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Opening Night Speaker

Monday, March 20, 2006
5:00 PM
Dolan Science Center:
Donahue Auditorium

The Margaret F. Grace Lecture

The Muslim-Christian Dialogue: Where Do I Find Hope?

By Archbishop Michael Fitzgerald, M. Afr.

Is dialogue with other religions more difficult these days? Archbishop Michael Fitzgerald says it is not more difficult but definitely it is more urgent.

British-born, Archbishop Fitzgerald is president of the Pontifical Council for Inter-religious Dialogue at the Vatican. His responsibility is promoting good relationships between the Roman Catholic Church and the world's other faiths, particularly Islam since after Christianity it is the world's largest religion in terms of numbers with a world-wide presence. He has spent a lifetime studying Islamic religion and culture and speaks Arabic.

The Margaret F. Grace Lecture is made possible by a grant from Barbara and John Schubert.

Contact: 216-397-4991 or suenens@jcu.edu for more information.

Celebrate the Arts!

The Arts at Lunch

Monday, Tuesday & Thursday: 12:00–1:15 PM

Lombardo Student Center Atrium

Stop by the LSC Atrium on your lunch hour and listen to music, hear some poetry, and enjoy the arts at lunch. Hosted by Cynthia Caporella, Director of Choral and Liturgical Music. Schedule of performers will be available on the Celebration website:

www.jcu.edu/research/celebrate

The Art Exhibit

Monday-Friday

Grasselli Library Lobby

Visit the Grasselli Library all week to view the artistic displays highlighting some of the creative works by JCU community members. First, second and third prizes will be awarded by the Student Arts Organization.

Meet the Artists

Tuesday, March 21, 2006

4:00–5:00 PM

Grasselli Library Lobby

Come to the reception to be held in the Grasselli Library Lobby to meet the artists of the exhibit, enjoy some refreshments, and view the awarding of the first, second, and third prizes. Judging will be done by the Student Arts Organization.

EXHIBIT: ELIZABETH I: RULER & LEGEND

Monday-Friday
Grasselli Library and Breen Learning Center

Grasselli Library and Breen Learning Center is proud to be selected as one of 40 libraries to host the national tour of "Elizabeth I: Ruler and Legend." This national traveling exhibition was organized by the Newberry Library's Center for Renaissance Studies, in collaboration with the American Library Association Public Programs Office.

Lectures, concerts, readings, and other activities are scheduled around the Exhibit.

Visit the Elizabeth website or call 216 397-6688 for more information.

www.jcu.edu/library/Elizabeth/

This exhibition has been made possible in part by two major grants from the National Endowment for the Humanities, promoting excellence in the humanities. Major support for the exhibition is provided by the Vance Family Fund and the University of Illinois at Chicago. Support for the Lecture Series is provided by the Ohio Humanities Council, a state affiliate of the National Endowment for the Humanities.

Exhibit: Seasons of Life & Land

Monday-Friday
Dolan Science Center:
Exhibit Gallery
Open 1-5 Daily

Photography Exhibit
Arctic National Wildlife Refuge

John Carroll University is pleased to host this exhibit of stunning photographs by nationally acclaimed photographer, Subhankar Banerjee. The exhibit contains forty-nine photographs documenting the ecological diversity and native cultures of Alaska's Arctic National Wildlife Refuge in all four seasons of the year.

In October 2000, Banerjee started a project to record the biodiversity and the indigenous cultures of the Arctic National Wildlife Refuge. The Refuge contains the complete arctic and sub-arctic ecological zones from coastal tundra to mountains to taiga and boreal forest, making it one of the last untouched arctic ecosystems in the world.

This exhibit is designed and produced by the California Academy of Science, San Francisco, California.

For more information, call 216 397-6615.

Lunch-Time Lecture

Tuesday, March 21, 2006
12:00—1:00 PM
Rodman Hall: Conference Room A

Brown Bag Lunch Lecture

The Science and Technology of Stephen King's *Cell*

by Dr. Dan Palmer,
Math & Computer Science

Stephen King, the master of Horror, is at it again. His latest novel *Cell*, in which wireless technology turns ordinary mobile phone users into swarms of zombies, currently tops the fiction bestseller lists.

Dr. Dan Palmer, professor of Mathematics and Computer Science, wants to know, "Just how much of this IS fiction?"

We're not advocating getting rid of your cell phone, but rather, how accurately does King depict the human swarms in his book?

Bring your lunch, we'll supply the dessert and the science, and King will provide the dark side of technology.

Drinks & Dessert Provided

Wednesday, March 22, 2006
5:30 PM
Dolan Science Center:
Donahue Auditorium

The 2006 Mitsui Distinguished Lecture

TOLLYWOOD:
JAPAN'S EXPANDING GLOBAL POP-CULTURE ENTERTAINMENT BUSINESS

BY RONALD A. MORSE, PHD

Ronald Morse is currently president of Japan Entertainment & Gaming Associate, Las Vegas. JEGA is an international consulting firm focused on digital technologies in the field of entertainment (film, games, animation, etc) and gaming (casinos, gambling, etc) particularly as they relate to the United States and Japan. Dr. Morse's work analyzes the political economy of Japan's "soft power," applying this to the genres such as film, games, animation, gambling, and casinos.

The Mitsui Distinguished Lecture is funded annually through the generous support of the Cleveland Office of Mitsui USA, Inc. and the Mitsui USA Foundation.

For further information please contact Susan Long, Coordinator, East Asian Studies at eas@jcu.edu or call 216-397-1685.

Special Sessions

Monday, March 20 (3:15-4:45 PM)

- **Faculty Research Reception**

Dolan Science Center: Reading Room
By invitation only

Tuesday, March 21 (3:30-5:00 PM)

- **Grauel/Summer Research Presentations**

Dolan Science Center: A202

Wednesday, March 22 (Noon-1:15 PM)

- **Course Development Presenters Lunch**

Faculty Lounge
Faculty only; RSVP to Loretta at x1781

Thursday, March 23 (Noon-1:15 PM)

- **IRB/IACUC Open House & Lunch**

Faculty Lounge
Drop in between 12-1:30 for an informal discussion.
Faculty, Staff, Administrators only; RSVP to Laurie at x1527

Friday, March 24 (Noon-1:00 PM)

- **Reception for Celebration Participants**

Dolan Science Center: Reading Room
By invitation only

Schedule of Events

March 20-24, 2006

All events open to the public
and are free unless noted.
Schedule is subject to change.
Visit the Celebration website for an updated schedule:

WWW.JCU.EDU/RESEARCH/CELEBRATE

Monday, March 20, 2006

12:00—1:15 PM **Arts at Lunch**
Lombardo Student Center Atrium
(see page 3 for more information)

3:15—4:45 PM **Faculty Research Reception**
Dolan Science Center:Reading Room
By invitation only

5:00 PM **The Muslim-Christian Dialogue: Where Do I Find Hope?**
Archbishop Michael Fitzgerald, M. Afr.
Dolan Science Center: Donahue Auditorium
Reception follows
(see page 2 for more information)

SCHEDULE

Tuesday, March 21, 2006

12:00-1:00 PM **Brown Bag Lunch Lecture**
"The Science and Technology of Stephen King's *Cell*"
Dr. Dan Palmer, Math & Computer Science
Rodman Hall: Conference Room A
Drinks & Desserts Provided
(see page 6 for more information)

12:00-1:15 PM **Arts at Lunch**
Lombardo Student Center Atrium
(see page 3 for more information)

2:00 PM **Paper/Panel Session A:**
Dolan Science Center: A 202
PANEL: "The 2005 Turkey Institute"
Moderator: Dr. Sheila McGinn
Panelists: Drs. Sheila McGinn, Zeki Saritoprak, Andreas Sobisch

3:30-5:00 PM **Grauel/Summer Research Presentations**
Dolan Science Center: A202
Moderator: Dr. Mary Beadle
Grauel Presenters:
Dr. Harry Gensler: "An Encyclopedia of Logic and a Catholic Philosophy Anthology"
Dr. Paul Nietupski: "A Clash of Cultures: Hindus & Buddhists in Medieval Southeast Asia"
Dr. Gloria Vaquera: "Testing theories of doctoral student persistence at a Hispanic Serving Institution"
Dr. Chris Roark: "John Wideman and Alberto Giacometti: 'The longer you look, the stranger it becomes"
Summer Research Presenters:
Dr. Mindy Peden: "Governing by lot: Explaining chance away"
Dr. Diana Chou: "A New Reading of Ren Renfa's (1257-1328) bird-and-flower paintings"

4:00-5:00 PM **"Meet the Artists" Reception**
Grasselli Library Lobby
Refreshments

Tuesday, March 21, 2006 (continued)

4:30-5:30 PM **Paper/Panel Session B:**
Dolan Science Center: A203
PANEL: "Men and Women Serving Katrina's Survivors"
Moderator: Joseph Adair
Panelists: Peter Aubry, Chester Banaszak, Dave Ceglia, Jennifer Hauschildt, Dan Schneck

Wednesday, March 22, 2006

10:00-11:30 AM **Paper/Panel Session C:**
Dolan Science Center: A202
PANEL: "What is the (Academic) Domain for Entrepreneurship?"
Moderator: Dr. Soper/Dr. Schmidt
Panelists: Mark Hauserman, Frank Navratil, Jackie Schmidt, and Jack Soper

10:00-11:30 AM **Paper/Panel Session D:**
Dolan Science Center: A203
PANEL: "Communicating Identity: Highlighting Students' Communication Research"
Moderator: Dr. Yemi Akande
(D.1) Douglas A. Phillips: "Exploring the Motivation of Professors in Regard to Placing Objects in their Offices"
(D.2) Beth Ann Helminiak: "Protest Music: Past and Present: What Are They Talking About Now?"
(D.3) Kristi Hosko: "The importance of silicone bracelets as artifacts in shaping one's identity, self, and personality"
(D.4) Wildali Lugo-Santiago: "The impact of race and gender on students' perceptions of professor's immediacy behavior"
(D.5) Katherine Seavers: "Effects of Parental and Family Involvement on Personal Development"
Respondent: Dr. Margaret Finucane

SCHEDULE

Wednesday, March 22, 2006 (continued)

12:00-1:15 PM **Course Development Lunch**
Reservations Requested; Faculty only
Moderator: Dr. Jeanne Colleran
Presenters: Dr. Peter Kvidera, Dr. Marilynn Leathart, Dr. Santa Casciani, Kathleen Kobyljanec, Dr. Krystyna Nowak-Fabrykowski, Dr. Philip Metres
(see page 8 for more information)

1:30-3:00 PM **Paper/Panel Session E:**
Dolan Science Center: A202
Moderator: Dr. Cynthia Marco-Scanlon
(E.1) Monica Colon: "Companies Breaking Barriers"
(E.2) Elizabeth Stewart: "Got Privilege?"
(E.3) Markian Bleahu: "Japanese Mobile Phones"
(E.4) Douglas Phillips: "The Most Sudden Change Believable in Man: The Duke of Northumberland's Mistakes Leading to the Accession of Queen Mary in 1553"
(E.5) James Menkhaus: "Spirituality and Imagination"
(E.6) Abbey Fox: "Oiwa, Okiku, and Sadako"

1:30-3:00 PM **Paper/Panel Session F:**
Dolan Science Center: A203
Moderator: Dr. John Rausch
(F.1) Dr. Gregory DiLisi: "Hierarchical Learning Ensembles: Team-Building for Undergraduate Scientists and Engineers"
(F.2) Dr. John Rausch, Mauni Khouri, Kristal Reis, Josh Brickner: "The Relationship between Identification with Academics and Self-Reflection with Academic Outcomes"
(F.3) Dr. Charles Zarobila: "'Picture[s] in full piteous moode': The Woodcuts in Foxe's BOOK OF MARTYRS"
(F.4) Ruth Fenske & Dawn Pottinger: "New Fangled Things: Not Your Grandparents' Library"
(F.5) Katharine Anne Gabele: "Nihon Gakko: Cultural Transmission and Ethnic Identity in Japanese Language Schools"

