Frequency shifts, bandwidths and absorbance values are used to monitor surface reactions and interpret the structure of the interfacial region.

SITUATING THE THOUGHT OF CORNELIUS CASTORIADIS

The writings of the political philosopher Cornelius Castoriadis (1922-1997) have been largely ignored by contemporary philosophers. In the few cases in which attention has been given to Castoriadis, it has either been polemical or the author has in part misunderstood the aim of Castoriadis’ revolutionary project. Recent commentators have called Castoriadis a Post-Marxist or a Post-Modernist. In this essay I shall attempt to situate Castoriadis’ work in 20th century philosophy. I shall also argue that he is neither a Post-Modernist nor a Post-Marxists, for his philosophy does not fit within such reductionist categories, which in Castoriadis’ eyes are part of a growing retreat from autonomy. I shall also compare Castoriadis to philosophers whose work resembles his, i.e. Heidegger, Adorno, Habermas; and to those writers it is misunderstood to resemble, i.e. Lacalu and Mouffe. In doing this it will become apparent that Castoriadis is an autonomous thinker whose work eschews reductionist classification.

LONGITUDINAL STUDY OF FAMILY RESPONSES TO CHILD ADHD AND TOURETTE’S DISORDER

Limited research has been done looking at aspects of family functioning in families with a child who is diagnosed with Gilles de la Tourette’s Disorder (GTS), attention deficit hyperactivity disorder (ADHD), or at these disorders when another comorbid diagnosis is present. This study examines family functioning across diagnostic groups and associations of family functioning and child functioning at two time points. Parent-report family and child functioning measures were collected from a sample of families in which one family member was diagnosed with GTS and there was at least one unaffected child under the age of six. We anticipate that there will be an interaction between group status and time, such that patterns of family functioning will vary over time. Examining differences in functioning of families whose children have ADHD, GTS, comorbid ADHD and GTS, and no diagnosis, we hypothesize that families with a child with a diagnosis will have less competent family functioning than those with a child with no diagnosis and that families with children with comorbid diagnoses will have the least competent family functioning. Moreover, more impaired family functioning at time one will be associated with more impaired child functioning at time two, controlling for time one child functioning, particularly for those families in which children have diagnoses. More impaired child functioning at time one will be associated with more impaired family functioning at time two, controlling for family functioning at time one, particularly for those families in which children have diagnoses.
more attention and consequently are fixated longer and more often, whereas scene-consistent items are often passed over or fixated for short durations. Of greater interest, memory for such scenes shows similar phenomena, in that inconsistent items are very memorable, while memory for consistent items is often no better than guessing. In order to explain such data, two hypotheses have been formed: the encoding-based model and the decision-based model. The former states that when one perceives an item, not only does that item become encoded into memory, but memory traces for related items are also activated (via spreading activation); thus, one truly remembers the item. The latter model states that a shift in judgment (criterion) takes place in which one decides whether a particular item was in the presented scene (no real memory is being recalled). This seems to be a more probable explanation, since past eye-tracking data has shown that not all items within a scene are fixated. A spreading activation hypothesis would depend upon this (for each item must be encoded), while a decision-based model does not. The current research will combine in one paradigm eye-tracking data with recognition test results to demonstrate the plausibility of the decision-based explanation.

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ENGLISH
AUDITORIUM
2:00

JEANNE KENT (JOYCE PESEROFF), DEPARTMENT OF ENGLISH, UMASS BOSTON, BOSTON, MA 02125

A DAY IN THE LIFE OF A WOMAN
My presentation will consist of five poems from my manuscript entitled, “A Day in the Life of a Woman.” These poems are about a woman’s inner explorations of herself, her family, and the world she finds herself in. In “Dear Abby” a young woman finds herself pregnant and alone. In “What Grace Told Me At Our High School Reunion,” a woman describes some of the consequences of her father’s abandonment. A depressed housewife describes her life of regret and longing in “A Morning in the Life of a Woman.” In “Sestina,” an older woman returns to college and is anxious about writing a poem. Lastly, in “The Reflection Pool at the Forest Hills Cemetery,” a grandmother contemplates a moment of quiet joy with her grandchildren. In 2001, for the poems “A Morning in the Life of a Woman” and “Sestina,” I was the grateful recipient of the Harold Taylor Prize at the University of Massachusetts, Boston. Gail Mazur was the judge for this prize from the

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PHYSICS
NEW ENGLAND
3:00 - 4:00

HENOCK LEGESSE (GREG HUBER), DEPARTMENT OF PHYSICS, UMASS BOSTON, BOSTON, MA 02125

TWO-DIMENSIONAL ELASTOHYDRODYNAMICS
Two-dimensional hydrodynamics is an area of much exciting current research and this project is aimed at exploring a set of unsolved problems including the interaction of elastic objects in two-dimensional flows. We have constructed a two-dimensional flowing soap-film channel in order to study the behavior of elastic filaments embedded in a two-dimensional flow. The process of the experiment is to create a rectangular soap film, calibrate the setup of the experiment and study the movement of filaments (one-dimensional) in the two-dimensional soap film. Experimental results on single filaments and multiple interacting filaments will be presented. We also hope to understand some of the basic physics underlying the application of two-dimensional hydrodynamics to the flowing soap-film system.

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BIOLOGY
NEW ENGLAND
10:00 - 11:00

ALEXIA MAC PHERSON (ALEXIA POLLACK), DEPARTMENT OF BIOLOGY, UMASS BOSTON, BOSTON, MA 02125

ROLE OF OPIATE RECEPTORS IN REGULATING FOS EXPRESSION IN STRIATOPALLIDAL NEURONS
The basal ganglia consist of several subcortical structures that influence motor behavior. Midbrain dopamine neurons project to the striatum where they inhibit striatopallidal neurons by acting at D2 dopamine receptors. Reserpine, a drug that depletes vesicular stores of dopamine, causes Parkinson-like symptoms such as rigidity, tremor and akinesia. Acute administration of reserpine induces Fos expression in striatopallidal neurons. Fos, an immediate early gene and nuclear protein, is a marker of cell activation. Therefore, reserpine-mediated striatal Fos expression reflects the removal of dopamine-mediated inhibition at D2 receptors. In this study the role of opiate receptors in regulating striatopallidal neurons was examined by measuring the ability of subtype selective opiate agonists to block reserpine-mediated striatal Fos expression. Male, Sprague-Dawley rats were pretreated with opiate agonists 30 minutes prior to reserpine (10 mg/kg). Rats were perfused with paraformaldehyde 3 hours after reserpine and their brains processed for Fos immunohistochemistry. Administration of reserpine led to Fos expression in the striatum, while rats treated with vehicle alone (1% acetic acid) displayed only weak, baseline striatal Fos expression. Administration of the D2 agonist quinpirole (0.5 mg/kg) blocked reserpine-mediated striatal Fos expression in agreement with previous findings. Administration of the k agonist US0488 (20 mg/kg) or the m agonist DAMGO (15 mg/kg) attenuated reserpine-mediated striatal Fos expression, whereas this expression was more variable following administration of the agonist SNC-80 (10 mg/kg). Overall, these data suggest that multiple opiate receptor subtypes regulate striatopallidal Fos expression following acute reserpine.

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PSYCHOLOGY
ART GALLERY
3:00 - 4:00

DANIELLE MARTIN (MICHAEL MILBURN), DEPARTMENT OF PSYCHOLOGY, UMASS BOSTON, BOSTON, MA 02125

RELATIONSHIP BETWEEN VAGINAL KNOWLEDGE, SEXUAL ATTITUDES AND SEXUAL INTELLIGENCE
Negative connotations about the vagina in popular culture are evident even in writings as far back as the ancient Greeks. These negative attitudes are embedded in our culture; they are in films, books, movies, and even in feminine “hygiene” products. Past studies have examined the attitudes
women hold about vaginas, and also how much or little they know about their sexual anatomy, but the study of attitudes and knowledge of the vagina has never been linked to a measure of intelligence. Conrad and Milburn (2001) have shown that sexual intelligence is higher in individuals who are able to see past the myths embedded in our culture, contributing to a better sex life. Based on these findings, we hypothesized that this should also be true for myths embedded in our culture about the vagina, such that sexual intelligence should be related to more positive attitudes in women about their genitals. We administered an anonymous questionnaire measuring sexual intelligence, genital knowledge, and sexual attitudes to approximately 150 students in a Psychology 101 subject pool. Our study also looked at the relationships of sexual risk taking behavior to sexual intelligence. This study has serious implications for the construction of sex education curricula for high school students, as well as for current controversies over self-exploration.

217 PSYCHOLOGY ART GALLERY 3:00 - 4:00
ELAINE MCMILLAN (LIZABETH ROEMER), DEPARTMENT OF PSYCHOLOGY, UMASS BOSTON, BOSTON, MA 02125
THE ROLE OF PRIMARY EMOTIONAL RESPONSES, AND SECONDARY EMOTIONAL RESPONSES FOLLOWING COGNITIVE APPRAISAL, IN PREDICTING PTSD: EVALUATING DSM-IV DIAGNOSTIC CRITERION A2 FOR APPROPRIATENESS AND INCLUSIVENESS.

DSM-IV diagnostic criteria for Posttraumatic Stress Disorder (PTSD) require that a person experience, witness, or be confronted with an event that involves actual or perceived threat to life or limb, to either self or others, and that during this event they feel intense fear, horror, or helplessness. While data exist to support the types of events that are likely to precede PTSD (Green, 1993), limited empirical data exist to support the relationship between emotional responses and the subsequent development of PTSD (Roemer et al., 1998). In this study, we predict that we will find a significant relationship between reports of fear, helplessness and horror at the time of a potentially traumatic event and current PTSD. However, we predict that reports of anger, shame and dissociation during a potentially traumatic event predict current PTSD above and beyond levels associated with reports of fear, helplessness or horror. Participants will be approximately 200 on-campus volunteers, anticipated to be both students, undergraduate and graduate, and employees of an urban commuter university in the Northeast United States. Participants will be asked to complete a confidential questionnaire packet containing a series of questionnaires that assess exposure to various types of potentially traumatic events, the types of emotional responses they experienced both during and then shortly after the event, and current PTSD symptoms. The results of the study will increase our understanding the types of peri-traumatic emotional responses that increase risk of subsequent PTSD.

218 PSYCHOLOGY ART GALLERY 3:00 - 4:00
JENNIFER PEARSON (S. TIFFANY CUNNINGHAM), DEPARTMENT OF PSYCHOLOGY, UMASS BOSTON, BOSTON, MA 02125
PROLIFIC CHANGES IN STRESS RESPONSES FOLLOWING EARLY COCAINE INSULT IN RODENTS

Cocaine use among women of childbearing years is widespread in the United States. Therefore, fetal exposure to cocaine in utero is rising and, hence, the focus of much research. For example, clinical and pre-clinical data have focused on the biobehavioral impact of early cocaine insult. To further investigate persistent changes in developmentally-exposed cocaine rats, the present study was designed. Adult male (8-10 months of age) offspring of Long-Evans dams (daily cocaine [40mg/kg/3cc] or saline, gestation days 8-20) were utilized. The study was divided into two experiments investigating (1) stress-induced analgesia (SIA) and (2) stress-elicted anxiety. Rats (N=20) in Experiment 1 were pre-treated with opiate ligands (morphine, naloxone, morphine/naloxone cocktail or saline) and then given a stressor, a 5 minute cold water swim (CWS). After CWS, the rats were subjected to a tail-flick latency test to measure pain thresholds. Results indicate pronounced differences between postnatal drug treatments. In Experiment 2, the same 20 rats received injections of GABA anxiolytic and anxiogenic agents (muscimol, baclofen, picrotoxin or saline) prior to the CWS. Next, the rats were placed in an open-field apparatus and observed for their anxious behaviors. Results indicated significant differences between pretreatment groups, as well as within group effects for distinct drugs. Taken together, the results of these two experiments demonstrate that prenatal cocaine insult interacts markedly with later-life stress to impact anxiety but not pain responsiveness.

