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SCHEDULE OVERVIEW

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5:00 pm Senior Legacy Reception BSC 170

The University community is invited to attend this reception celebrating the Senior Legacy Symposium participants.

POSTER PRESENTATIONS

3:00 – 5:00 pm **Busch Student Center 172 – 173**

A Simple and Stable Method of Measuring Total Bilirubin in Blood using Ictotest Tablets
Steven Abboud
Clinical Laboratory Science

Neural Correlates of Implicit Learning in Children
Jessica Anthony, Ethan Jost, Hiraku Tsujimura
Psychology

The Austral Very Light Military Trainer Jet
Zach Bowe, Michael Dunning, Manuel Maestro, Erin Carlyle, Keavy Nenninger
Aerospace Engineering

The State of Liberal Democratic Parties and their Leaders in Contemporary Russia: A Case Study of the Union of Right Forces
Katherine Brooks
Political Science

An Analysis of Performance Anxiety and High School Aged Runners of Cross Country
Kara Chapman, Terry W. Wood
Educational Studies

The Modified Hemoglobin Solubility Test (MHST): Detection and Differentiation of Sickle Cell Anemia in Developing Countries.
Colin Chen, James Pan
Clinical Laboratory Science

A technologist perspective on half-time imaging: A promising new technology
Stefanie Crandall
Nuclear Medicine Technology Program

Growth Conditions for Biofilm Production by *Pseudomonas aeruginosa* and Biofilm-Induced Host Response
Ameesh Dara, Bradley Krivit
Clinical Laboratory Science

Mammosite Radiation Therapy: From Start to Finish in 5 Days
Michelle Davis
Radiation Therapy

Untitled
Joseph DeBartolo
Biology

SLU Pure Water
Daniel DeBartolo, Justin Breithaupt, James Dice, Charles Gaia
Mechanical Engineering

POSTER PRESENTATIONS

3:00 – 5:00 pm **Busch Student Center 172 – 173**

Standing Up For Others: Missouri Property Tax Credit for Older Adults in Non-Profit Housing
Stacy Delvo
School of Social Work

Timeline of Rhodopsin Trafficking in Drosophila and GGA Knockdown's Effect Upon It
George Denny
Biology

Gnocchi with Pesto Sauce
Hannah Diamond, Lauren Landfried
Nutrition and Dietetics

IMRT: Intensity-Modulated Radiation Therapy
Jamie Fluchel
Radiation Therapy

Dignity In Death: Your Right to a Meaningful Funeral
Paige Friedman
School of Social Work

Affects of Teacher Proximity on Student Behavior in an Elementary Classroom Setting
Anne Garrabrant, Sarah Pingel
Educational Studies

Motion Graphics / New Media SLU Work
Nicholas Gibson
Studio Art

Continuum of Care
Rebecca L. Gorley
School of Social Work

Justice for Urban Young Adults With Severe Mental Illness
Owen Griffith
Micah House

Liver SUV in Whole Body 18F FDG-PET/CT: Stability and correlation with age and gender.
Elyse Groh
Nuclear Medicine Technology Program

Effects of Feedback Type on Self-Efficacy and Subsequent Task Performance Mediated by Locus of Control
Andrea Hoff, Allison Ewen, Allison Garcia, Caitlin Higgins, Michael Sarmiento, and Ryan Soles
Psychology

COPPER – University Nanosat-6
Brett Hughes, Thomas Chlebeck, Matteo DiMercurio, Brian Verbus
Aerospace Engineering

POSTER PRESENTATIONS

3:00 – 5:00 pm **Busch Student Center 172 – 173**

Classification of Mixed-Content Friedmann-Robertson-Walker Universes
Daniel Ironside
Physics

Regulating global sumoylation by a MAP kinase Hog1 and its potential role in osmo-adaptation in yeast
Ameair Irqeba
Biology

How Socioeconomic Status Affects Struggling Readers
Layne Jansen, Jillian Terdy
Educational Studies

Tinnitus and the Military
Samantha Johnson
Communication Sciences and Disorders

SIDS Prevention Device
Anthony Jones, William Dobbels, Allison Ianni, Ashley Hobgood
Electrical Engineering

SLU AUV: Project BilliSub
Jason Jonovski, Derek Brown, Nam Nguyen, Zach Splaingard
Mechanical Engineering

The relationships between lower extremity strength, walking speed and walking endurance in adults with multiple sclerosis: A preliminary report.
Elana Karkowski-Schelar
Physical Therapy

The Question of Womanhood in Contemporary Representations of Female Athletes
Hannah Koesterer
American Studies

Regionalism, Populism and the Rise of Europe's New Right: A Case Study of Italy's Lega Nord.
Katherine Krueger
Political Science

A Way of Speaking
Katie Lochhead
Studio Art

Investigation of Poly(Ethylene Glycol) Laminin Scaffold for Neural Engineering Applications
Laura Marquardt
Biomedical Engineering

POSTER PRESENTATIONS

3:00 – 5:00 pm **Busch Student Center 172 – 173**

Cyberknife Stereotactic Radiosurgery System
Danielle Maurer
Radiation Therapy

Connector III
Robert Moehle
Aerospace Engineering

Incidental brain findings detected on F-18 FDG PET/CT images of patients evaluated for body malignancies
Terese Moore
Nuclear Medicine Technology Program