Wednesday, March 22, 2006 (continued)

3:30-4:45 PM **Paper/Panel Session G:**
Dolan Science Center: A202
PANEL: "Cuba and the Global Community: The Political Situation of an Excluded Nation"
Moderator: Nicole Rishel
(G.1) Tasha Forchione: "Normalizing Trade Relations with Cuba"
(G.2) Matt Gayetsky: "The Camp and the Community: The Problematic Nature of Modern Sovereignty"
(G.3) Brittany McLane: "Brain Fingerprinting: A Pseudoscientific Threat to Personal and Social Liberty"
(G.4) Nicole Rishel: "Moral Luck and Just Desert"

3:30-4:45 PM **Paper/Panel Session H:**
Dolan Science Center: A203
PANEL: "Ignatian Pedagogy of Accompaniment and First Year Seminar"
Moderator: Dr. Mark Falbo
Panelists: Mark C. Falbo, Nicholas R. Santilli, Kelsey Hutchings, and Robert Ramser

3:30-4:45 PM **Paper/Panel Session I:**
Dolan Science Center: E116
PANEL: " Examination of two racial/ethnic communities in Cleveland"
Moderator: Kelly Johnson
Panelists: Megan Weiss, Kelly Johnson, Allison Alexy, Steve Bennett

5:00-6:15 PM **Paper/Panel Session J:**
Dolan Science Center: A202
PANEL: "Interviewing Issues"
Moderator: Dr. Jackie Schmidt
(J.1) Rebecca Wagner: "The O'Reilly Factor: A No Spin Zone"
(J.2) Hamed Hamad: "Arab and American Culture: A Closer Look at Interviewing Styles"
(J.3) Allison Calabro and Bianchi Petrasek: "Gender Differences in Employment Interviews"
(J.4) Christina Phillis: "Interviewing Styles in Serious and Non Serious Stories"

SCHEDULE

Wednesday, March 22, 2006 (continued)

5:00-6:15 PM **Paper/Panel Session K:**
Dolan Science Center: A202
Moderator: Dr. Margaret Finucane
(K.1) Katie Homar: "Iago on Screen: Orson Welles vs. Oliver Parker"
(K.2) Kimberly Burkhart: "Evidence for Terror Management Theory: The Effects of Mortality Salience on Reactions to Those Violating Cultural Worldviews"
(K.3) Dr. Linda Seiter and Dr. Marc Kirschenbaum: "Abstract reasoning through visualization"

5:30 PM **2006 Mitsui Distinguished Lecture**
Dolan Science Center: Auditorium
"Japan's Expanding Global Pop-Culture Entertainment Business"
Dr. Ronald Morse
CEO of Japan Entertainment and Gaming Associates
(see page 7 for more information)

7:00 PM **Elizabeth I: Ruler & Legend Lecture Series**
"Fashioning the Queen: Elizabeth I and the Politics of Representation"
Dr. Maryclaire Moroney, Associate Professor of English
Grasselli Library: Muer Room
(see page 4 for more information)

7:00-8:30 PM **Poster Session**
Dolan Science Center: Muldoon Atrium
Refreshments
(see page 31 for presenters and abstracts)

Thursday, March 23, 2006

10:00-11:30 AM **Paper/Panel Session L:**
Dolan Science Center: A202
PANEL: "*Instruction* from the Congregation for Catholic Education: A Closer Look"
Moderator: Jake Oresick
Panelists: Brian Bremer, Linda Kawentel, Nick Kuhar, Jake Oresick, and Jason Shifflet; Faculty Advisor: Father Schubeck

10:00-11:30 AM **Paper/Panel Session M:**
Dolan Science Center: A203
Moderator: Diane Campbell
(M.1) Nelson Foster: "Democratic Socialism: A Comparative Analysis of Germany, France, and Denmark, and the Possibility of Social Democracy's Implementation in the United States"
(M.2) Nevin Mayer: "The Perspectival Imagery in Wallace Stevens' 'To an Old Philosopher in Rome'"
(M.3) Dr. Dwight Olson: "Preliminary Report: The Efficacy of AR 110 at John Carroll University"
(M.4) Dr. Deborah Zawislan: "Institute for Educational Renewal's Community Building Model for School Reform"

12:00-1:15 PM **IRB/IACUC Open House & Lunch**
Faculty Lounge
Reservations Requested; Faculty, Staff & Administrators only
(see page 8 for more information)

12:00-1:15 PM **Arts at Lunch**
Lombardo Student Center Atrium
(see page 3 for more information)

1:30-3:00 PM **Paper/Panel Session N:**
Dolan Science Center: A202
PANEL: "Dispelling False Dichotomies Embedded in the Concept of Caring"
Moderator: Dr. Nowak-Fabrykowski
(N.1) Dr. Tom Kelly: "Differentiating Conceptions of Caring & Why It Matters"
(continued)

SCHEDULE

Thursday, March 23, 2006 (continued)

1:30-3:00 PM (continued)

(N.2) Dr. Jennifer Merritt, Dr. Thea Ford and Sharyn Turner: "Global Migrant Issue: Imperative for Educational Institutions to Care"
(N.3) Dr. Krystyna Nowak-Fabrykowski and Monica Helinski: "Care for Adopted Children"
(N.4) Dr. John Rausch: "Adolescent Identity: The Impact of a Lack of Caring"
(N.5) Dr. Nancy Taylor: "Strategies for Helping Students Listen to Their Own Lives"

1:30-3:00PM

Paper/Panel Session O:
Dolan Science Center: A203
Moderator: Dr. Edward Peck
(O.1) Dr. Linda Eisenmann: "JFK's Presidential Commission on the Status of Women: To Be or Not to Be Feminist"
(O.2) Dr. Mary Beadle:: "Using Visual Evidence: Does the Camera Lie?"
(O.3) Dr. Paul Lauritzen: "Why Markets and Liberal Arts Education Don't Mix: Some Problems with Commodifying Higher Education"
(O.4) Dr. Paula Britton: "Use of Serotonin Levels in the Detection of Depression in Primary Care"

3:30-5:00 PM

Paper/Panel Session P:
Dolan Science Center: A202
PANEL: "Latin American Studies Concentration: Engaging the World"
Moderator: Dr. Maria Marsilli
(P.1) Emily Boal: "Feminine Culture in Latin America: A Look at Dorothy Kazel and the Women of Zaragoza"
(P.2) Christopher Miller: "The L.D.P. and the P.R.I.: The Difference in Domination"
(P.3) Kristy Callaway: "Comunidad Oscar Arnulfo Romero (COAR): An Opportunity for Hope for a People in Need"
(P.4) Laura Feilmeier: "Che Guevara: The Making of a Revolutionary"

Thursday, March 23, 2006 (continued)

3:30-5:00 PM **Paper/Panel Session Q:**
Dolan Science Center: A203
PANEL: "Leadership and Social Justice Learning Community Development: Sharing what we Learned"
Moderator: Lauren Bowen/Margaret Finucane
Panelists: Students Matthew Harmon, Brandon Keller, & Virginia Sykes

3:30-5:00 PM **Paper/Panel Session R:**
Dolan Science Center: E116
PANEL: "Memoirs of a Geisha: JCU's Own Bonus Features, A Student-Faculty Panel Discussion"
Moderator: Dr. Susan Long
(R.1) Gabriella Mileti: "A Reaction to the Film: *Memoirs of a Geisha*"
(R.2) Dr. Roger Purdy: "The Film Casting Controversy: Artistic License and International Affairs"
(R.3) Dr. Peter Kvidera: "Memoirs: The Movie, The Book, and You"
(R.4) Markita Thompson: "History of Kimonos"
(R.5) Dr. Yemi Akande and Keiko Nakano: "Playing Dress-Up: The Real-Life Experience of Becoming a Geisha"
(R.6) "Pleasures and Problems of the Film, Memoirs of a Geisha: Discussion with Audience"

5:30-6:30 PM **Paper/Panel Session S:**
Dolan Science Center: A202
PANEL: "Science Teachers as Action Researchers"
Moderator: Dr. Deborah Zawislan

5:30-6:30 PM **Paper/Panel Session T:**
Annex B: Art History Department
Daina Kovalcheck: "Contemporary Art from the JCU Art Department Collection: an Overview of the Artists and their Works"
Viewing of art work follows presentation

SCHEDULE

Friday, March 24, 2006

10:00-11:30 AM **Paper/Panel Session U:**
Dolan Science Center: A202
PANEL: "Present Perspectives on the Contemporary Relevance of Foucault's Work"
Moderator: Dr. Dianna Taylor
Kristin Arbut, Nate Szabo, Rachel Trapani

10:00-11:30 AM **Paper/Panel Session V:**
Dolan Science Center: A203
PANEL: "Current Issues Relating to the United States Supreme Court: A Panel Discussion on How Justices Are Selected, How Their Decisions Are Made and How Those Decisions Are Applied in the Real World"
Moderator: Stephen Ostrach
Panelists: Professor Lauren Bowen, Adjunct Faculty Members Stephen Ostrach and Sara M. Schiavoni

Noon **Reception for Participants**
By invitation only

Paper & Panel Abstracts

(A) PANEL: The 2005 Turkey Institute
Drs. Sheila McGinn & Zeki Saritoprak, Religious Studies; Dr. Andreas Sobisch, Director, Center for Global Affairs

(B) "Men and Women Serving Katrina's Survivors"
Joseph Adair, Center for Community Services; Peter Aubry, Chester Banaszak, Dave Ceglia, Jennifer Hauschildt, Dan Schneck, Undergraduates
John Carroll University sent a relief team to New Orleans just before Christmas to aid the survivors of Hurricane Katrina. This team of 13 cleared debris while working with members of Catholic Charities. The main task undertaken was the "gutting" of two homes. This program was a unique experience for the women and men of John Carroll University. It offered a lived sense of what it means to be for others through direct service. By supporting the survivors in a direct manner, the students received an education that is difficult to reproduce in the classroom. Students learned that service is more than doing good things for some one else. Service is a way to come into contact with others and learn about their situation.

(C) PANEL: "What is the (Academic) Domain for Entrepreneurship?"
Mark Hauserman, Frank Navratil, Jackie Schmidt, and Jack Soper
This panel will explore the academic boundaries of entrepreneurship, including connections to the College of Arts & Sciences, the Boler School, and The Graduate School. What is the concept of "the Entrepreneurial University" and how does that concept relate to John Carroll University and the Northeast Ohio region?

(D) PANEL: "Communicating Identity: Highlighting Students' Communication Research"
Student Panelists: Douglas A. Phillips, Beth Ann Helminiak, Kristi Hosko, Wildali Lugo-Santiago, Katherine Seavers
Students enrolled in Nonverbal Communication (CO 424) and Multicultural Communication (CO 394) course conduct individual research across a variety of contexts. Personal, cultural and political identity is asserted and reinforced in different ways. In nonverbal communication research, personal identity is shaped by a number of factors that are reflected in the choices we make, such as how we decorate our surroundings and the accessories we choose, the influence of family, and by physical characteristics such as race and gender. Yet in another realm of communication, musicians assert their personal and political identity in their lyrics as a means of transforming society. These are the focus of the papers that are presented in this panel as they help set new research agendas in the study of communication. Faculty advisor: Dr. Akande.

Paper & Panel Abstracts

(E.1) Companies Breaking Barriers
Monica A. Colon, Undergraduate
U.S. Companies have entered Latin American markets with a vengeance. They are determined to implement their products and strategies in these markets but have encountered many problems that could have been avoided if proper measures would have been taken before entering these markets. In my research, I have studied why U.S. markets have chosen to emerge in Latin American Markets, what challenges they faced while emerging and continuing business in this market, their strategies of how to overcome these challenges, and the reaction of the people living in this geographical area. I also give some recommendations that companies should take into consideration when looking at entering into any foreign market. Entering into foreign markets can be a wonderful advancement for some businesses if done correctly but can be the downfall for those companies that do not take the proper steps for success.