219 CHEMISTRY BRIDGE 10:00 - 11:00
JOHN PYERS, IV (JOHN WARNER), DEPARTMENT OF CHEMISTRY, UMASS BOSTON, BOSTON, MA 02125
YIELD OPTIMIZATION OF PHOTOCHEMICAL DIMERIZATION REACTIONS TOWARD THE SYNTHESIS OF NATURAL PRODUCTS

Many potential as well as current pharmaceuticals contain a cyclobutane functionality with specific stereochemistry; however, no reliable method exists for producing good yields of the biologically active stereoisomer in an environmentally benign way. The use of large amounts of solvents for synthesis, separation and purification, illustrate the need for this synthesis to be made more “Green.” Examination of the methods for controlling and enhancing the stereoselective 2+2 photodimerization of innamamide derivatives are described as well as the effects of various catalysts on this reaction. Electron donating and withdrawing effects proximal to the double bond during dimerization are compared.

220 PHYSICS NEW ENGLAND 3:00 - 4:00
JOHN RAMOS (D.V.G.L.N. RAO), DEPARTMENT OF PHYSICS, UMASS BOSTON, BOSTON, MA 02125
OPTICAL POWER LIMITING USING BACTERIORHODOPSIN

Whether in research labs, hospitals or industrial manufacturing facilities, lasers are widely used for a variety of applications. As such ‘Optical Power Limiting’ is a topic receiving lot of attention. Bacteriorhodopsin (bR) is a natural biomaterial, which lends itself to many manipulations.
These include the optimization of its optical properties without degradation of its mechanical and thermal stability or other physical characteristics. In addition to these advantages, BR is environmentally friendly. Optical power limiting has been demonstrated for low-power, continuous wave laser beams at 532 nm wavelength using thin films of BR. Polarization rotation which results from the photoinduced anisotropy was exploited for power limiting applications in the visible region. The limiting threshold for power limiting was studied as a function of wavelength (532nm) and the intensity of the exciting beam. This technique could be easily adapted for protection of sensors from high-intensity laser beams. The BR films used are stable. The results are reproducible even after repeated exposure to the laser beams.

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CLASSICAL LANGUAGE
AV-4
11:15
& LITERATURE

JOHN RHILINGER (MARY SHANER), DEPARTMENT OF ENGLISH, UMASS BOSTON, BOSTON, MA 02125

THE RIVERBANK "WIND" IS FED BY ROMAN BREEZES
Kenneth Grahame's The Wind in the Willows has been described and accepted by many scholars as a union of two narrative strains—the story of Mole, and that of Toad. In addition, Toad has been viewed as a parody of Odysseus. Interestingly, however, even while noting the epic-specifically Homeric-echoes in the Toad narrative, no one has noticed the more compelling similarities between Mole and another epic character: Aeneas. By comparing scenes and characterizations in The Wind in the Willows with counterparts found in Vergil, I will demonstrate Grahame's more complex borrowing from the Roman poet. Once the dutiful Mole is accepted as a pius Aeneas, and that character is placed alongside the Odyssean Toad, the door is opened for fresh examination of how the two narratives in The Wind in the Willows function in relation to each other. Viewed from the standpoint of classical studies, The Wind in the Willows emerges as a more coherent work, and Grahame as both a more knowledgeable student of classics, and a more careful

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PHILOSOPHY
AV-4
3:15

ADAM ROSSI (JOYCE MORRISSEY), DEPARTMENT OF , UMASS BOSTON, BOSTON, MA 02125

AN EXAMINATION OF THE USE OF AD HOMINEM IN THE MORAL ARGUMENTS OF SOCRATES AND JESUS.
Philosophers have begun to appreciate the importance in argumentation theory of the informal fallacy known as ad hominem, reinterpreting it as a legitimate attempt on the part of an interlocutor to point out an inconsistency in an opponent's argument. This reassessment, however, has failed to fully appreciate the importance of the ad hominem in moral argumentation, in particular, the kind of moral argument used by Socrates and by Jesus at certain places in the Gospels. This type of argument attempts to show an opponent that his moral position should be abandoned because it is inconsistent with other true beliefs that he also holds but of which he is unaware. Working with Socrates' conversations with Polus and Callicles in the Gorgias and Jesus' encounter with the Pharisees at John 8:6-8, I will try to show first, that the ad hominem, is a valuable and at times indispensable argument tool in this type of moral argument. Secondly, I will show that an ad hominem appeal of this sort can avoid some of the acknowledged pitfalls of a Kantian approach to moral argument where the moral outcome is sometimes considered alien, even anathema, to ordinary moral concerns.

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PHYSICS
NEW ENGLAND 3:00 - 4:00

MARUTI SHARMA (MARUTI SHARMA), DEPARTMENT OF PHYSICS, UMASS BOSTON, BOSTON, MA 02125

FIELD EFFECT CONDUCTIVITY MODULATION IN AMORPHOUS INDIUM OXIDE
We are conducting conductance measurements on Field Effect Transistor (FET) devices to study the dynamical response of electrons in a low carrier density highly disordered material, amorphous Indium Oxide (a-InOx). In these devices, we observe conductivity modulation in the a-InOx layer as a function of gate bias, but with a number of unexpected behaviors. First, the conductivity relaxes with a logarithmic time dependence after the application of the gate voltage, perhaps indicating Electron Glass behavior. Second, the conductivity shows hysteresis as a function of gate bias. Third, the carrier modulation, as measured by the Hall effect, is insufficient to explain the changes in conductivity observed. The data on these measurements will be presented along with thoughts on whether these phenomena are intrinsic to a-InOx or are a consequence of traps at the dielectric/a-InOx interface.

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POLITICAL SCIENCE
BRIDGE 2:00 - 3:00

DANIEL SLA (RUSTY SIMONDS), DEPARTMENT OF POLITICAL SCIENCE, UMASS BOSTON, BOSTON, MA 02125

THE OPERATION OF LANGUAGE IN AN AFFLUENT AND HETERONOMOUS SOCIETY
This study will explore the manipulation of language during cultural and political socialization, specifically a relevant, learned vocabulary and its political implications. One of the core principles in this analysis is that dialogue is a precondition for democratic decision-making, and that manipulation of language during socialization limits the possible extent of later dialogue, thus limiting the development of democratic institutions. Primary examples will be the heteronomous attributes of American democracy and an exploration into how and why words such as "democracy" come to signify ideas completely different from what they originally signified. Special attention will be given to the Critical Thinking movement in education. This movement is often heralded as new means of giving students strong intellectual tools and skills that will enable them to critically participate in modern society. Research will shed light on whether or not this movement promotes, or limits democracy.
GENDER DISCRIMINATION IN CONSTRUCTION INDUSTRY LABOR UNIONS

The construction industry is one of America's largest and fastest growing industries, annually responsible for more than four percent of GDP, and employing roughly 7.5 million people. However, it remains the smallest employer of women (about 2.4% female), despite numerous legislative efforts to increase female participation in the trades. Past research suggests that gender discrimination is one important explanation for why so few women enter the construction industry. The focus of my research is to assess how, and to what extent gender discrimination occurs. I examine these two issues by first discussing how discrimination can occur based on personal observations as a union trades-worker, and then adding empirical support for these observations based on data gathered from a survey of ninety-three construction workers in the Boston area. The respondents were asked a variety of questions aimed at assessing the prevalence of discrimination. The results indicate that women face unequal barriers gaining entrance into the union, pay higher initiation fees than men, receive inferior or inadequate training, wait longer for their first call to the job, wait longer to be re-hired after a layoff, have jobs of a shorter duration than men, are offered less overtime than men, and finally face obstacles on the job that affect their safety and well-being. The evidence confirms that discrimination against women does in fact exist.

PARENTAL ATTACHMENT, POSSIBLE SELVES, SEXUALITY, AND SEXUAL BEHAVIOR OF GAY, LESBIAN, BISEXUAL, AND TRANSGENDER YOUTH AND YOUNG ADULTS

Fifty research participants between the ages of 18 and 22 were recruited for this study from university GLBT centers in the Greater Boston Area, GLBT community centers, and through friendship networks. There have been no studies to directly test the relationship between possible selves and risky sexual behavior among homosexual youth and young adults. The proposed study has been designed to test the relationship between possible selves (the basic mental constructions concerning what one would like to become, what one fears s/he will become, and what one might become), and the following variables: parental attachment, sexual attitudes, sexual risk taking behavior (condom use, multiple sex partners, onset of sex, frequency of sex), and perceived condom barriers. Three hypotheses will be tested. First, there will be a negative correlation between strong parental attachment and current self-perception and possible selves; second, there will be a negative correlation between sexual risk taking and current self-perception and possible selves; and third, there will be a positive correlation between strong parental attachment and sexual risk taking behavior.

DISORDERED EATING PATTERNS AND DEPRESSIVE SYMPTOMS IN ADOLESCENT GIRLS

Adolescence is often the time of emergence for eating disorders and depression in girls. Much research has been done on the characteristics of girls who have eating disorders or are depressed, but little has been found about those who have both disorders comorbidly. This study compared four groups of girls who had different levels of symptoms of eating disorders and depression: Group 1 (control)-low symptoms of disordered eating and depression; Group 2-high symptoms of disordered eating and low symptoms of depression; Group 3-low symptoms of disordered eating and high symptoms of depression; Group 4-high symptoms of both disordered eating and depression. Based on previous research, it was hypothesized that Group 4 would score higher than Groups 2 and 3 who, in turn, would score higher than Group 1. A sample of 139 sixth grade girls in seven Boston suburban schools was given a series of questionnaires including Garner and Garfinkel's Eating Disorders Inventory, the Beck Depression Inventory, Spielberger's State/Trait Anxiety Scale, Fenigstein, Scheier, and Buss's Public Self-Consciousness Scale, and a self-report of menarcheal status. To form the symptom groups, the median score was calculated on the Eating Disorders Inventory and the Beck Depression Inventory, and all girls were categorized as above or below the median for each scale. Analyses of covariance were then undertaken, with symptom group (1, 2, 3, 4) as the independent variable and menarcheal status as the covariate. Results showed that Group 4 (high symptoms on both the Eating Disorders Inventory and the Beck Depression Inventory) was significantly higher in both anxiety and self-consciousness than Group 1, but was significantly higher than Groups 2 and 3 only on trait anxiety. The findings indicate the importance of distinguishing girls who suffer high level symptoms for one versus two concurrent disorders in further research on risk factors for the disordered eating and depression in adolescent girls.