Battered Women, Learned Helplessness, and Nuisance Laws: Does It All Make Sense?
Kelly Mullen
Criminal Justice

Thermodynamics of Short RNA Duplexes Containing Pseudouridine-Guanine Base Pairs
Gregory Orf
Chemistry

Traumatic Brain Injury: Pre- and Post-Injury Relationships with Family and Friends
Laura Peabody
Communications Sciences and Disorders

Emerging Markets Field Study: Panama
Kelly Pontius
International Business

Perspective-Taking and School Climate: A Service Project Comparing Two St. Louis Elementary Schools
Emily Price, Laura Rundell
Psychology

The Ramayana: Fated or Free? A study of dharma and its affects on the structure of Indian society
Mallory Schwarz
Political Science

Improving the Utilization of Minority and Women Owned Businesses
Shay Steelman
Public Policy Studies

Pitch-Matching as a Function of Timbre and Duration
Jori Tarjan
Communication Sciences and Disorders

POSTER PRESENTATIONS

3:00 – 5:00 pm **Busch Student Center 172 – 173**

How Saint Louis University Saved Midtown
Rachel VerBoort
Public Policy Studies

Clean Water Systems for a Resource Poor Environment
Stephanie Vernier, John O'Donnell, Muhammad Meigooni
Biomedical Engineering

Cube44
Sally Warning, acob Christian, Daniel Ironside, David O'Donnell, Jason Patel, Brandon Smith,
Aerospace Engineering

Amperometric Analysis of Neurotransmitter Release Using IgorPro
Daniel Watson
Pre-professional Health Studies1

Single Unit Detector
David Whelan
Biomedical Engineering

Plant and Green Waste to Methane Bio-reactor System
Gabe Young, Luke Erbacher, Corry Daus, Josh McCurdy
Mechanical Engineering

ORAL PRESENTATIONS

3:00 pm	
BSC 251	**The Tragic Experience of the LGBT Community in Contemporary Gay and Lesbian Poetry of Latin America** Ryan Boyer *Modern and Classical Languages*
BSC 253A	**Open Source Software Benchmarks** Bryan Psimas *Math and Computer Science*
BSC 253B	**Mock Trial Presentation** Grant Boyd, Hannah Nelson, Kimberly Saucy *Pre-Law*
BSC 253C	**The Meaning of Solidarity: Casa de la Solidaridad Fall 2008** Jill Knapp *Physical Therapy & Athletic Training, Program in Physical Therapy*
BSC 253D	**Eucharist: Our Personal Call to Work Against Injustice** Mary Keeley *Micah House*
BSC 254	**Neural Connectivity in Caenorhabditis elegans** Christopher Pierse *Physics*
3:20 pm	
BSC 251	**The White Rose in the German Language Classroom** Jacqueline Siess *Modern and Classical Languages*
BSC 253A	**American Catholicism in the Nineteenth Century: The Life and Work of Jesuit Francis Xavier Weninger** Michael Gregory *History*
BSC 253B	**Hearing Impairment Awareness and Prevention** Ashley Adams, Kelly Backes, Jason Brauninger, Jennifer Bunder, Emma Danley, Angela Delaria, Caroline Weber *School of Nursing*
BSC 253C	**Benefits of Music Therapy in Treating Children with Autism Spectrum Disorders** Jennifer Nelson *Music*

ORAL PRESENTATIONS

3:20 pm continued

BSC 253D

Breathing Life into Cyborg Women: Differánce and Agency in Conceiving Female Cyborgs
Emma Obata
Women's Studies

BSC 254

Modeling Energy Transport in a Photosynthetic Antenna Complex
Ryan Soklaski
Physics

3:40 pm

BSC 251

Luc Besson and Subway
Alyssa Ward
Modern and Classical Languages

BSC 253A

Emil von Behring and Humboldt Medical College: An Exploration of Innovative Medicine in Germany and the United States
Meredith Hoog
History

BSC 253B

Making the connection: Nursing interventions for homeless teenagers
Allison Hotze
School of Nursing

BSC 253C

The Universe in a Microscope: Diego Rivera and His Healthy Human Embryo
Robert Peters
Art History

BSC 253D

The Co-existence of God and Evil: A Look at the Theory of Marilyn McCord Adams
Kathryn Shoemaker
Philosophy

BSC 254

Analyzing Changing Roles & Rights for Women in Morocco, Oman, and Saudi Arabia
Stefanie Hausheer
Political Science

4:00 pm

BSC 251

Identities: Female Athletes and their Relationship with Food
Lauren Bozesky
American Studies

BSC 253A

Archival Preservation with the National Park Service
John Newcomer
History

BSC 253B

Foucault's Medical Gaze and AIDS Narratives: Science and Personhood
Sarah Brookshier
English