(E.2) "Got Privilege?"
Elizabeth Stewart, Undergraduate

(E.3) "Japanese Mobile Phones"
Markian Bleahu, Undergraduate
Japanese Mobile Phones was created for Japanese Popular Culture in the Fall of 2005. The instructors for the course were Dr. Long, Mrs. Nakano, and Dr. Purdy. The purpose of this Powerpoint was to inform the audience about the adaptation of mobile phones into current Japanese society. The presentation starts with a description of the current Japanese market and then describes the different ways that people customize their phones.

(E.4) "The Most Sudden Change Believable in Man: The Duke of Northumberland's Mistakes Leading to the Accession of Queen Mary in 1553"
Douglas Phillips, Undergraduate
In 1553, the impending death of King Edward VI of England triggered a struggle to determine who would succeed him as monarch. Lady Mary, eldest daughter of Henry VIII and half sister of Edward VI, was the rightful heir to the throne according to Parliamentary law. Some in England viewed her potential accession with apprehension. The Duke of Northumberland, the most powerful of Edward's councilors in 1553, was one of those who feared the ramifications of Mary becoming Queen. Edward VI and Northumberland devised a plan to divert the line of succession from Mary. Northumberland chose to promote Lady Jane Grey, cousin of Mary and Edward, as the king's choice to succeed him. This thesis illustrates that Mary's eventual victory, after Lady Jane's nine-day reign as Queen of England, was due to a series of mistakes made by the Duke of Northumberland in enacting the plan to alter the succession

(E.5) "Spirituality and Imagination"
James Menkhaus, Religious Studies
This presentation is based on the course Spirituality as Imaginative Theological Literature, which Fr. Howard Gray, S.J. and I developed and are currently teaching. The course examines contemporary texts and films that explore personal choice, the search for meaning, and the surrender to God. We invite students to appropriate course material into their own lives and choices, rather than seeing film and literature as merely entertainment. Also, we encourage students to see narrative, imagination, and memory as important to spirituality and theology, specifically in making those vocational choices that reflect the mission of JCU.

(E.6) "Oiwa, Okiku, and Sadako"
Abbey Fox, Undergraduate
This session presents research on female ghosts in traditional Japanese folklore, and how those ghosts relate to the mainstream spirits in Japanese horror films today, focusing primarily on three female ghosts, Oiwa and Okiku (from traditional folklore) and Sadako from the current film, "The Ring." Research was conducted via Internet, and through the use of several books and films. This research project was done for the Japanese Popular Culture class, which is offered through the East Asian Studies program. Faculty advisors: Dr. Purdy, Dr. Long, and Prof. Nakano.

(F.1) "Hierarchical Learning Ensembles: Team-Building for Undergraduate Scientists and Engineers"
Dr. Gregory DiLisi, Education & Allied Studies
We describe the design and implementation of our Hierarchical Learning Ensemble (HLE) model, a pedagogy that assembles interdisciplinary teams of graduate, undergraduate, and secondary-level students to solve science and engineering problems. Our goal is to sensitize undergraduates to working in heterogeneous groups and thus better prepare them for the workplace. Coauthors: Dr. S.J. Eppell (Case Western Reserve University); J.E. Freeman, J. Upton (Institutional Research Consultants)

(F.2) "The Relationship between Identification with Academics and Self-Reflection with Academic Outcomes"
Dr. John Rausch, Education & Allied Studies; Mauni Khoury and Kristal Reis, Graduate students; Joshua Brickner, Undergraduate
The purpose of this study is to explore if a relationship exists between academic outcomes and students' identification with academics, self-reflection, motivation, cognitive engagement, and locus of control. The study was conducted in a Midwestern, urban, alternative high school. The preliminary analysis demonstrated significant positive correlations between identification with academics and learning goals, intrinsic motivation, self-regulation, and deep and shallow processing, and a significant negative correlation with public self-consciousness. Private self-consciousness was significantly correlated

with public self-consciousness, intrinsic motivation, self-regulation, and deep and shallow processing. Public self-consciousness showed significant positive correlations with social anxiety, performance goals, and competition. A multiple regression analysis will be conducted to examine which variables were the strongest predictors of academic outcomes.

(F.3) "'Picture[s] in full piteous moode': The Woodcuts in Foxe's BOOK OF MARTYRS"
Dr. Charles Zarobila, Curator of Special Collections, Grasselli Library
The BOOK OF MARTYRS, first published in English by John Foxe in 1563, is a basic text of English Protestantism, second, perhaps, in importance only to the Bible. It was dedicated by its author to Queen Elizabeth I after her ascension to the throne and her reestablishment of the Anglican religion. The focus of this presentation is to describe features of the curious woodcuts, illustrating the suffering of the martyrs, that appear throughout the book. This presentation is associated with the exhibit "Elizabeth I: Ruler and Legend" that will be in place at the Grasselli Library, March 2006

(F.4) "New Fangled Things: Not Your Grandparents' Library"
Ruth E. Fenske, Ph.D., AHIP, Coordinator of Reference, and Dawn R. Pottinger, MLIS, Reference Librarian, Grasselli Library
Libraries without OPACs, libraries without reference librarians, and colleges without libraries--all have been mentioned in library and higher education circles in the past year. Google, in all its manifestations; Amazon.com; Wikipedias; visualization; 24X7 chat reference; digital repositories; and electronic textbooks that change weekly or daily--all are changing the nature of information seeking in academe. Add an overlay of Millennial students and you have a "library" totally different from that of the past. Are these trends positive or negative *vis à vis* the facilitation access to quality information, the *sine qua non* of academic libraries?

(F.5) "Nihon Gakko: Cultural Transmission and Ethnic Identity in Japanese Language Schools"
Katharine Anne Gabele, Graduate student
When discussing immigration and the formation of ethnic communities, often the subject of bilingualism is approached, especially in the case of the first, foreign-born generation. Ethnic groups may form religious or secular organizations within their communities in order to reestablish and perpetuate cultural traditions found in the "Old Country." I will discuss the Nihon Gakko, or Japanese language school prevalent in the Japanese American communities during the early 20th century. I will use literary representations, such as the memoir "Nisei Daughter" by Monica Sone, and the short stories of Hisaye Yamamoto, as well as historical and sociological evidence of how these schools helped shape the childhoods of Japanese Americans up until WWII.

(G.1) "Normalizing Trade Relations with Cuba"
Tasha Forchione, Undergraduate
It is my opinion that it is in the U.S. national interest to normalize relations with Cuba. A hostile U.S. policy toward Cuba no longer serves any useful purpose [if it ever did]. To this end, the United States should resolve the grievances Cuba has against our country as quickly as possible. United States foreign policy toward Cuba has proven outdated and ineffective, as forty-year old sanctions have not yielded any desired results. Sanctions are now responsible for the harms they were enacted to protect. This policy is the core of economic failure in Cuba resulting in meager living conditions. And, sanctions are used to prop up Fidel Castro's callous regime. So long as he can blame the detriment of the Cuban people on U.S. foreign policy, Castro will remain a human rights violator.

(G.2) "The Camp and the Community: The Problematic Nature of Modern Sovereignty"
Matthew Gayetsky, Undergraduate
This paper will argue that the foundations of modern sovereignty as presented by Carl Schmitt are extremely dangerous and ought to be critically evaluated. Specifically, the state of exception allows people to be placed outside the law without any legal protections. Within the context of modern Cuba, I will argue that the prisoners at Guantanamo Bay exist in a state of exception which justifies any atrocity committed against them. I will then show how the political situation of Guantanamo Bay is not topologically different than the political situation in any other sovereign context because the operations of power are the same globally. This would mean that the abuses of prisoners at Guantanamo could literally occur in any political context, including to citizens of the United States

(G.3) "Brain Fingerprinting: A Pseudoscientific Threat to Personal and Social Liberty"
Brittany McLane, Undergraduate
The advent of neuroimaging technologies such as electroencephalography allows scientists a more meaningful glimpse into the human brain than ever before possible. Computerized knowledge assessment (CKA) is just one of many novel applications currently being proposed. CKA uses a "guilty knowledge test" in conjunction with a brain imaging technique known as electroencephalography to monitor the brain's p300 response. With CKA, scientists may determine whether certain stimuli register a familiarity response by a subject's brain. The potential use of such a system in criminal investigation and public security generates a number of interesting ethical questions that speak to the very core of our personal identities, determining limits of privacy and the meaning of human liberty. This paper explores the validity of CKA as material evidence, the threat it poses to any notion of cognitive liberty, and the implications generated by public use of CKA in a pluralistic society.

Paper & Panel Abstracts

(G.4) "Moral Luck and Just Desert"
Nicole Rishel, Undergraduate
This paper explores the philosophical concept of moral luck and its relation to politics. Using the work of Immanuel Kant, Thomas Nagel, Bernard Williams, and Margaret Urban Coyne, I explain the concept of moral luck and contextualize its significance in understanding responsibility, blame, worth and justice in political systems. The concept of luck is one of the most interesting, and possibly, the most significant determinate of distributive justice. I evaluate the implications of moral luck on distributive justice in the theories of Robert Nozick, Barbara Fried and Iris Marion Young. Ultimately, I demonstrate that the proposition of both Bernard Williams and Thomas Nagel, holding that morality is not immune to luck, has positive implications for distributive justice and politics in general.

(H) PANEL "Ignatian Pedagogy of Accompaniment and First Year Seminar"
Dr. Mark C. Falbo, Director, Center for Community Service; Dr. Nicholas R. Santilli, Director, Planning & Assessment; Kelsey Hutchings and Robert Ramser, Undergraduates
The purpose of this panel is to examine one way to integrate the Ignatian theme of educating for justice in First Year Seminar. Developing the notion of service learning as "pedagogy of accompaniment," instructors and students will describe an innovative community-based learning assignment that addresses the themes of last year's FYS. Instructors will summarize the details of the assignment from conceptualization to assessment. Assignment details and course materials will be available at the session. Students will offer their reflections on the assignment and offer their insights regarding the assignment's impact on their academic experience related to the University's mission.

(I) PANEL: "An Examination of two racial/ethnic communities in Cleveland"
Megan Weiss, Kelly Johnson, Allison Alexy, Steve Bennett, Undergraduates
This panel seeks to examine two significant groups within the greater Cleveland area: African Americans and Italian Americans. Various methods are used to examine these communities. For each racial/ethnic community, researchers will discuss the historical view of immigration to the area, current media portrayals, community observations, and interviews with community representatives. Through the use of these methods we create a better understanding of these two unique groups within the broader multiracial and multi-ethnic community that is greater Cleveland. Faculty advisor: Dr. Vaquera.

(J.1) "The O'Reilly Factor: A No Spin Zone"
Rebecca Wagner, Undergraduate
An analysis was made of taped segments of the O'Reilly Factor to determine if O'Reilly's interviewing style differs if the interviewee agrees, disagrees, or is neutral to O'Reilly's opinion on the interview topic. Factors examined were when O'Reilly states his opinion, how long O'Reilly speaks, O'Reilly's nonverbal, and the number of interruptions made. Faculty advisor: Dr. Schmidt.

(J.2) "Arab and American Culture: A Closer Look at Interviewing Styles"
Hamed Hamad, Undergraduate
The author analyzed the differences in interviewing techniques in Arabic and American Television interviews. Results found differences in interviewing space, environment, number of interruptions, tone, and language use. Faculty advisor: Dr. Schmidt.

(J.3) "Gender Differences in Employment Interviews"
Allison Calabro and Bianchi Petrasek, Undergraduates
The gender differences in employment interviews amongst students were investigated and observed recognizing how communication skills and styles can vary based on the representation of gender. Focuses took place in five areas: question styles, nonverbal and body language, probing, introduction style, and assertiveness levels. Differences were determined by comparing the results between men and women in the five areas. The results indicated that men and women have differences in interviewing techniques, some areas having more drastic differences than others. Faculty advisor: Dr. Schmidt.

(J.4) "Interviewing Styles in Serious and Non Serious Stories"
Christina Phillis, Undergraduate
The interviewing formats of serious and less serious topics done by different news anchors on The Today Show were observed. The different formats used were tunnel and funnel sequence. Tunnel sequences started with open questions and went to closed questions and moved back to open questions again. Funnel sequences went from open to closed questions. Results found that if an interview was more serious it followed the funnel sequence and a less serious interview followed the tunnel sequence. Faculty advisor: Dr. Schmidt.