GREEN CHEMISTRY CONSIDERATIONS IN A PHARMACEUTICAL SYNTHESIS

Folic acid is a member of the B family of vitamins. It is involved in the synthesis of DNA and proteins, where its main function is the transfer of one-carbon units. A family of anti-cancer compounds that are derivatives of folic acid, function by "tricking" enzymes into binding and reacting to these "imposter" molecules. My specific goal is to synthesize a number of these folic acid derivatives that bind irreversibly to the enzyme active site to identify if this might be an effect mechanism for cancer treatment. The synthesis of these azalumazine and azapterin derivatives involves...
four steps and so far, two of these steps have been completed. My research project also aims to synthesize the anti-cancer molecules in an environmentally responsible manner, incorporating several of the principles of Green Chemistry. This includes using the smallest amounts of reagents, the least harmful solvents, and the least amount of energy possible. This poster discusses applications of the 12 principles of Green Chemistry to the design and synthesis of materials. Using this research as an example, various Green Chemistry and pollution prevention techniques that can be employed early on in the design stage of a research project are illustrated. This poster will document successful implementation of Green Chemistry techniques as well as identify areas of future research that still need to be explored.

KURT VAN VLOTHEN (MICHELLE FOSTER), DEPARTMENT OF CHEMISTRY, UMASS BOSTON, BOSTON, MA 02125

WATER THIN FILMS ON MAGNESIUM OXIDE POWDER
The purpose of this experiment is to study the formation of water thin films on metal oxide surfaces. Metal oxides are commonly used as catalysts and catalytic supports, and water is often present in the reactive feed stream or as a product of reaction. Adsorbed water, in either its molecular or dissociated form, is thought to play a critical role in the mechanism of many metal oxide-catalyzed reactions. Using varying concentrations of potassium hydroxide solutions, we were able to establish dynamic equilibrium between the MgO powder and an environment with a constant relative humidity. Using both TGA and FTIR, we were able to monitor water uptake, reaction, and subsequent desorption from the surface of MgO powder under these known conditions. We have found that water both chemisorbs and reversibly physisorbs onto MgO surfaces forming liquid like thin films under ambient conditions.

CYNTHIA WALTON (SHAUN O'GRADY), DEPARTMENT OF ENGLISH, UMASS BOSTON, BOSTON, MA 02125

ANNE BRADSTREET: POETRY AND THE STRUGGLE OF FAITH
The poetry of Anne Bradstreet, the first female poet of colonial America, reveals a conflict with her Puritan faith. In a theocratic society such as hers, what at first might appear subversiveness directed against society is actually a battle with her religion. The chief target of her defiance is the religiously enforced social codes for women. Her coming to America appears to have been an impetus for these struggles. Her autobiography clearly tells of her early life battles and her acceptance of her faith later in life. Using the autobiography as a touchstone, one can observe the consequences of her internal struggles on her poetry and their relation to her question of belief. Anne Bradstreet was an amazing woman writing poetry and exploring questions of religion, society, and humanity during the Puritan era. An awareness of her often subtle subversions and questioning prose leads to a better appreciation of this unique Puritan woman poet.

ALISON WARD (MICHAEL MILLER), DEPARTMENT OF PSYCHOLOGY, UMASS BOSTON, BOSTON, MA 02125

FALSE MEMORY: A STORAGE-BASED PHENOMONON OR DECISION-MAKING SHIFTS IN CRITERIA
Roediger and McDermott reintroduced a paradigm to create false memories (1995). In this paradigm, subjects heard lists of words (bed, rest, awake…) related to one theme, “sleep,” without sleep being presented. This type of testing produces an extremely high rate of false alarms pertaining to the “target” theme word during recognition and recall. Some researchers (Roediger and McDermott) have suggested that this effect is due to a storage-based process, creating and storing an actual memory. Other researchers (Miller and Wolford) have argued that a criterion-shift strategy decision process is also present. For example, subjects are making judgements about the words based on their relatedness to other words presented. Schizophrenic patients present a unique opportunity to test these competing models. Using this same word-list paradigm, we will compare the false alarm rates of the patients to those of control subjects. While schizophrenics are known to have a higher than normal associative connectivity between words, they are also known to be impaired in meta-cognitive and strategic functions. Based on this, the storage-based model will predict higher false alarm rates with these patients, and the criterion-shift model predicts lower false alarm rates.

UMass Dartmouth

CHRISTOPHER ANDERTON, LUCAS CARTER (NORA GANIN BARNES), DEPARTMENT OF MARKETING, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

MICROSOFT POCKET PC 2002 MICROSOFT POCKET PC 2002
In today's age of the computer and technology many people do not have time to sit down, power up, and log onto the web. Microsoft is introducing a new hand held PC called the Pocket PC 2002. This product, also known as Merlin, can process heavy duty databases from the desktop and show the results in the palm of your hand. Students can download textbooks and study guides any time and bring them anywhere. Also doctors have the ability to download and view x-rays to their Pocket PC and view them virtually anywhere. Because of the versatility of the Pocket PC 2002 it has been very successful in the business world. The new Pocket PC 2002 has many new features geared toward the corporate world such as virtual private...
networking, which allows users to locate secure documents and also send and receive email from anywhere. Business can be conducted from a train, from a ferry boat, or any place that a user may be commuting to or from. The Pocket PC 2002 is also more convenient than a laptop computer which can be a hassle to carry around and find an outlet to use for a power source. The versatility of the Pocket PC2002 will ensure that it will be essential in the business world and also a useful tool for students and computer users in the years to come.

Amy Arsenault, John Depina, (Nora Ganin Barnes), Department of Marketing, UMass Dartmouth, N. Dartmouth, MA 02747-2300

WEB SHOPPING & SECURITY WEB SHOPPING & SECURITY
The Internet is constantly growing and more businesses are web enabling their services. Many Americans are finding web shopping and purchases made online increasingly convenient. However, many retailers are beginning to realize the important role that trust plays in online sales. Consumers tend to steer clear of websites with vague and unclear privacy policies. Websites that display a symbol of privacy are more trustworthy to online consumers. A privacy seal such as Truste provides consumers with a more comfortable atmosphere for online shopping. Privacy seals enable individuals and organizations to establish trusting relationships with respect to personal identity and information. A recent survey indicated that 92% of Internet users were apprehensive about websites misusing their personal information. Information is collected every time they log on and/or navigate the Internet and is made available to the public because it is online. This greatly increases the risk of crime, especially identity theft. One fifth of web shoppers have experienced fraud and nearly half of the web shoppers would spend more money on the Internet if security were tightened. 77% of America’s web shoppers are extremely uneasy about the safety of their personal information, such as social security numbers, credit card numbers, and addresses, on the Internet. In 2000, out of 300,000,000 American web users, 100,000,000 were victims of computer crimes. 50% of Internet users purchase items online. Although online shopping makes up only a small percentage of annual retail sales, the Internet is a necessary resource for companies and for consumers to function in today’s society. In order for retailers to survive in the Internet industry, they must make consumers feel secure and safe. The more consumer confidence rises, the more online retail sales will continue rising.

Heather Corbett, (Jean Francois Allaux), Department of Visual Arts, UMass Dartmouth, N. Dartmouth, MA 02747-2300

OUTDOORS WITHIN NEW ENGLAND: BOTANICAL ILLUSTRATIONS OUTDOORS WITHIN NEW ENGLAND: BOTANICAL ILLUSTRATIONS
The presentation will include 26 (A-Z) illustrations of relatively local flora. Each illustration will be completed in a mixture of watercolors and inks, then touched up electronically and reproduced in both poster and bound book formats. A selection of the originals as well as said poster and book will be brought to and displayed at the conference. This theme/project was selected largely for its practicality towards my future studies and will be used as a portfolio piece in the future.

Justin Desmeule, (Nora Ganin Barnes), Department of Marketing, UMass Dartmouth, N. Dartmouth, MA 02747-2300

PLASTIC WINE CORKS PLASTIC WINE CORKS
It seems to be occurring more and more each day. You tear the foil off the neck of your wine bottle, then you are surprised with a bright colored plastic wine cork. You are being introduced to the latest innovation of wine bottling. Wine has been around for thousands of years. Different methods have been developed to preserve the flavor of wine. The most popular wine stop used today is the famous wooden bark cork, a natural product originating from bark of certain oak trees native to the Mediterranean. However, some poor-quality wooden corks cause the wine to go bad. A bad cork will spoil the taste of wine and leave it with a moldy smell. With bark corks, there is an 8% chance that a bad cork will spoil the wine. A bad cork is caused by a chemical called trichloroanisole, or TCA, which is created when raw cork is attacked by a naturally occurring species of mold. Researchers have been experimenting with methods to solve the bark cork problems. Their solution is the plastic cork. The plastic cork is made from a high tech thermoplastic elastomer. The plastic cork is sterile, so it can not contaminate wines, thus eliminating “corked” wines, and the plastic cork will not break apart like the bark corks, when removed. The plastic cork forms a liquid tight seal so leakage does not occur and stored wines can stand without the cork’s drying out. With this new innovation many companies are beginning to patent this new method and trying to gain control over the market share. The current ruler of this market is Supreme Corq Inc. in Kent, Washington, where they first began the mold in 1992, and now they sell to about 300 accounts, and hold 14 out of 14 patents. Finally, the public is also beginning to accept these easy-to-open bottles that still have the authentic “pop” when the bottle is opened.
THE DIESEL MARKET: A GLOBAL TREND

The appeal of diesel-powered cars, primarily their efficiency and durability, was offset by emissions generally above those of gasoline autos. In 1997 diesel producers, Delphi Diesel Systems and its competitor Robert Bosch GmbH, introduced the common-rail injection system engine. As a result, improvement in diesel engine performance and driving characteristics are driving rapid growth of diesel engine sales. This sudden market shift has rewarded automakers with up-to-date common-rail diesel engines. The United States and Europe are taking different approaches to the use of clean diesel technology in passenger cars and light-duty trucks. The contrast in diesel usage is stark: in Europe one of every three new cars sold is powered by clean diesel technology. However, in the U.S. light-duty diesels account for only 0.26 percent of all new cars sold. In an effort to accelerate introduction of fuel-efficient technologies, the European Union finalized “Auto Oil II,” its directive that requires all...
European member states to introduce "sulfur-free" diesel fuel beginning January 1, 2005. The Bush administration will convene a panel of automakers, oil refiners, environmental groups and other experts to reexamine "Clean Air Act" standards that limit sulfur content in diesel fuel. The trend toward diesel-powered cars worldwide is completely reshaping the global car market. Whether the new direct-injection common-rail diesels come to the U.S. depends on U.S. emission standards. Opportunities for advanced diesel technology to play a significant role in future personal transportation here in the U.S. are huge. Virtually every major manufacturer is looking at bringing diesels back to the U.S. market.