ORAL PRESENTATIONS

4:00 pm continued	
BSC 253C	**"Dissections of a Soul": Love, Death, and Women in Edvard Munch's The Frieze of Life** Christy Wahl *Art History*
BSC 253D	**Health Care Ethics and Immigration: Respecting Human Dignity and Honoring the Common Good** Katie Semkiu *Theology*
BSC 254	**iOU vs. iOMe: Financing Your Future** Mary Bond *Economics*
4:20 pm	
BSC 251	**Competing for College Hill** Rebecca Gorley *American Studies*
BSC 253A	**Welfare Policy: The Means to Full Citizenship for Women Living in Poverty** Nicole Bisel *Sociology*
BSC 253C	**Renel Diet Project and Recipe Modification** Whitney Kline *Nutrition and Dietetics*
BSC 253D	**The Crucified People and the Body of Christ Revisited** Dan Finucane *Theological Studies*
BSC 254	**Facing Climate Change in Bangladesh** Kate Maxwell *Economics*
4:40 pm	
BSC 251	**Executive Mentor Program** Nicholas Bergin *Service Leadership Certificate Program*
BSC 253A	**Disenfranchisement Laws: The dilution of minority power** Spencer Stewart *Sociology*
BSC 253B	**Putting the Memoirist on Trial: Judging the Rhetoric and Ethics of Memoir** Lauryn Cruz *English*

ORAL PRESENTATIONS

4:40 pm continued

BSC 253C	**WIC Fruit and Vegetable Vouchers** Whitney Kline, Hannah Diamond, Joan Murphy *Nutrition and Dietetics*
BSC 253D	**The Crossroads of Biology and Theology** Logan Fox *Theology*
BSC 254	**Prudential Financial Regulation and Microfinancial Institution Performance: A Cross Sectional Analysis** Kate Maxwell *Economics*

CREATIVE PERFORMANCE

3:00 pm	
BSC, St. Louis Room	**Meghan Garvin Presents: Excerpts from her Senior Recital** Meghan Garvin *Music*
4:20 pm	
BSC 253B	**I Can't Talk Pretty** Anthony Burwinkel *English*

ABSTRACTS

Steven Abboud

Clinical Laboratory Science
Faculty Sponsor: Tim R. Randolph, Ph.D.

A Simple and Stable Method of Measuring Total Bilirubin in Blood using Ictotest Tablets.

The purpose of the study is to develop a spectrophotometric method to measure total bilirubin in blood using Ictotest tablets that is less expensive and more stable than standard manual methods for use in developing countries. Ictotest tablets are manufactured as a solid tablet conferring a longer shelf life and no refrigeration requirement. Serum samples with known bilirubin concentrations were mixed with a reagent containing an Ictotest tablet dissolved in a methanol/water solution, incubated for an hour at room temperature, centrifuged to remove precipitated protein, and measured spectrophotometrically at 530nm. The method is linear up to 8mg/dL of bilirubin.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Ashley Adams, Kelly Backes, Jason Brauninger, Jennifer Bunder, Emma Danley, Angela Delaria, Caroline Weber

School of Nursing
Faculty Sponsor: Sheila Leander

Hearing Impairment Awareness and Prevention

Our project increased awareness of hearing impairment and provided hearing screening in East St. Louis, Illinois. Our team goal was to remind the community that the sense of hearing is crucial and should be protected. We promoted hearing awareness through flyers distributed at stores. Our public service announcements were aired on radio and television stations. We collaborated with the East Side Health District and the Center for Hearing and Speech to conduct free screenings on March 26, 2010. This service was well received; the East Side Health District and Center for Speech and Hearing expressed interest in repeating this event.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:20pm BSC 253B

Jessica Anthony, Ethan Jost, Hiraku Tsujimura

Psychology
Faculty Sponsor: Christopher Conway, Ph.D.

Neural Correlates of Implicit Learning in Children

Implicit learning is believed to be an important contributor to aspects of cognitive development, especially language acquisition. This study sought to examine the development of implicit learning by comparing adult and child populations. Participants completed a visual implicit learning task and a version of the classic oddball paradigm. Event-related potential (ERP) results showed that while both children and adults exhibited the prototypical brainwave response in the oddball task, only the adults demonstrated neural indications of learning in the visual task - positivity between 300ms and 400ms after stimulus onset. This suggests developmental differences in implicit learning between children and adults.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Nicholas Bergin

Service Leadership Certificate Program
Faculty Sponsor: Rob Boyle, Ph.D.

Executive Mentor Program

The Service Leadership Certificate Program is a certification offered exclusively within the John Cook School of Business. The Executive Mentor Program serves as a basis to prepare upperclassmen for the professional working world. Goals of the program are to: develop learned skills into practical use for business professions; observe leadership, team work, and project management skills in a professional environment; learn the intricacies of their mentor's particular position; develop a platform for professional work ethic and character; and learn social and corporate responsibility with the community while maintaining the ideals of Service Leadership and Saint Louis University.

Dimensions represented:
Intellectual Inquiry and Communication
Community Building
Leadership and Service

4:40pm BSC 251

Nicole Bisel

Sociology
Faculty Sponsor: Joel Jennings, Ph.D.