(K.1) "Iago on Screen: Orson Welles vs. Oliver Parker"
Katie Homar, Undergraduate
Since the twentieth century, Shakespeare's dramatic works have reached a larger audience through film. "Othello" with its emphasis on racism, sexual jealousy, and manipulation, still has particular relevance to modern viewers. This paper examines the portrayal of Iago, the play's villain, in a crucial scene in two film versions of "Othello": A 1952 production by Orson Welles and a 1995 movie by Oliver Parker. It debates which film depicts its version of Iago as more manipulative. A comparison of various cinematic and literary elements, including setting, camera shots, blocking (the actors' movements), choices of script, delivery of lines, symbolism, and costumes/props, will explore and assess each "Iago's" impact on a modern audience.

(K.2) "Evidence for Terror Management Theory: The Effects of Mortality Salience on Reactions to Those Violating Cultural Worldviews"
Kimberly Burkhart, Nate Smith, Catherine Wroe, Mallory McClester, Undergraduates

Paper & Panel Abstracts

Past research on Terror Management Theory has indicated that when mortality is made salient, individuals respond negatively toward those who do not uphold their cultural worldviews. Fifty-two participants were randomly assigned to describe either the emotions the thought of their own death arouses or the thought of their favorite movie elicits. Participants were then instructed that they would be serving on a mock jury in a robbery case. Religious orientation (either atheist or non-atheist) of the defendant was manipulated by randomly assigning participants to either read that before the defendant delivered his testimony he placed his hand on the bible or the defendant refused to place his hand on the bible, citing his atheistic beliefs. When prior knowledge of Terror Management Theory was held as a covariate, mortality salient individuals prescribe a harsher punishment to the transgressor than those participants in the control condition

(K.3) "Abstract reasoning through visualization"
Dr. Linda Seiter & Dr. Marc Kirschenbaum, Math & Computer Science
Nationwide, introductory computer science courses have dropout rates of 50% or higher due to the difficulty of the material. Today we face yet another challenge, CS201, the introductory programming course offered at John Carroll University, is a required course for many non-CS majors. It was vital to restructure the course to motivate the non-majors, while still adequately preparing the CS and CIS majors. The computer science faculty at John Carroll University incorporated a new graphical technique for teaching CS201. The ability for students to be able to "see" what their software was doing proved to be a tremendous asset for understanding how to program. Because the students were able to have fun producing visual programs, they were willing to invest the effort required to learn challenging programming concepts. In Fall 2005, the CS201 dropout rate greatly decreased, with many students continuing on to the next course in the major.

(L) PANEL: "*Instruction* from the Congregation for Catholic Education: A Closer Look"
Brian Bremer, Linda Kawentel, Nick Kuhar, Jake Oresick, and Jason Shifflet, Undergraduates
In November of last year, the Vatican issued a new Instruction from the Congregation for Catholic Education. The most controversial aspect of this document, which Pope Benedict XVI approved, centers on the admission of homosexual men into the seminary. With the amount of controversy created by this document, it deserves a more careful examination. Our panel will examine the events leading to the release of this document, what it actually says and means, justification for the church's stance, and the reaction of those most affected by the document: the seminarians. Faculty Advisor: Father Thomas Schubeck

(M.1) "Democratic Socialism: A Comparative Analysis of Germany, France, and Denmark, and the Possibility of Social Democracy's Implementation in the United States"
Nelson Foster, Undergraduate

A frequently misconstrued idea in the United States, Social democracy in Western Europe has been a strategy of reform intended to make capitalism more tolerable and less ruthless. Though these countries are regarded as peers of the United States, they are far ahead in terms of economic equality. Since economic equality is directly related to political equality, disparity is an alarming issue in a country which prides itself on being the most advanced, democratic, and free nation in the world. In that regard, this research will analyze the various facets of Democratic Socialism, its historical and practical development, and, with these issues considered, the feasibility of democratic socialist development in the United States.

(M.2) "The Perspectival Imagery in Wallace Stevens' *To an Old Philosopher in Rome*"
Nevin Mayer, Grasselli Library
Critics regard Wallace Stevens as one of the greatest modernist poets. Many of Stevens' ideas about life were energized by his student-days mentor, the Spanish-born poet and philosopher, George Santayana. Stevens lost contact with Santayana after the latter left his teaching post at Harvard, but he maintained a "mental correspondence" throughout his life by reading Santayana's books. In 1946, Stevens read an article in The New Yorker about the ailing philosopher's life in a convent in Rome and is said to have inspired Stevens' great tribute, "To an Old Philosopher in Rome," published just shortly before Santayana's death. In this poem, Stevens has in his mind's eye the familiar, yet remarkable, textbook diagrams of vanishing-point perspective. In this presentation, I will look briefly at one of these images and discuss how it ties in with Stevens' and Santayana's belief in the "sufficiency of reality." This research was done on a Grauel award.

(M.3) "Preliminary Report: The Efficacy of AR 110 at John Carroll University"
Dr. Dwight Olson, Math & Computer Science; Carol Kerrett, Reading Development Program
This study is designed to assess the effectiveness of AR 110: Reading Improvement I for first-year students at John Carroll University. Preliminary results show that as measured by the Nelson Denney Reading Test (NDRT), a treatment group of students who took AR 110 in their first semester had improved their NDRT results in both reading comprehension and vocabulary by the end of their first semester significantly more than a control group of similar students who did not take AR 110 during that semester. Further questions related to the study will be discussed.

(M.4) "Institute for Educational Renewal's Community Building Model for School Reform"
Dr. Deborah Zawislan, Director, Institute for Educational Renewal
This reflective ethnography examines the Institute for Educational Renewal's community building model for school reform. Schools included in this case study are all involved in a university partnership that provides school-based professional development to create a sustainable, child-centered, community of learners. Themes that emerged

across schools include the importance of relationship building, the need to find a common focus around which to come together, the power of collective reflection for action, and the support of the principal. It suggests that developing a community of learners that is built on trusting relationships, focused on student learning and reflective practice can promote a culture of learning and result in collaborative leadership, effective teaching and learning, and a positive school culture.

(N) PANEL: "Dispelling False Dichotomies Embedded in the Concept of Caring"
Drs. Tom Kelly, Jennifer Merritt, Thea Ford, Krystyna Nowak-Fabrykowski, John Rausch, Nancy Taylor, Education & Allied Studies; Monica Helinski, Graduate student; Sharyn Turner, Undergraduate
Despite its importance, the concept of caring is often handicapped by misconceptions and romanticized oversimplification. This session is designed to address these concerns by making important distinctions across a continuum of caring dispositions and practices. These distinctions should help educators act under the banner of caring in far more thoughtful, holistic and effective ways.

(O.1) "JFK's Presidential Commission on the Status of Women: To Be or Not to Be Feminist"
Dr. Linda Eisenmann, Dean, College of Arts & Sciences
President John F. Kennedy created the first federal Commission on the Status of Women in 1961. With Eleanor Roosevelt as its first chairperson, the Commission worked to "review progress and make recommendations" on women's employment, civil rights, and political opportunities, primarily asking how women should fulfill their roles as citizens. Yet the early 1960s conveyed very mixed messages about women's roles, especially how to balance home and career. Ultimately, the Commission offered challenges to current employment practices (including gender-specific job ads), legal directions (recommending against the Equal Rights Amendment), and educational approaches (encouraging women as adult students), but its language and recommendations indicated a deep discomfort with early-1960s connotations of feminism. This talk will explore the Commission's work and its 1964 publication, American Women, co-edited by Margaret Mead.

(O.2) "Using Visual Evidence: Does the Camera Lie?"
Dr. Mary Beadle, Dean, The Graduate School

(O.3) "Why Markets and Liberal Arts Education Don't Mix: Some Problems with Commodifying Higher Education"
Dr. Paul Lauritzen, Director, Applied Ethics Program

(O.4) "Use of Serotonin Levels in the Detection of Depression in Primary Care"
Dr. Paula Britton, Education & Allied Studies

(P) PANEL: "Latin American Studies Concentration: Engaging the World"
Emily Boal, Christopher Miller, Kristy Callaway, Laura Feilmeier, Undergraduates
This panel presents papers/research proposals produced by students of the Latin American Studies Concentration, both at the graduate and undergraduate level.
Faculty advisor: Dr. Maria Marsilli, Co-coordinator of the Latin American Studies Concentration

(Q) PANEL: "Leadership and Social Justice Learning Community Development: Sharing what we Learned"
Matthew Harmon, Brandon Keller, & Virginia Sykes, Undergraduates
Our central question was whether and how an intentionally structured integrative learning experience that connects general education with education in the disciplines and connects the curricular with the co-curricular will increase student commitment to the Jesuit mission. Although many of them can recite the abbreviated university mission statement, it is not always clear that it is fully understood and embraced as a way of organizing one's life. We sought to design a learning experience that attends to this gap in the undergraduate experience. Our disciplinary homes are particularly well suited for such an inquiry. Linking Communication and Political Science allows us to inculcate a sense of agency and empowerment by emphasizing presentation and advocacy skills while also providing a context for the need for social action via analysis of political structures. We will present a discussion of our first semester with the students enrolled in the learning community. Faculty advisors: Dr. Bowen, Dr. Finucane

(R) PANEL: "Memoirs of a Geisha: JCU's Own Bonus Features, A Student-Faculty Panel Discussion"
Dr. Susan Long, Coordinator, East Asian Studies and Professor of Anthropology, Department of Sociology; Dr. Roger Purdy, History; Dr. Peter Kvidera, English; Dr. Yemi Akande, Communications; Keiko Nakano, Classical and Modern Languages and Cultures; Gabriella Mileti, Markita Thompson, Undergraduates
The recently released, Memoirs of a Geisha, is a classic Hollywood look at traditional Japan. Directed by Rob Marshall and produced by Steven Spielberg, it presents an international cast telling a former geisha's story as told by Arthur Golden, an American male, in his book by the same title. After years of viewing Japan an economic enemy, the film has sparked a renewed interest in the exotic image of Japan among the American public. Marketing has extended to fashion and cosmetics. Yet in Japan, the public is generally uninterested in the few true geisha who remain. The American media have paid little attention to the veracity of the film, but focused instead on the controversy caused by the lack of Japanese input into the film. This panel explores images and realities of the geisha and the international relations which the film portrays and creates.

(S) PANEL: "Science Teachers as Action Researchers"
Faculty advisor: Dr. Deborah Zawislan

Paper & Panel Abstracts

(T) "Contemporary Art from the JCU Art Department Collection: an Overview of the Artists and their Works"
Daina Kovalcheck, Undergraduate
The goal of my presentation is to educate the community on the works in the John Carroll collection. As most of them are contemporary works, the presentation will be focused not so much on the particular work in the collection, but on the biography of the artist who completed it, along with comparison works to put the image in context.

(U) PANEL: "Present Perspectives on the Contemporary Relevance of Foucault's Work"
Kristin Arbut, Nate Szabo, Rachel Trapani, Undergraduates
In contemporary society, population management appears to be a useful and necessary practice. Biopower or biopolitics, as French philosopher Michel Foucault calls it, employs the techniques that help to maintain a healthy and regulated population. In this paper, I will argue that by uncritically accepting techniques employed by biopower we are restricting the possibilities of individuals specifically the reproductive rights of women. In order to illustrate this point, I will analyze three particular cases in which the state has denied women the right to bear children. Each case directly represents the techniques of biopower that Foucault illustrated in various lectures and books. Drawing textual support from Foucault's History of Sexuality and Society Must Be Defended, I will explain the meaning of biopower and demonstrate, through the three distinct cases, its effects. Faculty Advisor: Dr. Dianna Taylor, Philosophy

(V) PANEL: "Current Issues Relating to the United States Supreme Court: A Panel Discussion on How Justices Are Selected, How Their Decisions Are Made and How Those Decisions Are Applied in the Real World"
Dr. Lauren Bowen and Adjunct Faculty Members Stephen Ostrach and Sara M. Schiavoni, Political Science
Over two hundred years ago, the Federalist Papers called the United States Supreme Court "The Least Dangerous Branch." Despite that, several times in American history the Court has played a vital role in setting and directing national policy. A closely divided U.S. Supreme Court upheld affirmative action in higher education in some circumstances while disallowing it in others. While rigid racial quotas remain unconstitutional, admissions officers can constitutionally consider the race and background of individual applicants in order to achieve the goal of achieving critical mass of students of color in the student population. This discussion will examine the effects of this doctrine on admissions practices at a sample of higher education institutions examining the practical impact of Supreme Court doctrine on those most directly affected.