### Business New England

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**MATHEW HANNAN** (NORA GANIN BARNES), DEPARTMENT OF MARKETING, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

**LAPTOPS OF LUXURY**

The computer industry is shying away from the traditional Desktop Computer in favor of Laptops. Laptops seem to have many more advantages than that of a desktop, such as mobility, size, along with many new technologies such as wireless capabilities and touch-sensitive screen-writing, and take up much less energy. Many new laptops have the same capabilities (RAM, same size processors, and hard drive size) as desktops do, as well as the same programs. In today's fast-paced society with everyone on the go, and travel becoming more vital to businesses, laptops are much more convenient for those who need to work while traveling. They are also much better for students at universities, because they can bring them to class to take notes, to the library to get work done, as well as to group meetings. In fact many universities are starting to require students to buy laptops upon entrance. While this is true, the problem with laptops are that they can be more easily stolen than a desktop computer. As long as people protect their investment, laptops seem to have many more benefits than that of the old fashioned desktop computer. If current trends continue, they will replace the desktop as the most popular type of computer.

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**MICHAEL HARDIMAN** (NORA GANIN BARNES), DEPARTMENT OF MARKETING, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

**THE NEW GENERATION OF CELEBRITY ENDORSEMENTS**

Remember when KFC was still called Kentucky Fried Chicken, when the only choice for a chocolate bar was Hershey's, or when beer only came in brown bottles? Each of these renowned facts in the business world have changed over the years according to changes in demand, consumer mindset, and a desire for innovative ideas. Endorsements have also changed over the years, as celebrities have been "used and abused" in advertising campaigns. Beginning hundreds of years ago when mayors would attend "ribbon cutting ceremonies", well-known public figures have been used for their popularity to promote organizations. That era has undergone a revolution; gone are the days of a popular star holding up a product and suggesting that the public follow their example. As shown in the recent ad campaign launched by PepsiCo for its new soft drink, Mountain Dew: Code Red, celebrities are more effective in this era when they are depicted in real life scenarios. NBA superstars Tracy McGrady and Chris Webber were brought undercover to a local street ball basketball game in a well-known court in New York City. After filming the game candidly, the stars were shown quenching their thirst at the end of the commercial with the slogan, "Mountain Dew: Code Red. With a taste as real as the streets". The superstars' names were never shown, and they never uttered a promotional word about PepsiCo's new product. This advertisement also exemplifies the point-of-thrust tactic of marketing. The viewer of the advertisement recognizes two very popular stars satisfying their thirst after a grueling, real life basketball game. In this way, PepsiCo is revolutionizing the way that endorsees are used in new age promotions. The commercial touches the viewers because of its real-life setting and its cues formed to the product; not on the celebrities themselves. With this innovative commercial, PepsiCo has shown extremely high sales and popularity for its new product, and other companies will get the same result when they finally decide not to "use and abuse" celebrity endorsements.

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**MARC HEBER** (TISH DACE), DEPARTMENT OF ENGLISH, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

**“GROUND COFFEE” SHORT STORY**

"Ground Coffee" is the story of an encounter between two drunken lovers during a power failure in a small, suburban kitchen. The short story employs third person limited point of view.

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**BETH HIGGINS** (RENA RAY CRAWFORD), DEPARTMENT OF PHYSICS, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

**PREDICTING THE BEHAVIOR OF CONFINED LIQUID CRYSTALS**

Liquid crystals, when confined, behave according to certain boundary conditions. These conditions have proved difficult to control and the liquid crystal behavior unpredictable, leaving results to chance. The popularity of flat screen monitors and televisions, however, demands a cost-effective, reliable solution. My research focuses on creating a computer program, in Maple, to accurately display the properties of liquid crystal sample under specified boundary conditions. With this program as a model for comparison, researchers can quickly determine the success, or failure, of any attempt to control the boundaries.
CINEMA’S SALES SUFFER DUE TO: OVERBUILDING ALONG WITH THE ECONOMY AND TECHNOLOGY

Recently, numerous movie theater chains across the nation have had to file for bankruptcy, due to the overbuilding of theaters, along with the economy and technology. This includes six of our countries largest movie theater chains, such as United Artists Theater Co., Carmike Cinemas, Edwards Cinemas, General Cinemas, and even Regal Cinemas our world’s largest cinema chain. Within the past few years, cinema chains have built many large new technologically advanced theaters to lure in customers, but the market share of consumers visiting the movies is not large enough to fulfill the revenue needs of these theaters. Alfred Gobar, a retail consultant, suggests that there should be one movie screen for every 12,000 people in a given market. As of 1999, there were 35,000 screens in the US, or one for every 8,000 people. Fewer people are visiting the movie theaters these days. Cinema attendance figures have increased about 12.5% from 1995 to 1999, and have actually decreased slightly during 2000 and 2001. Due to cinemas having large debts, ticket prices have been increasing over the past couple years. Movie ticket prices increased 8% in 1999 and another 6% in 2000. People are being conscious of their spending habits. Today’s technology satisfies a wide variety of entertainment needs in the convenience of your own home, with videos, DVD’s, and movies offered through your cable. As the range of entertainment options expands - companies find themselves fighting for smaller pieces of the consumer pie. Therefore, many of our nations movie theater chains have filed for bankruptcy because they overbuilt and now cannot remain profitable within their market share.

WATCH OUT VHS, DVD IS ON THE RISE

In 1997 a revolutionary product was introduced to the entertainment industry. This breakthrough is the digital video disk, or DVD. The DVD is to movies as the CD is to music. DVDs offer an unbelievably clear picture along with digital sound. One of the many reasons why DVDs are on the rise is because of the several additional features that are included. When the DVD first appears on the television screen, a menu will pop up offering several different options to choose from such as alternative language tracks, the film’s soundtrack, and scenes that were cut out of the movie. Surprisingly, the rapid increase of DVD sales aren’t solely due to the picture clarity and CD audio, but are also due to the affordability of the DVDs and their players. The average DVD player sells for roughly $150 and the movies sell for $22. The unexpected rise of DVD technology continues to skyrocket and is on track to knock VHS out of the home entertainment market. DVD players are seeing a faster adoption rate than VCRs did when they were first introduced in the early 1980s. As the popularity of DVDs and players continue to climb, manufacturers are developing new DVD players with enhanced features. One of these new features includes DVD multi-disc changers that play both DVDs and CDs. DVDs and their players are the biggest craze in the home entertainment industry. Make no mistake about it, DVDs will replace VHS in the next three to four years.

ISOLATION AND ELUCIDATION OF ANTIBACTERIAL EXTRACTS FROM PEPEROMIA GALIOIDES, A PERUVIAN PLANT

Peperomia galioide (PG) is a plant with wound healing activity against superficial and internal wounds. In the past it has been used as folk medicine in Peru. Recent studies have shown certain compounds from the plant display antibacterial and antiparasitic properties. The objective of this study is to isolate and identify the compounds displaying antibacterial activity through various chromatographic and spectroscopic methods. Crude extract of Peperomia galioide leaves and stem was first separated by Soxhlet extraction into petroleum ether and methanolic extracts. From the methanolic extract, flash column chromatography on silica gel was performed a number of times in order to separate the sample into different fractions. Each fraction was tested for antibacterial activity against a variety of bacteria using a published microplate method. Two of the extracts from the methanolic extract of PG exhibited selective antibacterial activity against S. aureus and S. epidermidis, two common infectious microorganisms. Minimal inhibition concentrations (IC50) occurred in the range of <0.062 mg/mL>. The two previously mentioned extracts from PG were successful in inhibiting growth of S. aureus and S. epidermidis. With further antibacterial testing currently underway, the samples will be plated against a wider variety of bacteria, with hope of discovering a more potent range of activity. Structure elucidation by 1H and 13C nuclear magnetic resonance spectroscopy (NMR) of the major components of the extracts may reveal new antibiotics.
eighteen strains of bacteria using the agar diffusion method. Extracts from Peperomia galioides proved to be active against two strains of bacteria. Bioassay guided fractionation of the extracts has produced several extracts with activity. We are currently working on the isolation of the active constituents of the extracts by chromatographic methods and preparing to measure their antibacterial activity. The microplate method, a quantitative, and sensitive assay used to distinguish between bacteriostatic and bactericidal effects has made it possible for us to target the fractions with the greatest activity for further fractionation and isolation of antimicrobial compounds. Major advantages include increased sensitivity and quantitative application (distinguishes bacteriostatic vs. bactericidal effects and minimal effective concentrations). The purified compounds can then be evaluated as potential antibiotics using this method.

**THE ROLE OF HEALTH CARE PROFESSIONALS IN ELDER ABUSE THE ROLE OF HEALTH CARE PROVIDERS IN ELDER ABUSE**

According to the National Center on Elderly Abuse and the Administration on Aging (1996), an estimated 494,942 elderly persons aged 60 and over have experienced abuse or neglect in domestic settings. Health care providers are in a unique position to identify at risk and actual cases of elder abuse/neglect. Their observations are often crucial in substantiating that abuse/neglect has occurred. The trust and respect that patients have for nurses, places these professionals in a key position to intervene (National Committee for the Prevention of Elder Abuse, 2001). The purpose of this program is to educate sophomore nursing students about the signs and symptoms of elder abuse/neglect, in order for them to be able to recognize these signs and report them. These signs and symptoms include neglect, physical abuse, financial abuse, and emotional abuse. This program will consist of a lecture format with use of audio-visual materials and handouts. A multiple choice pre-test/post-test design will be utilized to evaluate the effectiveness of the educational program. The intended outcome is for the nursing students to become more knowledgeable in identifying signs and symptoms of abuse and neglect, evaluating the plausibility of explanations given for common injuries, assessing cognitive status and health status and health factors that affect abuse, performing abuse screenings, and reporting the incidence of abuse. The program’s effectiveness will be supported through an increase in post-test scores.

**THE INFLUENCE OF THE “HAUTE-COUTURE”**

Throughout this research, we want to know how the “haute-couture”, that seems to target rich people, can also influence mass consumption. In fact, every new collection can inspire different chain stores with the cut. It is true that you can find similarities between collection of “haute-couture” and catalogues of chain stores. Obviously, the both of them do not use the same materials. But you find the same idea or the same performance-based modifications include cold air intake systems, turbochargers, exhaust kits, new suspension, custom wheels and low profile tires. The most popular interior accessories are audio and video electronics. New stereo trends include DVD players with LCD screens that roll out from stereo. The hottest trend may be Satellite radio. The key to its success may be that it is only 10% advertiser supported which means more tunes and less talk. It is projected there will be 1 million subscribers after the first full year and 21 million after 5 years with fees amounting to a possible $3 billion by 2007. With people spending more time in their cars, and traffic congestion growing and cars lasting longer, look for people to spend more money customizing their cars and trucks or as the slang term ‘hooking up your ride’.