Welfare Policy: The Means to Full Citizenship for Women Living in Poverty

Current welfare policies in the United States fail to allow women living in poverty access to full citizenships. Where, on the one hand, women are encouraged to act upon hegemonic notions of motherhood and femininity, on the other, they are forced into low wage jobs with few or no benefits in order to receive state assistance. Thus, an overly dichotomous view of those living in poverty necessitates a struggle over current notions of citizenship and how state and national welfare policies neglect the importance of embracing both self-sufficiency and a care ethic in women's lives.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

4:20pm BSC 253A

Mary Bond

Economics
Faculty Sponsor: Heather Bednarek, Ph.D.

iOU vs. iOMe: Financing Your Future

America's Social Security and Medicare Programs are unsustainable. My research shows how the Social Security Act has developed over time and is now failing and unsustainable. It presents possible policy changes that can be made to Social Security and Medicare in order to alleviate the government from attempting to sustain an unquenchable demand, while improving the chances of future generations' ability to successfully retire. It also considers how this proposition will affect the American populace as a whole. Will the costs outweigh the benefits in this detailed plan of action that requires more personal financial responsibility rather than reliance on government intervention?

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

4:00pm BSC 254

Zach Bowe, Michael Dunning, Manuel Maestro, Erin Carlyle, Keavy Nenninger

Aerospace Engineering
Faculty Sponsor: Larry Boyer

The Austral Very Light Military Trainer Jet

The Austral Very Light Jet is a revolutionary new aircraft design that incorporates innovative technologies in jet propulsion and lightweight composite structures in an affordable aircraft for military use. This will be the first design to utilize small jet engines that can burn alternate fuels in an airframe that will accommodate two people for the purpose of flight training as well as recreational flying. The Austral will be the affordable, environmentally friendly solution to the overwhelming operating and ownership costs of current jet aircrafts, all while offering a form of fast, thrilling personal transportation with excellent maneuverability.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Grant Boyd, Hannah Nelson, Kimberly Saucy

Pre-Law
Faculty Sponsor: Karen Sanner, Dr. Janet O'Hallaron

Mock Trial Presentation

Undergraduate students from universities all over the country participate in mock trial tournaments sponsored by the American Mock Trial Association throughout the school year. Each year, the students are presented with a new "case" to develop for competition. The purpose of mock trial is to familiarize students with the litigation process in American trial courts to enable the students to become effective advocates through oral presentation in a courtroom. Students act as both witnesses and attorneys in this process. The mock trial teams consist of six to ten students who work together to develop both sides of a case for trial against other teams. Students present opening statements, witness examinations, cross examinations, and closing argument. Students are judged by volunteer attorneys who then critique the students and give scores for presentation skill. This year, the students presented arguments in State of Midlands v. Owens which was a criminal homicide trial. Presentations from that trial

for this symposium include an opening statement as well as the direct examination of one of the State's witnesses.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00pm BSC 253B

Ryan Boyer

Modern and Classical Languages
Faculty Sponsor: Yaoska Tijerino, Kathleen Fueger, Karen Secrist, Ph.D., Olga Arbelaez, Ph.D.

The Tragic Experience of the LGBT Community in Contemporary Gay and Lesbian Poetry of Latin America
This research explores the gay and lesbian poetic voices of three Latin American poets of the 20th century: Salvador Novo, Xavier Villaurrutia, and Magaly Alabau. These poets serve to contextualize both the evolution of the literary expression of the LGBT community in Latin America and the propensity to identify homosexuality and lesbianism with tragedy and marginalization. The methodology of this study is the following: first, the poetry of Salvador Novo and Xavier Villaurrutia will be compared; second, the poetry of Magaly Alabau will be examined; finally, the two voices will be juxtaposed, emphasizing their overarching themes of tragedy and marginalization.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00pm BSC 251

Lauren Bozesky

American Studies
Faculty Sponsor: Cindy Ott

Identities: Female Athletes and their Relationship with Food
This paper's goal is to make readers aware of the complex relationships female athletes have with food. Today's scholarly research and magazines' views on women and food are too simplistic in that they only talk about nutrition, body image, and performance. As a female athlete, I decided to conduct a survey with all the female athletes at Saint Louis University asking about different ways these women look at food. My results proved that female athletes think about food in complicated ways that counter these perceived ideas reflected by the scholars and magazines.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service
Spirituality and Values

4:00pm BSC 251

Katherine Brooks

Political Science
Faculty Sponsor: Ellen Carnaghan, Ph.D.

The State of Liberal Democratic Parties and their Leaders in Contemporary Russia: A Case Study of the Union of Right Forces
The purpose of my research was to examine the state of liberal democratic opposition parties in the contemporary Russian electoral system. In order to do so, I focused on one party in particular – the Union of Right Forces – and what factors influenced its success or failure in recent elections. My research claims that even in circumstances where political structures constrain the abilities of opposition parties, their relative success or failure can be explained by the actions of party leadership. The results of my research support this claim and shed light on the underestimated power of party leaders to affect electoral achievements.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Sarah Brookshier

English
Faculty Sponsor: Donald Stump, Ph.D.

Foucault's Medical Gaze and AIDS Narratives: Science and Personhood
Michel Foucault's "medical gaze" calls for physicians to find the "truth" of a disease through meticulous physical observation and application of textbook theory. The medical gaze demands the physician see the patient as simple space in which a disease can exist and be studied, and also requires that the physician function as a purely diagnostic machine and disregard her own personal beliefs. I examine the medical gaze through narratives of AIDS patients because no epidemic in the 20th century has been so highly stigmatized and politicized. In this paper, I argue that the medical gaze is insufficient for total patient care, because it is

impossible for the caregiver to fully remove herself from the social community.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

4:00pm BSC 253B

Anthony Burwinkel

English
Faculty Sponsor: Devin Johnson. Ph.D.