Poster Abstracts

NOTE: "A" posters will be presented from 7:00-7:45 PM; "B" posters from 7:45-8:30 PM..

(PS1.a) Determination of Electronic Structure of Photochromic Ruthenium(II) Complexes
Beth Anne McClure, Undergraduate; Dr. Jeffrey Rack, Chemistry & Biochemistry, Ohio University
Photochromic molecules change color when irradiated with light. This property is caused by a mechanism that is driven by the absorption of light in which the electronic structure of the molecule is altered by changes in its physical structure. Due to this mechanism, these molecules may be developed for optical memory storage devices and other uses. Temperature dependent emission lifetime measurements of the photochromic complex ruthenium(II) 2,2:6',2"-terpyridine 2,2'-bipyridine dimethylsulfoxide were collected over the range of 24 - 300 K. Analysis of the kinetic data yielded the activation barriers between the triplet metal-to-ligand charge transfer state and two higher excited states as well as the corresponding pre-exponential factors. The radiative rate constant was also determined. By determining the electronic structure of this complex it is hoped that the photochromic mechanism may be better understood. Funded by the Clare Boothe Luce Foundation and the Condensed Matter and Surface Science Program.

(PS2.b) Student Responses to Protest Movements
Shaniqua Caffee, Undergraduate
Given the growth of liberal capitalism around the world, and its use of corporations as a colonization tool, the economic, political, and social landscapes of the globe is under rapid social change. One purpose of this research project is to determine whether organized resistance in an era of globalization occurs greatly and seems similar to organized resistance from earlier European and United States protests movements. This research project objective is also to assess the structure and patterns of contemporary global organized resistance against those protests from the early period of industrialization in the United States and in reaction, determine whether contemporary organized resistance formulates into pro-labor groups in the second and third world nations.

(PS3.a) Beyond Google: Navigating the World of Scholarly Information
Ruth Connell, Grasselli Library
Libraries have traditionally partnered with faculty in the educational enterprise by providing source material for undergraduates, among other things. A developing crisis for libraries is the increasing dependence of students on Google for their information needs. Today's students are largely unaware of information beyond the free Internet, yet understanding the complexity of the information universe and how various elements can be accessed is a critical piece of higher education. At Grasselli Library, we have started to address this by trying to put the research process into a familiar context for students. Using the form and concepts of the U.S.D.A.'s revamped food pyramid, we created research pyramids. The food groups are replaced by types of information (books, journal articles, media, etc.) in both print and digital formats. This poster session highlights the research pyramids we created to lead students to scholarly sources provided by the library.

Poster Abstracts

(PS4.a) Color Trumps Shape in a Visual Search Task
Dr. Janet D. Larsen, Psychology and Frank M. Kenner
When a person is searching for a target that is defined only by shape, is color such a salient cue that it will attract attention even when it is not a reliable predictor of the target location? Participants located the letter X in a three by three array of round or angular letters. All letters were grey on a black background except that, on 1/3 of the trials the X was colored, and on 1/3 of the trials a distractor letter was colored. Reaction times were faster when the target was colored and slower when a distractor was colored, compared to the no color trials. When the non-target letters were angular, participants were slower to respond, overall. When color is irrelevant to the task it still attracts attention if it is sometimes correlated with the target, regardless of whether a singleton detection or a feature search mode could be used.

(PS5.a) Evaluating Parkinson's Disease: A Comparison of the Frontal Systems Behavior Scale (FrSBe) Family Version and Neuropsychological Measures
Adria D. McGill, Undergraduate; Dr. Thomas W. Frazier, Psychology; Robyn M. Busch, & Cynthia S. Kubu
The Frontal Systems Behavior Scale (FrSBe) is designed to measure behavioral syndromes associated with frontal lobe dysfunction through either self or family report. The purpose was to evaluate the validity of the FrSBe Family Rating Form through correlations between the FrSBe subscale scores (Apathy(AP), Disinhibtion(DIS), Executive Dysfunction(ED)) and performance on various neuropsychological measures in patients with idiopathic Parkinson's disease (PD). A neuropsychological battery was administered to 204 patients with PD and a relative completed the FrSBe Family Rating Form. Results indicated that the AP subscale had the best convergent validity (correlating with all predicted measures). The ED scale was only partially demonstrated (correlating with 3/5 predicted measures) and the DIS scale did not demonstrate convergent validity. The discriminant validity of all three subscales was found to be poor. In conclusion, the FrSBe family ratings subscales of current behavior have questionable convergent and poor discriminant validity in our sample with PD.

(PS6.b) Isolation and Structure Determination of the Major Component of the Spice Coriander
Gloria Gyimah, Undergraduate; Dr. Michael Nichols, Chemistry
Coriander seed is an aromatic stimulant, a carminative, an appetizer and a digestant stimulating the stomach and the intestines. It is most beneficial to the nervous system. The objective of this research is to develop and expand an experiment for advanced organic chemistry students, which eventually will be submitted to the Journal of Chemical Education. The experiment involves determining the structure(s) of the major organic components found in the Coriander seed, after isolation using steam distillation and cold pressing. It has been determined that each isolation technique gives a different major component. The chemical structures of the major components will be determined using Gas Chromatography-Mass Spectroscopy, Infrared Spectroscopy, one and two-dimensional Nuclear Magnetic Resonance Spectroscopy, and Polarimetry. Funding is provided by the Ohio Board of Regents STARS program.

(PS7.a) Novel Interferon Pathways: The Role of IKK
Jessica Zimmerer, Undergraduate; George Stark, Ph.D., F.R.S., Distinguished Scientist, David Shultz, Medical Student, Department of Molecular Genetics, Lerner Research Institute
The main objective was to demonstrate a defined role for the IKK complex in IFN signaling in regards to the induction of ip-10. The ip-10 gene is a well established ISG. The IP-10 protein is a chemokine, which is involved in immune responses. In order to understand the induction of ip-10, we needed to look at the promoter region, which is 5 prime to the transcription start site, where trans-acting factors bind to induce expression of the gene. To examine the promoter, genomic DNA was used as a template for PCR and the product was cloned into a plasmid that also contained the luciferase gene. Then, by incubating cells with various cytokines that activate the ip-10 promoter and eliminating or retaining sequences from the promoter, luciferase activity is monitored as an indication of promoter activation. This promoter construct shows 2.5-fold activation in response to IL-1 and slightly lower activation in response to IFNγ.

(PS8.a) Automatic Aspect Mining and Maintenance
Pete Kovacina & Kevin Sivic, Undergraduates; Faculty Advisor: Dr. Linda Seiter
A pattern found in Java source code is context passing, a long sequence of parameter passing as a way of transporting an object to a target. As a result, many objects become unnecessarily involved in the object transportation chain, thus complicating code structure and expending more effort in maintaining the code. Using the benefits of Aspect Oriented Programming and Eclipse, an aspect mining plug-in was developed as a simple context passing detector. The detected context passing references are displayed visually in a directional graph.

(PS9.a) Failure indicator of Automatic Positioning System During Radiosurgery Using Gamma Knife
Joseph Syh PhD; Benjamin White, Undergraduate; Jason Sohn PhD; Valdir Colussi PhD; Kunjun Pillai MS; Robert Vinkler RTT; Jordanna Williams RN; Juliana Weakland RTT; Robert Macunias MD; Douglas Einstein MD. PhD
We have investigated to prevent the failure of Gamma Knife automatic positioning system (APS) during radiosurgery. Since the APS uses the motors to move patient to a treatment coordinate between shots, the motor can function within the acceptable tension. Once the tension is over the acceptable range, the APS will trigger an error. Then, we may have to treat the patient manually using trunions. Research carried out at: Radiation Oncology Department Ireland Cancer Center University Hospitals of Cleveland Case Western Reserve University School of Medicine.

(PS10.b) Analysis of the Thermodynamics of Protein-RNA Interactions
Megan Mamolen, Undergraduate; Dr. David Mascotti, Chemistry
Oligopeptides containing three positively charged lysine residues, a fluorescent tryptophan residue, and a protonated amino group were titrated with tRNA obtained from

yeast to determine the thermodynamics associated with tRNA-peptide interactions. This type of titration was performed at both 15°C and 25°C to determine the enthalpy, entropy, and free energy of the reaction. Overall, the interaction between tRNA and this particular peptide was determined to be favorable because the change in free energy characterized by the interaction was very negative (-26.3 kJ/mol at 15°C, and –28.0 kJ/mol at 25°C). Thus, the binding of this peptide to tRNA should form a stable complex. Interactions of this peptide with other RNA molecules will be discussed as well.

(PS11.a) Striated Muscle and Nerve Fascicle Distribution in the Rat Urethral Sphincter
Nathaniel Franley, Undergraduate; Ronald J. Kim; James M. Kerns, Ph.D.; Shirley Liu; Ted Nagel; Paul Zaszczurynski; Dan Li Lin, M.D.; Margaret S. Damaser, Ph.D.
This study examined the innervation and arrangement of the urethral striated muscle, or the external urethral sphincter (EUS), in normal female rats. The procedure was useful in demonstrating the rat urethra as a good model for research analogous to the human urethra. Urethras from twelve female rats were dissected from the bladder and sectioned every 1mm. The striated muscle was quantified by taking the ratio of striated muscle area to net urethral area. Nerve fascicles with axons near the EUS were counted and mapped. Results showed both striated muscle area and number of nerve fascicles to peak in the proximal third of the urethra, with a secondary peak at the distal end. Also, the majority of nerve fascicles were in the lateral urethral quadrants. Because striated muscle distribution in the rat is similar to that reported in the human, the study justifies the use of rats as an experimental model.

(PS12.a) Speed Transfer and Class Mergers via Conditional Discriminations: Transfer Training with One Class Member
Justin Blanche, Undergraduate; Dr. Abdulrazaq Imam, Psychology
Four participants demonstrated two independent groups of three seven-member equivalence classes, one with and one without a speed contingency. Each participant then experienced transfer training and testing. During transfer training, only one A-stimulus from the speed classes served as sample for the A-stimuli from the non-speed classes. Transfer test involved all the remaining non-speed class members. Test results showed increases in the response speeds of the non-speed class members, with largest increases in classes 1 and 3 members. The results suggest better differentiation of class membership than previously observed, but have not resolved questions about the independence of class members.

(PS13.a) Structural Analysis of Histidine-rich Glycoprotein
Lisa Stempak, Undergraduate; Dr. Phil Klenotic, Cell Biology Department, Lerner Research Institute, The Cleveland Clinic Foundation
Histidine Rich Glycoprotein (HRGP) is a 75 kDa plasma glycoprotein that is synthesized in the liver, rich in histidines and prolines, and circulates at high plasma concentrations (100 ug/ml). It has been reported that HRGP helps regulate angiogenesis, the process by which new blood cells are formed from pre-existing capillaries. HRGP is

thought to bind thrombospondins, angiogenesis inhibitors under normal conditions, and thereby negate their antiangiogenic effects. To more clearly understand this system, it is necessary to determine the precise site(s) at which HRGP binds thrombospondins. To achieve this, I cloned various fragments of HRGP into a glutathione-S-transferase (GST)- containing protein expression vector and then induced overexpression of each fusion protein with IPTG. Purification of each protein was done using column chromatography. Finally, I performed binding assays to determine relative binding affinities of these HRGP fragments to thrombospondin-1. The results of these studies indicate there may be multiple binding sites, most notably the histidine rich region of HRGP.