**THE ROLE OF THE “HAUTE-COUTURE” IN ELDER ABUSE THE ROLE OF THE “HAUTE-COUTURE” PROVIDERS IN ELDER ABUSE**

According to the National Center on Elderly Abuse and the Administration on Aging (1996), an estimated 494,942 elderly persons aged 60 and over have experienced abuse or neglect in domestic settings. Health care providers are in a unique position to identify at risk and actual cases of elder abuse/neglect. Their observations are often crucial in substantiating that abuse/neglect has occurred. The trust and respect that patients have for nurses, places these professionals in a key position to intervene (National Committee for the Prevention of Elder Abuse, 2001). The purpose of this program is to educate sophomore nursing students about the signs and symptoms of elder abuse/neglect, in order for them to be able to recognize these signs and report them. These signs and symptoms include neglect, physical abuse, financial abuse, and emotional abuse. This program will consist of a lecture format with use of audio-visual materials and handouts. A multiple choice pre-test/post-test design will be utilized to evaluate the effectiveness of the educational program. The intended outcome is for the nursing students to become more knowledgeable in identifying signs and symptoms of abuse and neglect, evaluating the plausibility of explanations given for common injuries, assessing cognitive status and health status and health factors that affect abuse, performing abuse screenings, and reporting the incidence of abuse. The program’s effectiveness will be supported through an increase in post-test scores.
CONVENIENCE AT THE TIP OF YOUR FINGER

You would think that people would do anything to avoid standing in lines, steering whining children away from pricey designer gear at the mall, or suffering from the pain of having to just drive anywhere in order to get something. Online shopping has catered to all that and it has expanded the options of people needing to buy almost anything. From business people stuck at the workplace to homemakers settling the kids, Internet consumers who live in the most remote areas, and even people who suffer from physical disabilities, online shopping allows them to compare products and prices. Day or night, in PJs or even in your underwear, consumers can buy anything in the world with just a click of a button. From Virtual Malls with over 1000 stores carrying different products, it allows anyone to narrow their search until they have found what they have always wanted, making it easy for all age groups to shop as well. It even benefits Internet retailers. Cyber merchants now do not have to operate within the confines of a real store, which could limit their product selection. Instead, they are able to offer a wider range of merchandise. Try four times an original store size. Therefore, because they can potentially serve customers all around the world, online merchants can economically cater to all taste that no conventional store could serve. From coffee cups to automobiles, online specialty shops abound. Say goodbye to unnecessary hassles, unfriendly sales people and long lines. Say hello to easy convenience for all consumers, all at the tip of their fingers. Shopping in your underwear anyone?

INCREASING NUMBER OF WOMEN-ONLY GYMS

In recent years, there has been a large increase in the number of women-only gyms in this country. There are thousands of these exclusive gyms across nation. Women are generally self-conscious of their bodies and the way they look and fear the “man element.” they are exposed to in an ordinary gym. Many feel that gyms cater to the young, slim and already physically fit, and for many women today, this is not the case. They are going to the gym because they are overweight and out of shape. Running or working out makes people sweaty and unattractive feeling and women don’t want to be seen by other women with great bodies or by men. At these women-only gyms, there is no one to impress and no pressure to look or act in a certain way. Women feel vulnerable when they are working out. They don’t like to look into mirrors themselves, much less be looked at by people of the opposite sex. These gyms create confidence and security for women who are trying to lose weight and are looking for the company and companionship of other women they can relate to.

ISOLATION OF ANTICANCEROUS COMPOUNDS FROM CRANBERRY FRUIT EXTRACTS

Like grapes and other dark berries, cranberries (Vaccinium Macrocarpon) are an excellent dietary source of phenolic compounds such as flavanoids, anthocyanins, and caffeic acid derivatives. Not only do these structurally diverse classes of compounds contain some potent antioxidants, but they have also been linked to anticancer activity. The objective of this project was to isolate any potential antitumor agents from cranberry fruit and determine their structure by various spectroscopic methods. The cranberry fruit was fractionated by solvent partitioning methods and further separated by column chromatography and preparative high performance liquid chromatography. Fractions were tested for radical scavenging activity and cytotoxicity in various tumor cells. Nuclear magnetic resonance spectroscopy and high-resolution mass spectroscopy were performed to determine the structures of pure compounds. Two isolates from a methanol extract of cranberry exhibited selective cytotoxicity (GI50) in leukemia, breast, prostate, lung and cervical cancer cell lines at concentrations ranging from 4 to 16 mg/mL and 16 to 63 mg/mL (depending on cell line). Through use of high-resolution mass spectroscopy and 1H, 13C, and DEPT-135 NMR the cytotoxic compounds were determined to be phenolic acids with a triterpenoid attached through an ester linkage. 13C NMR indicates that the two compounds have identical triterpenoid moieties, but a different phenolic acid portion. One compound contains 4-hydroxycinnamic acid, while elucidation of the other cytotoxic compound is currently underway.

VOLUNTEER BASED PROGRAM HELPS SENIOR NURSING STUDENTS GAIN INSIGHT OF DOMINICAN HEALTH NEEDS

As our population becomes more and more diverse, nurses face many challenges of providing culturally competent nursing care. The Providence and Boston Metropolitan Areas remain among the nation’s top ten magnets in the country for new immigrants. During the past three decades the Dominican Republic has been the sixth largest source of legal immigration into the United States. The number new immigrants settling in Massachusetts has averaged nearly 35,000 in the year 2000. Due to the proximity of the Dominican Republic in relationship to the United States, there has been a direct spillover effect of Dominican health issues on the U.S. health care system. Contemporary health issues in the Dominican Republic such as poverty, water and air pollution, teen pregnancy, poor sanitation, and centralization of government resources all contribute to cultural changes in nursing practice. In order for nurses to gain an understanding of Dominican health needs, organizations such as Intercultural
the buffer might be the reasons why some of the Pyocyanin complexes did not appear in UV-VIS spectrum.

formation of two or more complexes of different composition. The low concentration range and competition between Pyocyanin and acetate of non-buffered (pH~5) or buffered (pH 6.4) aqueous solutions. Pyocyanin is presented in various forms depending on pH, which could enable experiments show evidence of complex formation between Pyo (100 mmol dm-3) and some of the metal ions (10-200 mmol dm-3) in either antagonist, and its antimicrobial activities have been related to their ability to form metal complexes. Spectrophotometric and Direct voltammetric measurements show evidence of complex formation between Pyo (100 mmol dm-3) and some of the metal ions (10-200 mmol dm-3) in either non-buffered (pH~5) or buffered (pH 6.4) aqueous solutions. Pyocyanin is presented in various forms depending on pH, which could enable formation of two or more complexes of different composition. The low concentration range and competition between Pyocyanin and acetate of the buffer might be the reasons why some of the Pyocyanin complexes did not appear in UV-VIS spectrum.

Making the sale is the primary responsibility of on-line companies. The online retailers, e-tailors, are constantly searching for ways to attract possible buyers. Customizing web sites to meet consumer needs is exactly what e-tailers believe to be the key to online sales. Brooksbrothers.com has taken the first step in tailoring their website to specific individual profiles. Consumers will provide descriptive information that will be used to present product selection. The idea has not been fully implemented, by Marks and Spencer PLC, which own Brooksbrothers, but the feature should be fully operational by years end (2002). Who will be the catered? The online industry is looking to cater everyone from the teenage market to senior citizens. The e-tailers primary interest is to know how far will consumers go, and what will bring them to the online market. Mary Anna Hill is a dot.com dream come true, because she hates to shop. “I love to shop on-line, because I don’t have to go to the store. I hate shopping. I am focused, and I think of what I am looking for, and the fastest way of getting it will be. I’m frugal” Online shopping is a conducted partnership by both the consumer and the retailer. In an ever-changing economy, there must be a median, which people are willing to cross. If the line is worth crossing then many will pioneer across. Philip Evans and Thomas Hurst, consultants with the Boston Consulting Group, have proposed a methodology for determining the web’s effects on the online industry. They consider reach, which refers to the size of your audience, richness to the sophistication and customization of the services you can offer, and affiliation to which you are seen to respond to your customers needs. The mechanics for making the online industry grow are persistently being sought with the intent of Web-economics reaching its highest level of functionality.

INCREASING USE OF IRIS RECOGNITION SYSTEMS FOR PCS INCREASING USE OF IRIS RECOGNITION SYSTEMS FOR PCS

The iris of your eye is the most unique structure of the body. In the security industry it is becoming one of the most highly efficient forms of protection. The iris recognition system has been proven to have an error rating at less than one half of one percent. Iris recognition systems are continually being developed. Sensar Inc. has made it possible to obtain this near error proof process by allowing users to do nothing more than stare at the screen. This is proving more and more to be second to none in the areas of efficiency, time, and safety. While iris recognition systems will begin in such fields as banking, as well as other high security areas, they will follow directly into home use; this will be where our primary focus will be pointed. The use of these systems will make the existing security options obsolete. Passwords, pin numbers, and codes will be rendered useless in comparison. The iris recognition system will be the users only necessary means of identification while ensuring a more reliable protection. Imagine a day where ten different passwords and pin numbers are no longer needed to access things like E-mail, on-line banking, and ATM cards; it is right around the corner. They will all be accessible in just one blink of an eye.
areas, however, this feature can be become less of a convenience and more of an annoyance as the driver must make constant adjustments to avoid colliding with the vehicle ahead. To solve this problem, we have designed and are constructing a system that will allow an automobile to maintain a cruising speed in high traffic areas. This system will use a radar transceiver and microprocessor-based control logic to sense the relative speed and distance between the user vehicle and another arbitrary vehicle that it is approaching. The measurements taken by the system will be used to provide accelerate/decelerate commands to the existing cruise control system as traffic conditions change. Such a system will allow a car to maintain a cruising speed in high traffic areas with minimal operator intervention. This project has been completely conceived and engineered by 5 students within the ECE department. Working as a team throughout the course of two semesters, these five students have undergone management and teamwork exercises necessary to prepare them for the scope of such a project, and are currently in the construction phase of the project.

263 BUSINESS NEW ENGLAND 11:00 - 12:00

SCOTT STEVENS (NORA GANIN BARNES), DEPARTMENT OF MARKETING, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

AUTOMOBILE PURCHASING ON THE INTERNET AUTOMOBILE PURCHASING ON THE INTERNET

Automobile purchasing on the Internet is having a huge impact on the automotive sector. Fifty percent of US adult Internet users go online to look up information while buying a car. A large percentage of Internet users are now using the Internet as a powerful consumer tool to research their automobile purchase. Combined with the this awesome tool and the Federal Reserve Board's aggressive rate cut on interest rates have stimulated a powerful increase in automobile purchasing. The Internet is having a major impact on the value of the automotive market in the United States. It provides customers with quick, and high quality information and lets the consumer be more informed. A direct line of contact to the manufacturer enables the consumer to go past the historic trip to the local dealer and local salesman. It gives the consumer the confidence and knowledge that enables him to make a smarter purchase. Autobytel.com and Buyerconnection.com serve as the two most popular sites visited on the net, while Carpoint, which is part of MSN, has increased in popularity also. Smarter consumers means smarter purchases, and the Internet is becoming a smarter way for the consumer to make those tough decisions on which car to purchase. Consumer confidence in ecommerce is rising, along with easy access, the Internet is becoming one of the most powerful tools consumers have seen in a long time. It will revolutionize consumer buying.

264 ENGLISH AUDITORIUM 3:00

KIMBERLY TRAVERS (TISH DACE), DEPARTMENT OF ENGLISH, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

DELIQUENT

“Delinquent” portrays a boyhood friendship fueled by hardships the boys share. When James and Ricky skip school, Ricky confesses he plans to run away. Told in the third person point of view, the story illustrate events that follow illustrate the boys’ differences, and how they soon discover their similarities.