I Can't Talk Pretty

A collection of poems: Sowing, Remains of Her Son (David's Villanelle), The Life of Samuel Morass, Scent of Gasoline, January Withering

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

4:20pm BSC 253B

Kara Chapman, Terry W. Wood

Educational Studies
Faculty Sponsor: Ann Rule, Ph.D., Keisha Panagos

An Analysis of Performance Anxiety and High School Aged Runners of Cross Country

The purpose of this analysis is to fill the gap in the research on performance anxiety in students. Much exists to show the evidence of such anxiety, but very little on strategies that alleviate it from students in their high stress environments. We observed and surveyed runners on a high school cross-country team on three separate occasions, with different stress levels; we also utilized a variety of stress relieving activities during these sessions and compared their results on anxiety. We found evidence of performance anxiety in those situations and found that group-centered strategies, as opposed to individual, are helpful.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:00-5:00pm BSC 172-173

Colin Chen, James Pan

Clinical Laboratory Science
Faculty Sponsor: Tim R. Randolph, Ph.D.

The Modified Hemoglobin Solubility Test (MHST): Detection and Differentiation of Sickle Cell Anemia in Developing Countries.

The purposes of the study are to develop a method of determining hemoglobin concentration, necessary for the Modified Hemoglobin Solubility Test (MHST), without electricity or batteries and to reduce the MHST cost by developing a manual manufacturing protocol. Blood was obtained from SLU Hospital and tested in a combination of various copper sulfate concentrations, tube dimensions, and drop delivery systems to develop a method of hemoglobin determination involving the rate of sedimentation of a drop of blood. Sickle positive blood was tested using a variety of recipes for the sickle cell test, one of which correlated to a standard method.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Stefanie Crandall

Nuclear Medicine Technology Program
Faculty Sponsor: Crystal Botkin, William Hubble

A technologist perspective on half-time imaging: A promising new technology

Purpose: A new advanced reconstruction algorithm, Astonish (Philips Medical Systems), utilizes iterative reconstruction which reduces cardiac imaging time by 50%. We evaluated our experience with Astonish to confirm reproducibility and potential benefit for patient comfort and increasing productivity. Methods: A rest/stress Tc-99m ECG-gated SPECT MPI was performed on 33 patients for full-time (FT) counts. Half-time data was created by retrospectively extracting 32 projections from the FT data and processed with the Astonish algorithm. Results/Conclusion: Deemed comparable in quality by a physician, Astonish proved advantageous to patients and technologists without sacrificing diagnostic reliability.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Lauryn Cruz

English
Faculty Sponsor: Donald Stump, Ph.D.

Putting the Memoirist on Trial: Judging the Rhetoric and Ethics of Memoir

The purpose of this essay is to explore the Ethics of the literary memoir and to devise a working rubric, or at the very least suggest one, that will guide readers in how to best approach (and perhaps, judge) the memoir and the memoirist. This paper begins with an analysis of James Frey and his highly controversial memoir, A Million Little Pieces to establish the debate/problem surrounding truth and memoir. It makes relevant the primary question I will be asking: Is truth inherent in memoir? Yes, it is expected, but is it necessary? And why? I then complicate the question by examining Lucy Grealy's Autobiography of Face and Ann Patchett's Truth and Beauty to pose the question: What do we do when truth is not so black and white, when we know that the memoirist is not "lying" in the usual sense?

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

4:40pm BSC 253B

Ameesh Dara, Bradley Krivit

Clinical Laboratory Science
Faculty Sponsor: Rita M. Heuertz, Ph.D.

Growth Conditions for Biofilm Production by *Pseudomonas aeruginosa* and Biofilm-Induced Host Response

Bacterial biofilms are complex polymeric matrices which increase antimicrobic resistance, improve microbial survival and cause persistent infection in chronically ill patients. The purpose of this study was to elucidate growth requirements (glucose supplementation, media type) and identify innate defense mechanisms inhibitory of biofilm formation by the bacterium Pseudomonas aeruginosa. The approach used was bacterial growth under static conditions in glass tubes and crystal violet staining followed by spectrophotometric quantitation of biofilm developed. Tryptic soy broth ± 2% glucose supplementation allowed for abundant biofilm production and select proteins of innate immunity offered no inhibitory effect on biofilm production under conditions tested.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Michelle Davis

Radiation Therapy
Faculty Sponsor: Kathy Kienstra, Sherry Bicklein

Mammosite Radiation Therapy: From Start to Finish in 5 Days

Purpose: To provide the general public an understanding of mammosite radiation therapy as a treatment for early stages of breast cancer. Mammosite radiation therapy uses a radioactive source inserted into the tumor bed of the breast to treat any microscopic disease left over from the surgical removal of the cancer. Because of the precise location of the internal treatment, daily doses of radiation may be elevated so that the tumor is destroyed more quickly, thus reducing the number of treatments required as well as the adverse side effects to the patient.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Daniel DeBartolo, Justin Breithaupt, James Dice, Charles Gaia

Mechanical Engineering
Faculty Sponsor: Mark McQuilling, Ph.D.