(PS14.b) Determining human blood type by non-invasive methods
Stephen Detzel, Undergraduate; Dr. Michael P. Martin, Biology
The presence of an antigenic sugar(s) on a cell surface protein determines the A, B, AB, or O blood type of an individual. An individual with A blood has a different sugar than people with B blood. However, AB individuals possess both sugars, and people with O blood have neither antigenic sugar. Variation in four positions of the 19,514 base pair ABO blood type gene is sufficient to differentiate among the 5 most common versions of this gene (A1, A2, B, O1, and O2). We also examined another medically relevant cell surface marker, the Rhesus (Rh) factor. We isolated DNA from human cheek cells and amplified DNA from the ABO and Rh genes. Molecular biology techniques were used to determine the genetic composition of individuals. Our data indicate that this method can accurately determine an individual's blood type without drawing blood. Funded by the John Carroll University Faculty Instructional Grant.

(PS15.a) A Technique Independent Fusion Model for Intrusion Detection
Jason Shifflet, Undergraduate; Drs. Daniel Palmer & Marc Kirschenbaum, Math & Computer Science
Currently network intrusion detection systems are unable to build and maintain a realistic abstraction of network activity. Researchers have come up with a myriad of detection techniques to address this problem. The aim of our work is to provide a platform that enables the multitude of techniques to work together towards creating a more realistic model of the state of a network. Through the power of emergent behavior this should be possible. By using this more accurate representation of the network, one may be able to detect malicious activity more readily. Funded by the Huntington Foundation.

(PS16.b) Intrinsic Tryptophan Fluorescence as a Structural Probe of the Streptavidin-Biotin System
Dr. Mark Waner, Chemistry; Anthony Mustovich and Seema Patel
The protein Streptavidin (SA) is a widely used tool in clinical diagnostics, biochemistry, and biotechnology. The utility of this protein derives from its strong, specific binding of biotin (Vitamin H). SA is a tetramer in which each monomer subunit contains a biotin binding site as well as six tryptophan (Trp) residues. As SA binds biotin, it undergoes a structural change, causing a shift in its intrinsic Trp fluorescence. The current study is

focused on the structural changes induced by ligand binding examined via intrinsic fluorescence of SA. We will present data that examine the structural changes accompanying biotin binding to SA as a function of pH and as it competitively binds in the presence of 2-iminobiotin. Implications of the data to development of a new binding assay and for examination of structural cooperativity will also be addressed. This work was funded by the Camille and Henry Dreyfus Foundation and JCU.

(PS17.a) Formation of the transverse plate in the Weberian apparatus in white suckers, Catostomus commersoni

M. Vincent Hirt, Graduate student

The Weberian apparatus is the defining character of otophysan fishes, a highly successful clade of freshwater fishes. The Weberian apparatus is composed of modified boney elements of the first four vertebrae and functions to transmit vibrations received by the swim bladder to the inner ear where they are detected. Suckers (Family Catostomidae) have evolved an additional large, boney element called the transverse plate which is composed of processes on the second and fourth vertebrae. The face of the plate runs perpendicular to the length of the vertebral column and its function is yet unknown. Larval white suckers were collected weekly from the field during the spring and summer of 2005. Some whole specimens were clear and double-stained for cartilage and bone. Other specimens were serially sectioned for histological evaluation. Digital micrographs were taken of specimens of various lengths to elucidate when the transverse plate forms and which tissues contribute to its formation.

(PS18.a) Prey Selection in Early Life Stages of Semotilus atromaculatus (Creek Chub) in a Small Ohio Stream

Stacey Ward, Graduate student

In most ecosystems fish species switch their diet as they undergo development from larval to juvenile stages. In this study, feeding behavior of larvae through early juvenile stages of Semotilus atromaculatus were examined. Fish were collected from Doan Brook which has a very limited food base consisting largely of chironomids. Chironomids appeared in the gut of early larvae and continued to be the main food source with increased size. It appears that fish around 9.7mm standard length switch to much larger sizes of chironomids than smaller fish. The degree of cranial ossification and fin development were further examined to determine if in fact, there exists an correlation between these factors and the shift in prey item size. The ability to utilize a larger prey item could be due to the gape size, ossification of cranial elements, fin development or greater functionality of the sensory system.

(PS19.a) Effect of Ethanol on Charged Peptide Interactions with RNA

Robert J. Kall, Undergraduate; Michael P. Iannetti, Dr. David P. Mascotti, Chemistry

Numerous studies have been conducted to better understand the binding forces of protein-nucleic acid interactions, a key factor in basic physiological processes including: DNA replication, DNA transcription, RNA translation and others. Some studies have

used defined peptides as models of larger protein-nucleic acid interactions. By changing the peptide sequence and the cosolvent of the system, this project attempts to elucidate the molecular origins of peptide-nucleic acid affinity. With different cosolvents, most of the differences between Kobs, (the association constant) and the salt dependence of Kobs could be attributed to changes in dielectric constant. However, a notable exception to this is seen at even modest ethanol concentrations. When ethanol is used as a cosolvent, there is higher salt dependence of Kobs and a more negative enthalpy. When comparing the affinity of KWK2-NH2 or KWI2K2-NH2 (same charge, but different hydrophobicity) to RNA, the less hydrophobic peptide, KWK2-NH2, has a smaller Kobs in both cosolvents tested.

(PS20.b) Swarm Reasoning

Drs. Marc Kirschenbaum, Dan Palmer, & Linda Seiter, Math & Computer Science; Jason Shifflet, Undergraduate

This work presents a new technique, the Hypothesis Swarm Problem-solving Technique (HSPT), that allows swarms to operate on complex problems in a general way that produces solutions faster than traditional swarms by emerging compatible sub-solutions cooperatively. Instead of agents simply reacting to their own stimuli, they produce hypotheses about their environment to resolve discovered conflicts. As they gather supporting or refuting evidence for their hypothesis, we force a higher level of social interaction – requiring them to compare their evidence with other agents. They reward compatible hypotheses and devalue conflicting ones, encouraging acceptance of mutually supporting hypotheses. The effectiveness of HSPT is demonstrated on graph-coloring and round-robin scheduling problems and a first cut at logical programming error detection and correction is presented.

(PS21.a) Domain-Specific Virtual Human Swarm Software for the Graph Coloring Problem

Matthew Kucera, Undergraduate

Human swarms, both physical and virtual, provide insight into basic decentralized algorithms. This work develops a tool to support the complex task of reverse-engineering agent behavior from within a human swarm, by considering a specific problem domain. Four-color mapping, a driving problem for autonomous swarms, is ideal for a virtual human swarm approach. We describe a platform-independent, network-based system that allows scores of human agents to collectively solve the four color problem for graphs of arbitrary complexity. It records all actions taken by members of the swarm and visually replays them interactively, as directed by the reverse engineers.

(PS22.a) Determining the Sources of Nutrient Inflow into Green Lake

Adrienne Clark, Undergraduate; Dr. Michael Nichols, Chemistry

Various degrees of excessive algae growth has been observed for the past four years in Green Lake, a small lake within the Doan Brook Watershed. The primary cause of the excessive algae growth has been proposed to be high nutrient inflows into the lake. In an attempt to identify the sources of nutrients, composite water samples were collected

on a regular basis from several inflows into the lake. These water samples were analyzed for basic nutrient (nitrogen-phosphorous) and other common cation and anion concentrations, pH, alkalinity, conductivity, and hardness. Preliminary results indicate that the major source of ammonia into the lake was a sixty inch storm drain, particularly during storm events. After the preliminary results were shared with the city of Shaker Heights, they determined that there was sanitary sewer infiltration into that storm drain. The problem was rectified and further results indicated a substantial drop in ammonia concentrations.

(PS23.a) Kinetic and Mechanistic Studies of the Deprotonation of Isobutyrophenone Using a Sterically-hindered Lithium Amide Base with a Sterically-hindered Ketone"
Christina M. A. Leposa, Undergraduate; Dr. Michael A. Nichols, Chemistry
The mechanism for the reaction of a sterically-hindered lithium amide base with a sterically-hindered ketone to form a lithium enolate was studied. The kinetics of the reaction were followed using HNMR and it was determined that the reaction is first-order in ketone. Increasing the amount of the lithium amide base inhibits the reaction. Isothermal titration calorimetry was utilized to determine the overall heat of deprotonation and the heat of complexation of the ketone to the lithium amide base. X-ray crystallography was performed on the lithium enolate product, which was found to be a hexametric aggregate. Currently, the intermediates of the reaction are being studied by 6Li and 15N NMR using isotopically-enriched lithium amide base. Computer modeling of the reactants, intermediates, and products is also being performed. The research was supported by the John Huntington Foundation for Education.

(PS24.b) Necessity of Glutathione for Caspase Activation
Laura Jane Pareso, Undergraduate; Dr. Yuh-Cherng Chai, Chemistry
The research focused on the effects of oxidative stress on glutathione concentration and caspase-3 activation in Jurkat cells. Oxidation in cells can lead to damage and ultimately cell death. Glutathione (GSH), a non-protein thiol, is the most abundant antioxidant molecule in cells. Apoptosis, programmed cell death, is a dynamic process needed in maintaining cellular homeostasis. Activation of caspases is one of the main events in apoptotic cells. CASPase is an acronym for Cysteinyl Aspartate Specific Protease. Cells treated with 0.25mM of tertiary hydroperoxide (T-OOH) did not alter GSH concentration, while cells treated with 0.5mM and 1mM of T-OOH decreased in GSH concentration. Cleaved caspase-3 (indication of activation) occurred at 4, 6, and 8 hours when cells were treated with 0.25mM T-OOH, while cleaved caspase-3 was only visible at 4 hours under 0.5mM T-OOH and no cleaved caspase-3 under 1mM T-OOH. These results suggest GSH is required for caspase-3 activation in oxidant treated Jurkat cells.

(PS25.a) Rates of Catalytic Electron Transfer to Cytochrome C and Ferricyanide by Nitric Oxide Synthases (NOS)
Joseph T. Rich, Undergraduate; David Konas, Ph.D., Dennis J. Stuehr, Ph.D, Department of Pathobiology, Lerner Research Institute, The Cleveland Clinic Foundation.
Nitric oxide (NO), has a wide variety of physiological roles due to its involvement in signaling pathways controlling processes such as vascular tone and neuron signaling.

Nitric oxide synthases (NOS) are calmodulin-activated flavoheme enzymes that synthesize NO from (L)-arginine. Wild-type eNOS, nNOS, and a mutant nNOS protein were overexpressed in E. coli and purified via a series of affinity chromatography methods. The rates of catalytic electron transfer to cytochrome c and ferricyanide by these proteins under a variety of conditions were determined. The results are presented and discussed in terms of the differences between nNOS and eNOS, and the effect of the nNOS mutation on the enzyme.

(PS26.a) Characterization of the Product(s) of Polymerization of Syrene Initiated By A Sterically-Hindered Alkyllithium Compound

Rachel Sobinsky, Undergraduate; Dr. Michael Nichols, Chemistry

Anionic Polymerization is an important process to prepare plastic polymeric materials. In particular, the polymerization of styrene produces polystyrene which can be used to manufacture a variety of plastic products. In this research project, the anionic polymerization reaction of styrene using a sterically-hindered alkyllithium compound was studied. Previous work indicated that the polystyrene product had approximately 10 monomer units. The exact molecular weight and structure of the polymer products were determined using GPC and Proton/Carbon NMR. The polymerization gel permeation chromatography (GPC) reaction was performed in two different solvents and in the presence and absence of a ligand.

(PS27.a) Binding Partners For HOXA9 In Endothelial Cells

Greg Adams, Undergraduate; Paul E. DiCorleto Ph.D., Department of Cell Biology, Lerner Research Institute, LRI Chairman; under the direct supervision of Smarajit Bandyopadhyay Ph.D.