265 ENGLISH ART GALLERY 11:00 - 12:00

MEGHAN WAYMAN (CATHERINE HOUSER), DEPARTMENT OF ENGLISH, UMASS DARTMOUTH, N. DARTMOUTH, MA 02747-2300

AN EASTERNER’S SOLILOQUY OF THE SOUTHWEST AN EASTERNER’S SOLILOQUY OF THE SOUTHWEST

The Southwest struggles between the stories of possibility and possession. Often, the possessors seem to have the upper hand, but the land continues to lay patient. It is searching for a new story, a way to exist closer to the truth. The proposition that progress should come without harm to the earth is becoming part of our common language thanks to the many narratives of Aldo Leopold, Wallace Stegner, Mary Austin, Terry Tempest Williams, and Barry Lopez. Their stories are a means to view differently the world in which we exist—a world in which we could exist. We have started the conversations that will lead to new stories. Narratives provide an opportunity to write about personal experiences in order to know and understand the subject and one’s self better. Further, narratives can help discover values, explore options, and examine motives. The significance is the process of articulating all that is involved. My essays are to add to the dialogue of place. The essays are of my experiences over a four-month period; they are a reflective process of my time and devotion to the Southwest.

UMass Lowell

266 PLASTICS AV-1 11:30

ENGINEERING-THERMOFORMING

LAURA BAILEY, AMY IMBIMBO, BRYAN DILLON (CAROL BARRY), DEPARTMENT OF PLASTICS ENGINEERING, UMASS LOWELL, LOWELL, MA 01854

TWIN SHEET THERMOFORMING OF ELASTOMERS

In this study, the use of elastomeric materials for simultaneous twin-sheet thermoforming was investigated. While formability depended on the particular elastomers, a polyether polyurethane formed relatively easily whereas an elastomeric polyester blend apparently required higher sheet temperatures than could be obtained with this equipment. The seal strength of the polyurethane was a function of the seal width. Narrower seals permitted greater shear flow while compressive forces dominated in wider seals. Shear flow produced high seal strengths. Increasing the sheet temperature only improved the seal strength when the compression was the primary interfacial force.
THE STAINED GLASS OF LOWELL

Stained glass has been used for religious and aesthetic purposes throughout the world. Stained glass windows date back to the 6th Century C.E. in Europe; they originally functioned as shields that transmit light while restraining the elements. In the 12th Century, the main purpose of stained glass iconography was to express Bible stories to illiterate parishioners. The techniques for producing stained glass are similar to those used in the 12th century; only the tools have changed to ease the process. Lowell’s historic buildings utilize stained glass. The windows in Lowell were created during an age of Gothic Revivalism that occurred in 19th Century America. Since the destruction of the gothic-styled St. Peter’s Church in the 1980s, Lowell has witnessed a restoration of its stained glass treasures. By examining the windows of three different churches, The Immaculate Conception, St. Anne’s Episcopal Church, and St. Joseph’s Shrine, one can differentiate themes, color schemes, relationships between the stained glass and its surrounding architecture, and the craftsmanship involved. All three churches contain religious stained glass whose different properties, including the types of glass, create various effects. The windows also reflect the aesthetic and cultural sensibilities of the congregations who installed them. A significant piece of work is Tiffany’s, “The Resurrection Morning” located in St. Anne’s, important not only for its designer, but also for its construction of layers of glass to create depth, hue, tone, and transparency. Stained glass is a “window” into Lowell’s history and cultural diversity as well as its artistic legacy.

TRAFFIC CHARACTERIZATION ON WIRELESS NETWORKS

The focus of this research is to improve the performance of wireless local area networks (WLAN). For this study, a WLAN was configured in our laboratory using Apple computer’s Airport base station (BS) and two Apple iMac and two Apple iBook computers enabled with Airport WLAN terminal cards. The BS was connected to a wired 100 Mbps Ethernet through a hub. Airport system implements the IEEE 802.11 b standard at physical and link layer. This protocol uses the direct-sequence CDMA technology and supports data rates at 1, 2, 5.5 and 11 Mbps. The system operates in 2.4 GHz frequency band and utilizes differential binary and quadrature phase-shift keying modulation schemes. In our experiments, TCP flows were generated from a server on the wired network to a mobile receiver. The statistics of the packet arrival rate, TCP dynamics at the mobile terminal and the signal to noise ratio (SNR) variations at the BS were analyzed for different spatial locations of the mobile. The packet headers were captured using the tcpdump utility, which provides time stamps and associated TCP parameters. In all experiments conducted, the achievable throughput ranged from 4-5 Mbps, well below the maximum value of 11 Mbps. The causes of performance limitation will be investigated.

TWIN SHEET THERMOFORMING OF DISSIMILAR MATERIALS

The effects of material properties in the simultaneous twin-sheet thermoforming of dissimilar materials were evaluated using a selection of 1 mm thick sheets and a test mold. Forming of dissimilar sheets required major modifications to parameters recommended for similar sheets. For this system, increasing the sheet temperature provided the greatest improvement in seal strength. Mold temperature had little effect of seal strength whereas air temperature and pressure had no processing window. The seal strength was sensitive to the solubility parameter mismatch and difference between sheet temperature and critical transition temperature. When the former was large and latter was small, seal strength was inadequate. Of the materials used in this study, polycarbonate and ABS exhibited the highest seal strengths.

REDUCTION OF SKIN INFLAMMATION IN MICE BY TOPICAL APPLICATION OF EMU OIL

Emu Oil is derived from the emu (Dromaius novaehollandiae). While many therapeutic benefits have been attributed to emu oil (wound healing, anti-inflammation as well as anti-bacterial and anti-viral activity), there have been no published reports of these benefits. This presentation will report on the anti-inflammatory properties of emu oil in mice. The environmental stimulus in these studies was croton oil rich in pro-inflammatory ingredients called phorbol esters. The right auricular area (the ear) of mice was exposed to topical applications of 2% croton oil (pro-inflammatory oil) and used as the control. After application of the croton oil to the right auricular area, emu oil or other vegetable oils such as corn oil, linoleic acid or olive oil (rich in omega-6 fatty acids), oleic acid or fish oils and flaxseed oil (rich in omega-9 fatty acids), docosohexanoic acid (DHA, rich in omega 3 fatty acids), eicosapentanoic acid (EPA) and alpha-linolenic acid, were topically applied. The thickness and weights of the left and right auricular area were determined for each animal using a micrometer caliper and balance, respectively. The levels of pro-inflammatory cytokines tumor necrosis factor (TNF-a) and Interleukin 1 (IL-1) were determined in homogenates of the various auricular areas using Elisa kits. Auricular thickness and ear plug weights were decreased the greatest in the emu oil group with reductions in the range of 42% and 71%, respectively, relative to croton oil. The cytokines IL-1 and TNF-alpha from homogenates of ear tissue were also decreased the greatest for the emu oil groups ranging from 70% and 60%, respectively, relative to the croton oil. The active ingredient in emu oil is unknown.
CHOLESTEROL LOWERING OF STRUCTURED TRIGLYCERIDES

It has been demonstrated that triglyceride composition (fatty acid content) and structure (fatty acid position) can influence the intermediary metabolism of fats and their effects on experimental atherosclerosis. Because triglycerides containing short chain fatty acids have not been widely explored, the effects of two triglycerides, 1,2-dicapriloyl-3-oleoyl glycerol (CCO) and 1,3-dicapriloyl-2-oleoyl glycerol (COC), were studied in hypercholesterolemic hamsters. Eighteen male F1B Golden Syrian hamsters were fed a hypercholesterolemic diet (HCD) consisting of commercial ration plus 10% coconut oil and 0.1% cholesterol for two weeks. All animals were then divided into 3 groups of six based on similar initial plasma non-HDL cholesterol levels and then fed for two additional weeks either the HCD, 10% CCO or COC diets with 0.1 % cholesterol. There were no significant changes in plasma total cholesterol (TC) after 2 weeks in the animals on HCD; reductions of 39% and 47% were noted for animals fed the CCO and COC diets, respectively. Similarly, non-HDL-C and TC/HDL-C values were significantly reduced in the CCO and COC groups by approximately 55% and 63%, respectively. Fecal lipid and cholesterol excretion, as well as hepatic total and cholesterol ester concentrations were similar for all groups. In contrast, aortic cholesterol ester, considered a hallmark of atherosclerosis was reduced by 57% in only those hamsters fed COC. These findings suggest that these specific structured triglycerides have effects on both plasma lipid levels and aortic cholesterol in hypercholesterolemic hamsters. The mechanism(s) remain to be determined.

SENT SOUTH: SOUTHERN BLACKS AT THE MASSACHUSETTS STATE ALMSHOUSE IN TEWKSBURY, 1860-1870

Why did blacks not flee the South in large numbers after the institution of slavery was abolished and no longer stood in their way? For the most part historians have laid blame with Northern employers who preferred to hire white immigrants rather than blacks and on the importance of family ties among Southern blacks that made them hesitant to leave the South. However, recent research of the Massachusetts State Almshouse in Tewksbury between 1860 and 1870 has revealed that state laws also worked to actively discourage black migration. In Massachusetts, military settlement laws in the 1860’s were drafted specifically in response to fears of mass migration following the Civil War. As a result, Southern blacks who sought assistance at Massachusetts almshouses were promptly returned to the South by state officials. The number of Southern blacks arriving at the Tewksbury almshouse climbed from less than 15 per year in the early 1860’s to more than 80 per year in 1867 and 1868 after slavery had been abolished. These brave migrants included women, children, and veterans, all of whom were returned to the South. This thesis uses Massachusetts state legislative records, annual reports from various state agencies, and patient records from the Tewksbury Almshouse to analyze how military settlement laws in Massachusetts between 1860 and 1870 discouraged the migration of Southern blacks. This is historically significant because, by discouraging the migration of Southern blacks, these laws contributed to the rise of institutionalized discrimination in the United States, the consequences of which we are still dealing with today.
ment. Doing so involves figuring out how to access such a tool from the Web so that it can be run remotely, designing a clear and effective Web interface, and interpreting the tool's output and making it understandable by beginning programming students. We also hope to implement the tool interface in a manner that allows the helping "scaffolding" to be gradually removed as students learn to analyze their own programs, eventually enabling them to do so without the use of the tool.

275 COMPUTER SCIENCE NEW ENGLAND 3:00 - 4:00

HARISH RATHI (KAVITHA CHANDRA), DEPARTMENT OF ELECTRICAL ENGINEERING, UMASS LOWELL, LOWELL, MA 01854

PACKET DELAY ANALYSIS ON INDOOR WIRELESS LANS
This work examines the performance of IEEE 802.11 indoor wireless local area network (LAN) protocols in relation to the transport of audio, video, and data services. The packet delay and losses experienced during transmission of multimedia services from servers on a wired network to mobile clients are analyzed. The IEEE 802.11 standard implements the code-division-multiple-access (CDMA) protocol for supporting multiple users on the wireless LAN. The channel access scheme at the link layer also incorporates a version of the Ethernet CSMA-CD protocol. Causes of bottleneck congestion in these protocols are identified. Using measurement based traffic models that incorporate the dependence and variability features of multimedia traffic, the channel access delays are evaluated for given conditions on the channel impulse response and signal-to-noise ratio variations. Of particular interest is the design of an efficient channel access scheme using traffic and channel states that will minimize packet delays.