SLU Pure Water

SLUPureWater aims to create a simple and affordable way to give safe drinking water to those in sub-Saharan Africa. The design utilizes the abundance of sunlight to the region to pasteurize the water. High efficiency is achieved using a flat plate solar collector constructed of recycled materials with beneficial heat transfer properties. Using the collector to heat contaminated water, the system is expected to heat the water to 65°C (149°F), safely killing off most pathogens.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Joseph DeBartolo

Biology
Faculty Sponsor: Laurie Shornick, Ph.D.

Untitled

Wound healing is impaired in diabetic patients, which leads to over 70,000 limb amputations per year. Unfortunately, the mechanism for impaired wound healing is not understood. Macrophages are a white blood cell important for proper wound healing. Our goal was to examine macrophage activation and cytokine expression during normal and diabetic wound healing. Using a murine wound model we demonstrated that both neutrophil and macrophage recruitment was delayed in diabetic wounds. This was associated with increased interleukin-20. These preliminary results point to a delay in the early signals that recruit inflammatory cells to the wound in diabetic mice.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Stacy Delvo

School of Social Work
Faculty Sponsor: Shannon Cooper-Sadlo

Standing Up For Others: Missouri Property Tax Credit for Older Adults in Non-Profit Housing

Submitted to the Social Work "Standing up for Others" Poster presentation, the purpose of this project is to accomplish the social justice goal of allowing older adults who live in non-profit housing to be eligible to file for the Missouri Property Tax Credit. The five strategies and steps to accomplish this goal included: creating a FAQ sheet for customers at St. Louis County Older Resident Programs, talking to legislators on Lobby Day, conducting focus groups around the St. Louis region, creating petitions for seniors to sign, and writing an article for a newspaper for older adults.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

George Denny

Biology
Faculty Sponsor: William S. Stark, Ph.D.

Timeline of Rhodopsin Trafficking in Drosophila and GGA Knockdown's Effect Upon It

The purpose of this study was to obtain an approximate timeline for the deployment and maintenance of the visual pigment protein (rhodopsin) in the common fruit fly (Drosophila melanogaster), and to investigate the intracellular role of a vital trafficking protein (GGA) using this timeline. This was accomplished using microscopy of fluorescent proteins in living flies. This study revealed a timeline for rhodopsin deployment, but it also revealed an unexpected role of GGA. Whereas GGA was expected to be important in the maintenance of the visual pigment protein, this investigation revealed that GGA was important for deployment of rhodopsin.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Hannah Diamond, Lauren Landfried

Nutrition and Dietetics
Faculty Sponsor: Charlotte Ridley

Gnocchi with Pesto Sauce

The purpose of this project was to modify an original recipe to create a nutritionally appropriate dish for a person following a renal diet. We modified potato gnocchi by replacing potato dough with a flour-based pâte à choux dough and replacing marinara sauce with pesto sauce. By eliminating the potatoes the gnocchi's potassium content was reduced from 336.72 mg to 95.84 mg per 100 gram serving. Additionally, using the pesto sauce reduced the potassium 10 mg per 100 gram serving. The pesto gnocchi uses inexpensive pantry staples and is a dish renal patients can savor without straying from their diet.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Dan Finucane

Theological Studies
Faculty Sponsor: J. A. Wayne Hellman, OFM

The Crucified People and the Body of Christ Revisited
Looking at the reality of an oppressed majority in the world, a theology of the 'crucified people' has developed from El Salvador for over 30 years. In my project I intend to examine this concept for its relationship to Jesus Christ, salvation and the mission of the Church. Ultimately, I want to say that in order to be the Body of Christ, we must acknowledge our complicity in the sin of the world and take down the crucified people from the cross by accepting the forgiveness of the cross in community.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

4:20pm BSC 253D

Jamie Fluchel

Radiation Therapy
Faculty Sponsor: Kathy Kienstra, Sherry Bicklein

IMRT: Intensity-Modulated Radiation Therapy
The purpose of this project is to inform the public about Intensity-Modulated Radiation Therapy. IMRT is interesting because it is a very unique way of delivering radiation therapy. Learning about IMRT is important so that the public can learn about all of their options. Information for this project was gathered from radiation therapy text books and internet research.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Logan Fox

Theology
Faculty Sponsor: J. A. Wayne Hellman, OFM

The Crossroads of Biology and Theology
The project began because of my own academic journey and the resulting void that I observed between Theology and Biology. I want to show how the two fields are not separate but actually mutually condition each other by examining the relational nature of our Triune God, and tracing the effect of this nature on our lives. As a result, we are also inherently relational, and fostering right relationships becomes the cornerstone of our earthly lives. This importance is in both our spiritual and physical existence, and is therefore relevant in both the realm of Theology and Biology.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

4:40pm BSC 253D

Paige Friedman

School of Social Work
Faculty Sponsor: Shannon Cooper-Sadlo

Dignity In Death: Your Right to a Meaningful Funeral
During my experiences as a hospice intern, I recognized that many low-income families are not able to pursue their desired death customs because of exorbitant costs in the funeral industry. The purpose of this project was develop and complete tasks addressing my social justice goal, which was to ensure that all hospice patients and their families are able to pursue and afford the death customs they deem dignified and important to their spirituality. By completing various tasks including educational tasks for consumers and professionals, political advocacy work, and community partnerships, I made a small impact on this social justice issue.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Anne Garrabrant, Sarah Pingel