The abnormal entrance of white blood cells called monocytes into inflammed tissue is the first step in the development of atherosclerotic plaques. These plaques ultimately lead to artery blockage which can cause heart attacks or strokes. To better understand the involvement of the protein HOXA9 in this white blood cell recruitment process, an immunoprecipitation was done to determine any protein binding partners with HOXA9 in endothelial cells. Mass spectrometry and western blots were used to determine the identification of any such proteins. It was found that "protein arginine methyltransferase 5" (PRMT5) is a binding partner for HOXA9. Further work must be done to show the substrates for PRMT5 in its involvement with HOXA9. This work was done through the JCU-CCF program.

(PS28.b) The Effect of Thiol Containing Amino Acids on Caspase Activation

Sherry Magrey, Undergraduate; Dr. Yuh-Cherng Chai, Chemistry

Caspases are cysteinyl aspartate specific proteases and major signaling molecules in apoptosis (programmed cell death). This research investigates the relationship between thiol concentration and the activation (i.e. cleavage) of caspase-3. In order to deplete cellular thiol content, Jurkat cells were incubated in medium depleted of thiol containing amino acids (cysteine and methionine). Glutathione is the most abundant non-protein thiol. The glutathione concentration in incomplete medium after 16 hours was

approximately 50% lower. No significant amount of cleaved caspase-3 was detected after 16 hours. MTT assays were used to determine cellular toxicity. A slight decrease in viability was detected in deficient medium. Cells were also exposed to tertiary buytl hydroperoxide (t-OOH); the glutathione concentration of cells in incomplete medium decreased by approximately 40% after eight hours. Cleaved caspase-3 was detected in complete medium; no significant cleaved caspase-3 was detected in incomplete medium. These results suggest cellular thiols are required for caspase-3 activation under oxidant stress.

(PS29.a) Energy Harvesting Using Piezoelectric Material
Kimberly Adams, Undergraduate; William W. Clark, Professor, Department of Mechanical Engineering, University of Pittsburgh
Smart materials are materials that can control a process without the need of moving mechanical parts. Piezoelectric material is a smart material that produces a charge when physically deformed. It is currently being studied because it can be used to turn vibrational energy into electrical energy which would eliminate the need to replace batteries in remote locations. A demo was built at the University of Pittsburgh to show energy could be harvested from piezoelectric material. Data was taken to compare different configurations and size of the material. Measurements were taken in terms of voltage vs. time for recharging batteries and lighting LEDs. Funded by the Henry Luce Foundation.

(PS30.a) Is Undistorted Communication Possible?
Elaine F. Hocevar, Graduate student
This research paper analyzes communicative action at three levels: the macro or systems-analytical realm, the meso-analytical realm, and the micro-analytical realm. The purpose is to determine whether undistorted communication is universally possible. Previous research by Chriss (1995) and Wurthnow, Hunter, Bergesen and Kurzweil (1984) indicates a general failure to establish undistorted communication save for the contexts of professional organizational consulting and psychoanalysis. I conclude that neither the works of Goffman nor Habermas can establish a universal context for noncoerced or reasoned communication.

(PS31.a) Stroke Therapy
Matthew Lemke, Undergraduate; Dr. Baker, Dr. Machado, Erica Godwin, Cleveland Clinic Center for Neurological Restoration
In light of the recent use of Deep Brain Stimulation (DBS) by the neurological community to add in varieties of disorders, the idea of DBS to treat stroke patients was proposed by Dr. Andre Machado and carried out under Dr. Baker. The experiment consisted of multiple steps to determine if there were any effects that may be used for therapy. While the results are still being deciphered, using histology of the brain and behavioral factors tested the experiment will be deem if further pursuit for human application is a possibility. The non-human primate experiment is still ion the testing stage and will take a considerable longer period of time to complete.

(PS32.b) Fractal Visualization Tools
Jason Barresi, Krista DeDad, John Hurt, Robert Liberatore, Michael McGowan, Undergraduates

The "Fractal Visualization Tools" website is an interactive way for users to gain a better understanding of fractals and their formations. The tools are four different Java applets: Chaos Game, Random Iteration, Deterministic, and Geometric Iteration. In Chaos Game, users manipulate fractals by adding and removing base points, by altering the distance between points, and by reshaping/resizing the fractal in real-time. The Random Iteration tool allows users to change transformation values in order to modify several pre-defined fractals or to create a completely new fractal. Using the Deterministic tool, users step through the various stages of fractal generation using user-specific transformation values and shapes. Finally, Geometric Iteration allows users to derive fractals from an initial stage that the user creates with "turtle geometry." These tools were created for Dr. Carl Spitznagel to use as teaching aids. This was a group project for a Software Engineering (CS 470) class.

(PS33.a) Interactions between native and introduced guild members: responses of juvenile terrestrial salamanders to predatory invertebrates

Matthew D. Venesky, Graduate student; Dr. Carl D. Anthony, Biology; Cari-Ann M. Hickerson, Cleveland State University

When introduced species invade ecosystems, alterations in community structure can emerge. Because recent studies have shown that large predatory invertebrates can both compete with small vertebrates, we examined the effects of introduced and native centipedes on juveniles of the red-backed salamander (Plethodon cinereus). In laboratory arenas, juvenile salamanders exhibited submissive behaviour in response to the odors of both species of centipede, but the way in which they responded differed. Juveniles of P. cinereus spent significantly more time in escape behaviour when presented with native centipede odors and tended to remain immobile and flattened when exposed to odors of introduced centipedes. Juvenile salamanders were more aggressive toward native centipedes and exhibited more chemosensory behaviour toward native centipedes and their odors. In laboratory trials, the native centipede excluded juvenile salamanders from cover and we found fewer instances of co-occurrence of these two species in the field than expected.

(PS34.a) Activation of E-selectin promoter by TNFα in human endothelial cells

Unnikrishnan Chandrasekharan, Ph.D.; Michael S. McDermott, Undergraduate

The central objective of the research in the lab of Paul DiCorleto, Ph.D. is to understand the role of gene expression by vascular endothelial cells and its correlation to atherosclerotic plaque development and other diseases in the large blood vessels. Current research suggests that the activation of the immune response designed to protect us from foreign organisms is responsible for the onset of atherosclerosis. In this experiment we examined the effects of TNFα on E-selectin gene expression in HUVECs. Using a 510 bp promoter sequence, we determined through a luciferase assay that there is a 22.5 fold induction of E-selectin in the presence of TNFα. The overall objective is to produce a system that enables us to locate inhibitors of E-selectin expression through cytokine-signaling pathways in order to help combat inflammation and the onset of atherosclerosis.

Poster Abstracts

(PS35.a) Isolation and characterization of bioactive lipids from human LDL
Stephanie C. Hovan, Undergraduate; Gopal K. Marathe, Ph.D., Thomas M. McIntyre, Ph.D., Department of Cell Biology, The Cleveland Clinic Foundation Lerner Research Institute
Oxidation of low density lipoproteins (LDL) leading to unregulated inflammation is believed to be a causation factor of atherosclerosis. Oxidized LDL containing oxidatively fragmented phospholipids structurally mimic the potent inflammatory phospholipid, platelet activating factor (PAF). Activation of the PAF-receptor leads to intracellular accumulation of Ca2+. which can be easily measured by cells labeled with Ca2+ stimulation dyes such as FURA-2AM. We employed human neutrophils (PMN) labeled with this dye to monitor the bioactivity of oxidized LDL phospholipids. In parallel, we also oxidized synthetic phospholipids for comparison. Accumulation of PAF-like lipids is mainly regulated by the degradation of PAF by a family of enzymes called PAF-acetylhydrolases (PAF-AH). The plasma form of PAF-AH is the major extracellular form of the enzyme that controls the accumulation of the lipids in circulation. We successfully visualized by immunoblotting this form of enzyme in human PMN when stimulated with inflammatory agonists.

(PS36.b) Osteology of the Gray Treefrog, Hyla versicolor
Michael E. Jorgensen and Frank J. Tulenko, Graduate students
Frogs in the anuran family Hylidae have been extensively studied, but there is a paucity of information on the morphological changes that take place during skull formation. These data can be used to make comparisons among taxa and infer evolutionary relationships among taxonomic groups. Descriptions of skeletal growth and formation exist for less than 5% of the known species of frogs. Herein, we describe and illustrate the chondrocranium and sequence of skull ossification of Hyla versicolor, a frog that is common in the midwestern and eastern United States. Both the morphology of the mature chondrocranium and the sequence and relative timing of skull ossification were evaluated based on cleared and double-stained specimens. Additionally, three-dimensional reconstructions of the mature chondrocranium were generated using serially-sectioned specimens. These data broaden our understanding of anuran osteology and contribute to the formation of a base from which evolutionary relationships among hylid frogs can be addressed.

(PS37.a) Identification of Novel Cell-Cell Signaling Proteins by Signal Sequence Trap
Masaru Nakamoto M.D, Ph. D.; Matthew Weis, Undergraduate
Cell-cell interactions play crucial roles in development of the vertebrate nervous system. To date, many important molecules that mediate cell-cell communication during neural development have not been identified. Our study aims to identify novel cell-cell signaling molecules involved in cerebellar development. To this end, we performed signal sequence trap (SST), which is a strategy to identify cDNAs encoding secreted and type I membrane proteins, by detecting their signal sequences. Our SST method is based on the ability of signal sequences in cDNA fragments to redirect a constitutively active mutant of a cytokine receptor to the cell surface, thereby permitting cytokine-

independent growth of Ba/F3 cells. We constructed cDNA libraries from the chick embryonic cerebellum and screened them by SST. We have isolated about 200 independent colonies. cDNA fragments within those colonies were amplified by PCR and sequenced. Their expression in the developing cerebellum is currently analyzed by in situ RNA hybridization.

(PS38.a) Low Wavelength Light and Its Connection to Melatonin Cycles
Dr. Richard Hansler; Daniel Steele, Undergraduate; Dr. Edward Carome; Vilnis Kubulins
Melatonin is a hormone that is excreted from the pineal gland, located at the base of the brain. The cycle of the body's melatonin production is linked to the eye's exposure to low wavelength light. The body's cycle of melatonin helps to regulate sleep cycles and also helps to combat breast cancer for women. Since the low wavelength light must be viewed for it to have effects on melatonin levels there are two things that may be done to regulate exposure to low wavelength light. Filters may be put on incandescent and fluorescent lights in order to cut out the unwanted light. Another option is to wear amber tinted glasses or contacts that act as a filter to block the low wavelength light. If executed appropriately, melatonin levels may be forced into a normal cycle.

(PS39.a) Properties of Thermoelectric Materials
Leah Austin, Undergraduate; Dr. Jeff Dyck, Physics; Dr. Clemens Burda, Chemistry, and Xiofeng Qiu, Graduate student, Case Western Reserve University
Two well-known thermoelectric semiconductors, Bi2Se3 and PbSe, were investigated. These are both very interesting materials to study because of their great potential in everyday cooling, heating, and power generation. By attaching electrical contacts to the sample materials and placing them in a low pressure, temperature controlled environment, it was possible to study properties such as the Seebeck coefficient and the resistivity as a function of temperature.

(PS40.a) Effects of a point mutation in the proteolipid protein gene on the central nervous system
Dr. Martha J. Miller, Dr. Wendy B. Macklin, Cindy D. Kangas, and Sara J. Conry, Undergraduate
Pelizaeus Merzbacher disease is a dysmyelinating disorder of the central nervous system that results in death at a young age, after a life complete with symptoms such as tremors and ataxia. This disorder is a result of a mutation in the proteolipid protein (PLP) gene, so rats with a point mutation in this gene and similar symptoms were used in the study. The brainstems of these rats and wild-type rats were sectioned and tagged with both a neuronal marker and a stain for the PLP protein. This allowed the determination of both location and density of neurons and PLP proteins to be made. It was determined that the PLP protein was much less abundant in the rats with the mutation than in the wild-type rats, and there was also obvious PLP staining in the neurons of the mutant rats.