276 PHYSICS ART GALLERY 3:00 - 4:00

DAVID SULLIVAN (MARK TRIES), DEPARTMENT OF PHYSICS, UMASS LOWELL, LOWELL, MA 01854

A COMPREHENSIVE MAPPING OF DOSES THOUGHOUT A GAMMA RADIATION FACILITY
Gamma radiation is used in a broad range of industrial and research applications. In order to ensure that the radiation exposure is accurate and uniform, both the absorbed dose rate and dose profile must be well characterized. To measure the absorbed dose, dosimeters, containing a colorless cyanide derivative, are irradiated and changes in the optical density are then measured. Through the use of strategically placed dosimeters and an accurate analysis (using NIST traceable calibrations) of the experimental data, a comprehensive dose rate profile can be obtained. This accurate profile then is used to predict and implement exposures of samples in the irradiation facilities.

277 HEALTH & CLINICAL SCIENCES ART GALLERY 11:00 - 12:00

(MUSCULOSKELETAL)

JOSHUA TESSIER (MARY ELIZABETH HOOKER), DEPARTMENT OF HEALTH AND CLINICAL SCIENCES, UMASS LOWELL, LOWELL, MA 01854

METHODS TO INVESTIGATE MECHANICAL AND GRAVITATIONAL LOADING OF OSTEOBLASTS AND MACROPHAGES AND FUTURE RESEARCH
experience great deals of stress that we rarely deal with in our everyday lives. However, our bodies do still have many experiences with stress daily. This has a varying effect on all of our in vivo systems. These systems include, but are not limited to, our skeletal system. Bone studies are attracting more and more interest in both of these types of environments. It is extremely important to explore many of these areas to answer many questions concerning bone loss in space and some of the causes of osteoporosis. We applied hypergravity and substrate deformation conditions to several types of bone related cells, including rat osteoblasts, rat osteoclasts, and macrophages. Through the use of several biochemical assays, as well as cytoskeletal structure staining and evaluation, we were then able to measure stimulation of these cells. We concluded that there is a significant effect (p<.05) in the stimulation of cells under these conditions. As well as branching into other related areas such as plastic bone implants, future research will involve exploring different types of exposure to similar conditions.

Westfield State College

278 ENGLISH AUDITORIUM 2:30

KATIE CONNOLLY (GLEN BREWSTER), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

CLOSING THE BOOK ON US
This is a rare and unique love story: the story of the passionate and fierce love that develops between a man and his book. What makes this story unique is that it is told through the point of view of the book. After being pushed aside once again for a more beautifully bound, less complicated book, the lonesome book finally gives up on the whole idea of love, and that's when love finally finds her. When she is rescued from the old
bookstore, paradise follows and the book tells the tale of how perfect they are together, and how blissful her life is. Yet, when the unthinkable happens—he finishes the book—the peace she once had is gone. Cast aside, desolate, forgotten on a shelf, the book tells her story of love, loss, and the hope of a new life in another's hands.

279  ENGLISH LITERATURE  ART GALLERY  11:00 - 12:00

ELIZABETH DAVIS (STEPHEN ADAMS), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

ISSUES OF GENDER AND SEXUALITY IN GULLIVER'S TRAVELS
In the novel Gulliver's Travels, Swift uses Gulliver to make a satirical critique of gender and sexuality. In my paper, I focus on key examples from each book to illustrate the conflict between the genders. In part one, when the Queen's apartment catches fire, gigantic Gulliver urinates on it to put it out. Gulliver's indiscreet act of exposing himself and releasing his waste products is used to demonstrate his power over the Queen. In part two, Gulliver's diminutive size aids his keen observations but causes him to be repulsed by the female body. In part three, Gulliver visits the floating island of Laputa, whose name means "the whore" in Spanish, and he makes a number of unflattering observations about the women in this land. In part four, Gulliver encounters the rational animals, the Houyhnhnms, who desire to know about his country's customs and culture. Gulliver’s explanation is filled with degrading remarks about the women of his own culture. Also in Part Four, he turns away an advancing female Yahoo because she reminds him of his own inferiority in contrast with the Houyhnhnms. Throughout the novel Gulliver reveals his discomfort with the female "creature" and is in the end unable to reconcile with his own wife.

280  ENGLISH LITERATURE  ART GALLERY  11:00 - 12:00

KRISTIN LOIKO (STEPHEN ADAMS), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

FALL OF DARK
Hilda Doolittle's poem "Evening" treats the ongoing battle between light and darkness in the struggle for survival of individuality, as shown in the coming of evening in the realm of flora. On a simple level, the poem depicts the onslaught of night and its power to overshadow the plants below. On a more complex level, the floral civilization serves as a microcosm of human life and the daily threat of corruption. Doolittle (H.D.) combines poetic devices with precise diction to support this representation. Through close analysis I will show how the imagery links the floral and human corruption. H.D.'s poem reminds us that while the devastating effects of corruption can change even the simple flower, the coming of evening does not have to end with the fall of darkness.

281  CREATIVE WRITING  AV-4  3:00

JENNIFER MCCOLLUM (GLEN BREWSTER), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

BREAKING BREAD
As an allegorical story, "Breaking Bread" suggests a relationship between community, religion, and personal struggle. The use of stream of consciousness and flashback work together in manipulating time and space in the spirit of the Modern short story. Esma, struggling with her sister's suicide, is overwhelmed with feelings of guilt, finding comfort neither within nor without. The act of baking bread becomes, through sometimes harsh imagery, the ultimate symbol of America's struggle with eating disorders. By implying what women are starving for, the story represents a spiritual journey of the woman in search of forgiveness and, ultimately, herself.

282  ENGLISH  AV-3  2:00

KELLEY MCVEIGH (GLEN BREWSTER), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

MULTICULTURALISM IN ISHMAEL REED'S LITERARY WORKS
Ishmael Reed is an African-American novelist, poet, essayist, editor and critic who is notable for integrating multiculturalism into the literary world. Using his theories of multiculturalism, one of Reed's primary objectives as a writer and a black man, is to represent the cultural heritage of African-Americans as a rich combination of traditions and influences, which in turn have contributed more to mainstream American culture than is traditionally recognized. An example of how Reed merges multiculturalism and social issues into his writing can be found in Flight to Canada. In this novel Reed displays how minority cultures have been persecuted, sparking awareness of the phenomenon of cultural piracy. For example, the white man, Jack, states to the Native American Quaw Quaw that "the difference between a savage and a civilized man is determined by who has the power. Right now I’m running things.” By the end of the novel, Quaw Quaw and her brother Raven come to an understanding of their own subculture in the context of the larger culture.

283  ENGLISH  AUDITORIUM  2:15

CONOR MORAN (STEPHEN ADAMS), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

PRATTLE WAGON: DIRECTIONS IN FICTION
Prattle Wagon is a collection of stories and poems that is my response to living and thinking in a contemporary cultural thicket, a culture spawned to shape the world in our image, a culture where now we are shaped by our creations gone awry. All aspects of writing are integrated into the project research: reading, critiquing, writing, editing, re-rewriting, publishing, and the experiential research, better known as life. I spend a lot of
my time working with perceptions and attitudes of both reader and character. The characters are continually moving, searching, or drifting unmoored in a culture of decay. These stories and poems illuminate characters pushed to extreme situations, written with a focus on originality and creativity of form equivalent to that of content. For inspiration: Kafka, Kundera, Calvino, Pynchon, writers who do not exclude the possibility of finding something new—shelved or shouted or scrawled in black marker on a torn bus seat. I search for what is new in others and myself, always looking for a fresh or neglected set of filters to examine the material of existence. This I hope to share with you: a look into myself through a few selected knot-hole fragments of my collection, Prattle Wagon.

284 ENGLISH AUDITORIUM 11:00

HOLLY MOREN (STEPHEN ADAMS), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

“OUT OF THE ASH: SYLVIA PLATH”

In analyzing Sylvia Plath’s poem, “Lady Lazarus,” it is important to recognize that the meaning is two-pronged. While a reader can likely appreciate the poem devoid of any prior knowledge about the poet, a more profound meaning can be ascertained through careful study of Plath’s personal experience and the social and political context in which this confessional-style poem was written. Throughout the poem, Plath bemoans her own existence, lamenting that most of her life has been spent straddling the border between life and death. She continuously tries to glorify the “art” of death by making repeated references both to her own attempts at suicide and to the more profuse deaths of the Jews in Nazi Germany. Also, disguised traces of Plath’s bitterness toward her father and husband are strewn heavily throughout the poem. As Lynda K. Bundtzen writes in her book, Plath’s Invocations, within the poem Christian symbolism is yoked with three other actions: the sideshow striptease; the suffering inflicted by the Nazis on the Jews; and the personal acts of self-destruction. By drawing parallels from the Holocaust, Plath is likely depicting the enlargement of her own emotions as seen through a separate scope. By the end of the poem, Plath rises from this tormented state of oppression, using a newfound omnipotence to devour the men who have scorned her. Without regard to the source of Plath’s motivation, much of the meaning of this poem is easily lost.

285 ENGLISH LITERATURE AUDITORIUM 3:15

KRISTIN PALPINI (STEPHEN ADAMS), DEPARTMENT OF ENGLISH, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

VALIDATING THE SUPERNATURAL THROUGH THE EYES OF A CHILD: BOTTOM’S ROLE IN SHAKESPEARE’S A MIDSUMMER NIGHT’S DREAM

The character Bottom in Shakespeare’s A Midsummer Night’s Dream is one of the two mortals capable of validating the fairy world (the other being the Changeling Child who does not appear in the play and therefore will not be discussed). Bottom’s realization of his surroundings dismisses Puck’s apology at the end of the play and casts doubt on Theseus’ statement that the fairies are an “airy nothing.” Bottom is able to recognize this supernatural kingdom because of his child-like nature. Shakespeare proves Bottom’s personality to be that of a child: his acceptance of all things physical, his innocent requests, and a desire for magic and transformation or, as a child would call it, to “make pretend.” In a more mechanical sense Shakespeare uses Bottom’s name as a pun for his position as a child of a social lower class. Symbolically he becomes a child when Titania takes him as a substitute for her Changeling Child. Finally Bottom, the child in the body of a man, takes a more appropriate shape when he is transformed into an ass. It is by these characteristics that Bottom becomes a witness to the fairy realm. Through close analysis of the play and research of previous critical studies, it will be explained why and how Shakespeare came to validate the existence of his fairy-world, and even the play, through a comical ass.