Educational Studies
Faculty Sponsor: Ann Rule, Ph.D., Keisha Panagos

Affects of Teacher Proximity on Student Behavior in an Elementary Classroom Setting
The purpose of this study is to see if the location of the teacher in an elementary school classroom affects student behavior. We observed in an elementary school over a 3 week period. During that time we collected: six proximity data sheets, six student behavior data sheets, student and teacher surveys, and student interviews. We expected that teacher proximity would increase students' on-task behavior. We discovered that students often stayed on-task even when the teacher was not in close proximity,

but found that the teacher's constant movement and verbal reinforcements help keep the students focused.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:00-5:00pm BSC 172-173

Meghan Garvin

Music
Faculty Sponsor: Pamela Dees, Ph.D.

Meghan Garvin Presents: Excerpts from her Senior Recital
Meghan Garvin's Senior Recital, performed Saturday, April 10, 2010 at St. Francis Xavier College Church, featured challenging pieces from the soprano repertoire, encompassing a variety of musical periods and national styles. Selections for the Senior Legacy Symposium include "Nocturnos de la ventana" an original composition by fellow SLU student Maximilian R. von Schlehenried, "Kommt ein schlanker Bursch gegangen" from the opera Der Freischütz by Carl Maria von Weber, Claude Debussy's Impressionistic song cycle Fêtes galantes I ("En Sourdine", "Fantoches", and "Clair de lune"), and "L'Invito" and "La Pastorella delle Alpi," two gems from Gioacchino Rossini's 1835 collection, Soirées Musicales. Featuring Ms. Marguerite Corey, pianist.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00pm BSC, Saint Louis Room

Nicholas Gibson

Studio Art
Faculty Sponsor: Amy Bautz

Motion Graphics / New Media SLU Work
Because of the broad education Saint Louis University has provided me, I have been able to specify my interests within the field of arts. Now I am looking forward and I will focus my career within new media arts. My motion graphics work reflects the culmination of everything I have been taught and I have learned at SLU. The purpose for the pieces was to expand my knowledge and techniques. Because my instructors encouraged students to think outside of the box, I took a different approach to the work, using stop motion instead of normal video. The outcome was something completely original and collaborative.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Rebecca Gorley

American Studies
Faculty Sponsor: Cindy Ott

Competing for College Hill
When interviewed, a fifth generation resident of College Hill claimed, "I want to live here. I choose to live here. I love living here... I'm here, you know, it's where my roots are." Two different stories describe this north St. Louis city neighborhood. The local narrative, told by those with lived-experience, invests the area with struggle and yet a commitment to family and home life. The outside narrative, characterized by popular media, simplifies, isolates and vilifies College Hill and thereby induces charity and impedes revitalization. This paper explores the consequences of untold stories and unjust reports and their effects on a neighborhood like College Hill.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

4:20pm BSC 251

Rebecca L. Gorley

School of Social Work
Faculty Sponsor: Shannon Cooper-Sadlo

Continuum of Care
Continuum of Care empowers women to sustain their recovery from substance abuse and develops a recovery community within St. Louis city through these initial efforts. First, creation of a written and spoken word group to empower women's self-expression and foster social membership. Secondly, connecting women with asset based development and job-skill training to prevent relapse and enhance her self-sufficiency. Third, a community needs assessment revealed what services/resources exist and lack to promote a recovery community. Due to a great need, I wrote a grant to fund a community based intervention to reduce the prevalence of drug and alcohol use through education, outreach in a St. Louis city neighborhood.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Michael Gregory

History
Faculty Sponsor: Silvana Siddali, Ph.D.

American Catholicism in the Nineteenth Century: The Life and Work of Jesuit Francis Xavier Weninger

Francis Xavier Weninger was a 19th Century Jesuit missionary who travelled the United States. His collection of writings and personal papers had arrived at the Midwest Jesuit Archives in disarray. In order to provide patrons with ready access to such an extensive collection of 19th Century material, it was organized according to the life of Weninger after research was done to understand who he was and what he did during his lifetime. After two months of work, it was discovered that he travelled extensively throughout the United States recording a lifetime of experiences and wrote inspiring works concerning Catholicism, but, until recently, had been forgotten to the annals of history

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Spirituality and Values

3:20pm BSC 253A

Owen Griffith

Micah House
Faculty Sponsor: Debra Wilson

Justice for Urban Young Adults With Severe Mental Illness

This project examines urban young adult populations with severe, persistent mental illnesses. Resources and interventions available to this population for recovery are explored, and their effectiveness is questioned. Goals, of both micro and macro nature, for bringing about greater justice to this group of individuals are then proposed.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Elyse Groh

Nuclear Medicine Technology Program
Faculty Sponsor: Crystal Botkin, William Hubble

Liver SUV in Whole Body 18F FDG-PET/CT: Stability and correlation with age and gender.

Objective: Evaluation of the liver SUV as a stable and consistent reference point across a large group of cancer patients. Methods: Reviewed reports of Whole-Body PET/CT (n=1149) to evaluate changes in liver SUVmax with age and gender. Results: Liver SUVmax (mean=2.2). The difference in liver SUVs between female and males was not statistically significant (p=.19). There was no correlation between age and liver SUVmax (pcc=.1). Conclusion: Liver SUV is a very stable and reproducible internal reference. This allows for accurate quantifiable information in assessing response to cancer therapy for patients undergoing PET/CT whole body studies.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Stefanie Hausheer

Political Science
Faculty Sponsor: Jean-Robert Leguey-Feilleux, Ph.D.