Poster Abstracts

(PS41.a) An Overview of Methods Used to Analyze the Structures of Genetically Altered Mice and their role in Cardiovascular Function

Jenna Saraniti, Undergraduate; Dr. Hoover Plow, Molecular Cardiology P.I., the Cleveland Clinic

Cardiovascular disease is the leading cause of mortality in the United States. In order to discover cures it is necessary to understand the underlying mechanisms of the disease. The main objective of these studies was, using immunohistochemistry, to examine changes in the structure of genetically altered mice. The Plasminogen (Plg) system is the major enzymatic network responsible for the dissolution of blood clots. The stromal vascular cells and vessels of Plg and Urokinase-type Plasminogen Activating Receptor (UPAR) wildtype (wt) and deficient mice were examined. Results of these studies showed an increase in capillaries and stromal cells in UPAR deficient mice. An increase in capillary density in Plg wt mice was seen in mice of 3 weeks, demonstrating decreased capillary development in the deficient mice. In conclusion, the methods of studying the structural differences in the vasculature of genetically altered mice are important in determining their correlation with important cardiovascular proteins.

(PS42.a) Microhabitat Distribution of Caddisflies (Order: Trichoptera) within a Lake Erie Coastal Wetland Complex

Christine Cook, Graduate student; Joe B. Keiper, Curator of Invertebrate Zoology, Cleveland Museum of Natural History

Caddisflies (Order: Trichoptera) can be an indicator of water quality. They have an aquatic larval phase that emerges into a winged adult. We examined the differences in microhabitat use by caddisfly adults at a Lake Erie coastal wetlands complex in northwestern Ohio. In May, June, and September of 2004 concealed light traps were employed in three vegetative zones; a Pontederia stand, a submerged willow/cottonwood forest, and an adjacent open water area. In June, July, and September of 2005 we used like light traps in narrowleaf cattail, Pontederia and Sparganium monocultures. ANOVA and Principal Components Analysis of 2004 data reveal statistical differences between habitats and months for the most common taxa. Hydroptilids, including Agraylea multipunctata, Orthotrichia aegerfasciella, and Oxyethira pallida, were the most abundant taxa. Information on the microscale preferences of adult caddisflies indicates potential habitat specificity. This may aid managers who decide which habitats within wetlands to conserve based on productivity and unique potential contribution of insect taxa. Advisor funding was supplied by The Winous Point Marsh Conservancy.

(PS43.a) Development of the Branchial Arches in Semotilus atromaculatus and Catostomus commersoni, representatives of two Cypriniform families

Lubna E. Kousa, Undergraduate

This study focused on the development of branchial arches in two species, a cyprinid, Semotilus atromaculatus (the creek chub) and a catostomid, Catostomus commersoni (the white sucker), representing each superfamily. Data was gathered on four characters: the presence or absence of infrapharyngobranchial 1 in the white sucker; which arch(es)

contributes to the posterior infrapharyngobranchial in the creek chub; the number, shape, and positioning of the basibranchials in the creek chub and white sucker; and the development of the sublingual cartilage in a white sucker. Major findings include: Ifrapharyngobranchial (IPB) are small paired bones that suspend the branchial apparatus from the ventral floor of the skull. Creek Chubs have two infrapharyngobranchials, which appear to be IPB 2 and 3. One of the most clearly defined differences between Cobitoids and Cyprinoids is the number and positioning of the basibranchials. A major character separating Cobitoids and Cyprinoinds is the presence of a sublingual cartilage in former group.

(PS44.a) A CALORIMETRIC AND SPECTROSCOPIC STUDY OF THE BINDING PROPERTIES OF THE BIDENTATE COPPER LIGAND, DI-2-PYRIDYL KETONE BENZOYLHYDRAZONE

Christine M. Bohn & Beth Anne McClure, Undergraduates; Dr. Catherine Miller, Chemistry

The bidentate ligand, di-2-pyridyl ketone benzoylhydrazone (dPKBH) was synthesized to use as part of a spectroscopic copper assay. The assay was developed by Pinto et al. but was adapted for our purpose to determine the copper concentration in the metalloenzyme, laccase. The ligand to metal stoichiometry was determined to be 2:1. The copper/dPKBH complex absorbs light at a wavelength of 370 nm with a molar absorptivity of 3.92×10^4 L mol^{-1} cm^{-1}. Using calorimetry along with UV/VIS absorption spectroscopy the thermodynamics of binding is studied in the formation of the copper/dPKBH complex. This study provides needed support in using this ligand in a copper assay of a metalloprotein and a better understanding of the dynamics of the complexation reaction with copper at levels of less than 10 ppm. In this study, we are specifically looking for any solubility issues in forming the copper/dPKBH complex.

(PS45.a) CHARACTERIZATION OF TWO COPPER BINDING LIGANDS, dPKBH and EMT ; IN SEARCH FOR A NEW COPPER ASSAY

Brian R. Anderson, Beth Anne McClure, Undergraduates; Dr. Catherine Miller, Chemistry

The bidentate ligand, di-2-pyridyl ketone benzoylhydrazone (dPKBH) was synthesized to use as part of a spectroscopic copper assay. The assay was developed by Pinto et al. but was adapted for our purpose to determine the copper concentration in the metalloenzyme, laccase. The ligand to metal stoichiometry was determined to be 2:1. The copper/dPKBH complex absorbs light at a wavelength of 370 nm with a molar absorptivity[1] of 3.92×10^4 L mol^{-1} cm^{-1}. The adapted method is more sensitive and gives more consistent results than the traditionally used biquinoline assay, although it is not as sensitive as the results of Pinto et al. The detection limit was 42 ppb, compared to 2.5 ppb obtained by the literature method and was linear up to 1.00 ppm. Atomic absorption spectrometry was used as a reference method and the results agreed within experimental error. The ligand as well as the copper/dPKBH complex was further characterized by IR, NMR, thermochemistry and UV-spectroscopy.

Poster Abstracts

(PS46.a) The Role of Histidine Rich Glycoprotein, A Possible Regulator of Angiogenesis, in Diabetes

Megan Mamolen, Undergraduate; Dr. Maria Febbraio, Cell Biology Department, Lerner Research Institute, Cleveland Clinic Foundation

Histidine Rich Glycoprotein (HRGP) has been identified by our lab as a potential regulator of the Thrombospondin-CD36 system, a system that generally produces anti-angiogenic signals. Our protein of interest, HRGP, has been shown to bind to Thrombospondin at the same site as CD36. We hypothesize that HRGP may bind to Thrombospondin in place of CD36 in such a manner as to allow for angiogenic signals to be transmitted. In order to determine the precise role of HRGP in angiogenesis, the protein was overexpressed in a diabetic mouse model. Diabetic patients often experience prolonged wound healing, which may indicate a shift towards anti-angiogenic signaling. If HRGP does indeed bind as a decoy to Thrombospondin in place of CD36 to facilitate angiogenic signaling, overexpression in a diabetic model should promote a shift back to pro-angiogenic signaling, and thus prolonged wound healing should no longer be observed.

(PS47.a) Endowments: The Challenge of Underwriting Scholarship and Research

Peter R. Bernardo, Director of Planned Giving

Education is the great equalizer in our nation. It can bridge social, economic, racial and geographic divides like no other force. Education and research are playing a more vital role than ever in shaping our nation's competitiveness. The manufacturing economy of the 20th century is being transformed into the knowledge economy of the 21st century. However, in the end of this decade we will see college denied to 48% of college eligible seniors because of the rising cost of education. The cost of a public four-year college education has increased by 202 %, a private four-year education by 712%, while the Consumer Price Index has gone up only 80% during the same time period. In the coming decade, the challenge for the development office and the university will be to increase this vital resource through donations, campaigns, planned giving and government grants.

(PS48.a) "The Power of Advertising: Selling 'Liberté, égalité, & fraternité' through French Propaganda Poster-art."

Dr. Martha Pereszlenyi-Pinter, CMLC

How is it possible to market, package and sell the concept that it is absolutely necessary to fight a war? Advertise it! In France, illustrating advertising posters did not belittle one's status as an artist. But, how does advertising operate, whether it is selling war and misery or champagne and truffles? A poster artist must impact the viewer with a forceful visual image (style), and a subliminal message (propaganda), but still maintain high aesthetic and artistic standards. However, to truly understand propaganda, one must recognize that marketing strategies, and not ethical values, are at its core. This selection of 20th century French war propaganda imagery brings to life just some examples of posters that covered walls and pillars all over France, convincing ordinary citizens to feel and think the way those in the highest echelons of political power wanted them to.

(PS49.a-51.a) Picturing Modern France
The French embraced the body of 18th century Enlightenment principles, crystallized them into institutions, and put them to work. The culture of the Enlightenment prized reason and its products, including science and technology; it regarded happiness in this life as the natural goal of human action; it held that individuals are the locus of moral value, it expected and welcomed continuous progress in meeting human needs, both spiritual and material. Today, in France as in the USA, community, stability, and social control of change are being introduced mostly in non religious and often nontraditional forms. But are the French and we Americans different or similar? This presentation is a joint effort by self-selected students from the ML 299 and FR 313 class on "Modern France," Spring 2006. Each participant has designed a mini-poster of an aspect of French culture, with regard to modernity or post-modernity, with which he or she has been most impressed. Faculty advisor: Dr. Pereszlenyi-Pinter, CMLC

Lesley Biel – Tourism in Paris
Nicole Herrera – Behind the Veil: Muslim Girls in French Schools
Natalia Iacobelli – La Sorbonne: The University of Paris
Erin Moran – Carcassonne: A Walled French City
Stacey Papp – Manners – French versus Americans
Claire Sullivan – French Currency: Euros vs. Francs

(PS52.a-55.a) Reflections of Denis Diderot's *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*
Dr. Hélène N. Sanko, CMLC
Though modern science has deep roots, its social and industrial implications are classically illustrated in the XVIIIth century. Indeed this was the century that saw the coining of the word "technology." The plates of Denis Diderot's *Encyclopédie* illustrate the progress of human knowledge. They also retrace the social revolution which took place in France in the eighteenth century, a revolution which culminated in the French Revolution of 1789. Posters Prepared by Students from the French course on the Eighteenth Century Studies and the Enlightenment.

Christopher Dolar : *L'Art Militaire* / Military Art, Soldiering
Marta Fabrykowski : *Dessin et Peinture* / Drawing and Painting
Tasha Forchione : *Architecture* / Architecture
Nicole Herrera : *Art Héraldique* / Heraldic Art
Camilla Park : *Tapisserie des Gobelins*/ Gobelins Tapestry
Claire Sullivan : *Anatomie* / Anatomy
Ashley Sylvester : *Habillement II* / Clothing & Fashion II

Poster Abstracts

(PS56) Influence of hydrostatic pressure on the diluted magnetic semiconductor $Sb_{2-x}Cr_xTe_3$

Undergraduate: Andrew Luciana; Cestmir Drasar, and Petr Lostak, Faculty of Chemical Technology, University of Pardubice; Faculty Advisor: Dr. Jeffrey S. Dyck, Physics

Currently, there is a great deal of research on the incorporation of magnetic ions into semiconductors to produce ferromagnetism. These diluted magnetic semiconductors (DMS) are interesting to theorists, because of their unusual mechanisms of magnetic behavior, and to experimentalists, because the manipulation of spin in addition to charge promises devices based on spin polarized transport. We investigated electrical properties of single crystals of the DMS $Sb_{2-x}Cr_xTe_3$ under varying pressure (0 GPa to 1.4 GPa), temperature (2 K to 300 K), and magnetic fields (0 T to 6 T). Pressure measurements allow us to tune the electronic and magnetic interactions of these materials. Assuming a Curie temperature T_C model based on indirect spin exchange we seek to observe how pressure and carrier concentration relate to T_C in this material. We show that both T_C and carrier concentration increase as hydrostatic pressure is increased. We acknowledge financial support from the Research Corporation.

(PS57.b) Green Chemistry: Science with a Conscience

Jennifer L. Weber, Undergraduate; Dr. Man Lung Kwan, Chemistry

(PS58.b) Green Chemistry in action at JCU: Preparation of Fluorinated Pincer Complexes

Jennifer E. Marshall, Kenneth M. Poleski, Undergraduates; Dr. Man Lung Kwan, Chemistry