286 INTERNATIONAL STUDIES AUDITORIUM 10:45

ERIK RANSTROM (P.M. JOHN), DEPARTMENT OF PHILOSOPHY, WESTFIELD STATE COLLEGE, WESTFIELD, MA 01086

WESTERN SECULARISM AND EASTERN RESPONSE

With religious nationalism and extremism on the rise in the Middle Eastern and South Asian regions, the rationale for secularism as a means of tolerance must be challenged. The rationale for secularism in the West has been to ensure the toleration of all religious groups, to make religion a private affair, and to place a “wall” of separation between church and state. The prevailing opinion among many Western scholars is to assume that this framework of secularism is universal in its applicability to other cultures. However, the growing ethos in the Middle East and in South Asia has been to preserve religious values with a greater intensity in the face of secularism. I will evaluate the escalating violence connected with extremists and the unrest exhibited by religious nationalists to determine whether these problems can be traced to the Western secularization of eastern cultures. Attention will be given to the historical origins of secularism in the West, the “imposition” of secularism as a result of imperialism and Western hegemony, and the accommodative potential of Eastern cultures to accept secularism in an increasingly religiously vibrant world. Insights from Western, Near Eastern, and South Asian scholars will be considered, especially Rajeev Bhargava’s Secularism and its Critics and Bernard Lewis’ What Went Wrong: Western Impact and Middle Eastern Response.
BODY LANGUAGE AND PERCEPTION OF SEXUAL ORIENTATION

This research in progress was undertaken to look at the body language of women, and whether or not this is a valid tool used in identifying the sexual orientation of others. The research will also look at the rates of accuracy between heterosexual women and lesbian women when identifying the sexual orientation of others. A video of thirty different women was shown to participants, and the participants rated the models either as heterosexual or lesbian. Demographic identification of the participants was screened to increase internal validity. After collecting the data from participants, the top 5 high scorers in each group (heterosexual/lesbian) were interviewed regarding the specific things they looked for in identifying individuals’ sexual orientation while watching the video. Quantitative and qualitative analyses are being performed. A discussion of the results compared to previous research concerning stereotypes will follow.

GENDER DIFFERENCES IN PAIN SENSITIVITY VS. ACTUAL PAIN TOLERANCE

Gender differences in pain sensitivity vs. actual pain tolerance was measured through the Sensitivity Temperament Inventory for Pain, a pain measurement scale, and the cold-pressor test. Fifty-two students were used in the study with 39 of them being female and 13 of them being male. The results of the experiment showed that males displayed a higher pain tolerance than females. It was also shown that females are more pain sensitive than males. There was no difference in the correlation between pain tolerance and pain sensitivity between genders. Males did rate maximum pain intensity during the cold-pressor test at a later time than did the females (when 13 males and 13 females were matched). Further research needs to be done to clarify an explanation of why this occurs.

TO IDOLIZE AND FEAR: THE CORRUPTION AND LIBERATION OF WOMEN IN THE 1920'S

When women in the United States were granted the right to vote in 1920, many Americans proclaimed it the beginning of a new era of equality, while just as many proclaimed it a sign of the impending collapse of society. Throughout the hedonism of the 1920's, Americans, both men and women alike, were buffeted by the shifting dynamics in gender relations. This study analyzes the conflicts and contradictions that marked the decade following the ratification of the nineteenth amendment, concentrating on the literature of the decade as representative of larger trends. Authors to be covered include Eugene O'Neill, Edna St. Vincent Millay, William Faulkner, and Virginia Woolf.

IN THE BEGINNING... JUDEO-CHRISTIAN AND IROQUOIS CONFEDERACY CREATION STORIES IN EARLY CONFLICTS BETWEEN PURITANS AND INDIANS

In his book The World Turned Upside Down Colin Calloway claims, “Judging Native Americans according to their own preconceptions, assuming that their own way of life was superior, and certain that European civilization and Christianity must triumph over what they regarded as savagery and paganism, Europeans were ill-equipped to value or to record accurately, the peoples they encountered in North America.” This statement raises a very important question: Where did this sense of superiority come from? An important part of the answer lies in a careful analysis of creation stories. Every religion has its own version of how the world was created, which is the foundation upon which its religious values rest. The stories vary widely from one religion to the next and when those variances are scrutinized, we can see reasons for cultural conflict when one religion is confronted with another. In this essay I will be focusing on the cultural conflict between the Puritan settlers of New England and the Iroquois Confederacy, by comparing and contrasting their creation stories. I will analyze the Judeo-Christian book of Genesis, and the Iroquois
Many older adults have missed out on the computer education that younger generations now take for granted. CyberSeniors and the Brookfield Elementary School developed programs to compensate for older adults growing interest in Internet communication and computer applications. Both programs offered their own unique advantages and outlooks on computer education. CyberSeniors offered a structured format in which the classes were taught for seniors by seniors only. Each class took place at a scheduled time and had a text for each section which had to be passed in order for the seniors to move on to the next level. The program began by explaining the actual mechanics of the computer and eventually ended with the student's mastering of computer applications. The programs main focus was on computer applications with a secondary benefit of a social outlet. The Brookfield Elementary School took just the opposite stance on learning. Their program followed an unstructured format. The curriculum was built on an individual basis in which community members would be paired with a student who could best address their specific question. All ages including seniors were welcome to attend. The workshop was taught by the 6th grade students under the supervision of their teachers. The workshop was more socially motivated in some cases than educational. This program gave the community members a chance to connect with others in the community. While these programs used radically different approaches for teaching computer education, the end results...

POVERTY AND MATERNAL HEALTH: THE LINK BETWEEN HEALTH AND WEALTH

This paper examines the undeniable connection between poverty and maternal health. Using journals, books, newspaper articles, and information provided by the World Health Organization and other credited organizations this global problem is defined and looked at in a new light by an occupational therapist. Poverty and maternal health are two of the most prominent global health concerns facing our world today. Together they comprise the most deadly global health problem. These problems separately and together are not being diminished. In fact, in many cases the problem is becoming even more prevalent. Occupational therapists have the knowledge to help alleviate this devastating problem. Grant proposals can be written to obtain the funding necessary to tackle this global problem. The money raised could fund essential components needed to improve maternal health care. Accessible and affordable health care facilities can be built, transportation can be provided to women in need, not only before birth, but also during and after. This money can also be used to train local women and men to be health care aides, or even to be skilled health care providers. Further, occupational therapists can raise interest in this issue worldwide by taking part in the many international conferences that take place around the globe. Now, they must spread their knowledge and put into effect strategies that have been talked about but ignored.

INTERGENERATIONAL COMMUNITY COMMITMENT PROMOTES INDEPENDENCE FOR ELDERS

Living independently in a community of their choice is a fundamental need for senior citizens in our society. When support from the community is available to family members who are providing care for their elderly loved ones, the seniors lives are greatly enriched. This presentation will describe the development of an intergenerational program that can provide useful benefits to any community. The Intergenerational Work Program in North Brookfield, MA has been very successful in connecting elders with youths from the community to perform chores around the house. The benefits of the program not only include actual assistance but also the formation of lasting relationships.

THE STEREOTYPING OF HOMOSEXUALS IN COMMUNICATIONS MEDIA: A SOCIAL CRITIQUE

Right now there is a growing trend in American mass media; producers of media texts are including gays and lesbians in their texts. It is to their credit that representations of homosexuality are beginning to appear, however these appearances tend to be incorporated in a way that does not enlighten the viewer but perpetuates homosexual stereotypes. This paper examines representations of gays and lesbians in television programs and analyzes the impact these representations have on informing social and cultural understandings of homosexuality. It discusses the role of media history on this subject and the importance of context (which the media rarely provide) in consuming these messages, then goes on to explain how media texts can be reinterpreted through a better and more informed understanding on these grounds. In reaction to research findings, conclusions are made about what changes are necessary from the television industry in order for representations of homosexuals to positively and accurately reflect the real people of the gay community.

COMPARING AND CONTRASTING COMPUTER EDUCATION PROGRAMS FOR OLDER ADULTS

The programs were taught for seniors by seniors only. Each class took place at a scheduled time and had a text for each section which had to be passed in order for the seniors to move on to the next level. The program began by explaining the actual mechanics of the computer and eventually ended with the student's mastering of computer applications. The programs main focus was on computer applications with a secondary benefit of a social outlet. The Brookfield Elementary School took just the opposite stance on learning. Their program followed an unstructured format. The curriculum was built on an individual basis in which community members would be paired with a student who could best address their specific question. All ages including seniors were welcome to attend. The workshop was taught by the 6th grade students under the supervision of their teachers. The workshop was more socially motivated in some cases than educational. This program gave the community members a chance to connect with others in the community. While these programs used radically different approaches for teaching computer education, the end results...
have proven both productive and satisfying for both the students and staff of CyberSeniors and Brookfield Elementary. These programs enriched the lives of seniors, but it is important that older adults be matched with the program that best suits their individual needs.

**ENGLISH AV-4 2:00**

**GLEN MCENTIRE (SHARON YANG), DEPARTMENT OF ENGLISH, WORCESTER STATE COLLEGE, WORCESTER, MA 01602**

"HOLY THURSDAY IN THE WASTE LAND" ORACLE WILLIAM BLAKE AND PILGRIM THOMAS STEARNS ELIOT: SPLITTING THE ATOMS OF TWO GENRE-BREAKING POETS

This paper delineates the personal and spiritual evolutions of writers Blake and Eliot through the medium of their work. The protracted spiritual similarities of the poets are counterbalanced by the methodology, purpose and personal crisis that shaped their respective poetry. Romantic poet, engraver and painter Blake was a self-proclaimed prophet and social crusader whose ideological poetry rose like a widening convection current that blossomed in the high altitude of his autumnal years. Modern poet, essayist and playwright Eliot's struggles with desperation and alienation manifested itself as a tormented, cold-war of the mind and spirit that traced his inner turmoil and cemented his literary legacy. Many factors, such as, family histories, religious upbringing, education, spiritual metamorphosis and travels are used in conjunction with selections from some of their most celebrated poems to draw detailed profiles of the two poetic mavericks. Blake's burgeoning social and religious radicalism is compared to Eliot's experiments with Eastern mysticism, Romanticism, lifestyle as a convention-scoring bohemian and eventual about-face into traditional Anglo-Catholicism. This study is an illustration of the aesthetic and stylistic progression of English literature; of how it is interdependent and interconnected, thus, allowing for comparisons between influential authors who were highly representative of their unique literary ages.

**PSYCHOLOGY ART GALLERY 3:00-4:00**

**NICOLE MELANSON (PEARL MOSHER-ASHLEY), DEPARTMENT OF PSYCHOLOGY, WORCESTER STATE COLLEGE, WORCESTER, MA 01602**

DESIGN AND IMPLEMENTATION OF A PAWS APPROACH TO FACILITATE PET THERAPY IN NURSING HOMES

PAWS is a nonprofit organization that currently advocates for animals, provides a hot-line to report lost or found animals, coordinate referrals, and answer questions about the care of animals, and facilitate adoption of animals. This presentation describes a student initiative designed to expand the current services to include a pet visitation program to nursing homes in the central Massachusetts area. In addition, the benefits pets bring to older adults, types of animals used in pet therapy, and details about the services provided by PAWS will be addressed.

**PSYCHOLOGY ART GALLERY 10:00 - 11:00**

**ROSEMAR POWERS (PEARL MOSHER-ASHLEY), DEPARTMENT OF PSYCHOLOGY, WORCESTER STATE COLLEGE, WORCESTER, MA 01602**

PROBLEMS AND POTENTIAL SOLUTIONS IN PROVIDING THE "GROCERIES@HOME" PROGRAM

"Groceries @ Home" is a pilot program provided by the Age Center of Worcester, Inc. They have partnered with Shaws Supermarket in Shrewsbury, Massachusetts and the Executive Office of Elder Affairs to bring this service to senior citizens and disabled persons. These individuals are not able to do their own grocery shopping due to disabilities or other physical restrictions. This program is presently limited. The service is much needed and fills an important gap in the nutrition services available to seniors. The focus of this presentation is to describe problems in service delivery and explore potential solutions.