Analyzing Changing Roles & Rights for Women in Morocco, Oman, and Saudi Arabia

This thesis is that women have been offered more roles and rights in the past twenty years in Morocco, Oman, and Saudi Arabia and it offers some explanations as to why this positive social change is occurring. The presence of a pro-reform leader, economic and social development, Islamic justifications, a rapid influx of expatriates, and pressure from NGOs and the international community were all found to be influencing positive social change for women in the three countries studied; however,not all of these factors are operating in each particular country studied.

Dimensions represented:
Scholarship and Knowledge

Intellectual Inquiry and Communication
Community Building

3:40pm BSC 254

Andrea Hoff, Allison Ewen, Allison Garcia, Caitlin Higgins, Michael Sarmiento, and Ryan Soles

Psychology
Faculty Sponsor: Kristin Kiddoo

Effects of Feedback Type on Self-Efficacy and Subsequent Task Performance Mediated by Locus of Control

This study examined how actual performance feedback, determined by competition results, affects subsequent task performance by influencing self-efficacy (SE), and how locus of control (LOC) mediates that relationship. The researchers hypothesized that positive feedback (acknowledgement as "winner") would cause slight increases in performance from high SE individuals and larger increases from low SE individuals, whereas negative feedback (acknowledgement as "loser") would cause decreased performance from low SE individuals and have essentially no effect on high SE individuals. It was also hypothesized that internal LOC individuals would be more affected by feedback. Results and implications for future research will be discussed.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Meredith Hoog

History
Faculty Sponsor: Steven Schoenig, S.J.

Emil von Behring and Humboldt Medical College: An Exploration of Innovative Medicine in Germany and the United States

This research examines the role of German physicians, specifically, Dr. Emil von Behring and Dr. Adam Hammer, in the international medical sphere and their contribution to the formation of modern medical science and education. When the research was evaluated, it was evident that both physicians were important figures in the evolution of the medical field in Germany and the United States. The researching process was done through an examination of primary and secondary sources and was performed during two separate periods; a study abroad year in Marburg, Germany, and, later, during an internship at the Becker Medical Library.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:40pm BSC 253A

Allison Hotze

School of Nursing
Faculty Sponsor: Rita Wunderlich, Ph.D.

Making the connection: Nursing interventions for homeless teenagers

Purpose: To identify effective nursing interventions for homeless or runaway teenagers met in the acute hospital setting or the public health community setting. Approaches: A review of the current research was performed, focusing on nursing research. The research was applied to personal experience in the clinical setting. Outcomes/conclusion/evaluation: In the hospital setting, nursing education concerning the needs of homeless teenagers is lacking. Current research provides limited information on successful interventions due to the transient nature of the population and ethical complexity in researching homeless teens. Strengths-based approaches and personal, trusting relationships seem imperative. Expected outcomes: Nursing interventions will spur healthier lives for homeless teenagers.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Spirituality and Values

3:40pm BSC 253B

Brett Hughes, Thomas Chlebeck, Matteo DiMercurio, Brian Verbus

Aerospace Engineering
Faculty Sponsor: Michael Swartwout, Ph.D.

COPPER – University Nanosat-6

The Close-Orbiting Propellant Plume and Elemental Recognition (COPPER) mission is to evaluate the effectiveness of infrared imagery for the Space Situational Awareness objectives of detecting and characterizing nearby spacecraft using student-designed, integrated and operated space systems. The project was started in 2009 by students and faculty at Saint Louis University, Parks College as well as Washington University in St.

Louis. Proto-flight hardware and documentation will be presented in January 2011 as part of the Flight Competition Review of the University Nanosat-6 Program. The complete space system will be delivered for environmental testing in June 2011.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Ameair Irqeba

Biology
Faculty Sponsor: Yuqi Wang, Ph.D.

Regulating global sumoylation by a MAP kinase Hog1 and its potential role in osmo-adaptation in yeast

BACKGROUND: SUMO is a post-translational protein modification that is reversible. The underlying molecular mechanism and whether sumoylation is critical for osmo-stress adaptation are largely unclear. RESEARCH QUESTION: Examine whether osmo-triggered SUMO-conjugation is regulated by the Hog1 protein kinase pathway and whether sumoylation is important for adaptation to osmotic stress. PRINCIPAL FINDINGS: Osmotic stress induces rapid accumulation of sumoylated species. We find that the accumulation of sumoylated species is dependent on a SUMO ligase Siz1. We also find an inverse relationship between accumulation of sumoylated conjugates and osmo-tolerance. CONCLUSION: Abnormal accumulation of sumoylated conjugates is harmful for osmo-tolerance and suggest that Hog1 promotes adaptation to osmotic stress partially via regulating global sumoylation level.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Daniel Ironside

Physics
Faculty Sponsor: Ian H. Redmount, Ph.D.

Classification of Mixed-Content Friedmann-Robertson-Walker Universes

The expansion dynamics of an isotropic, homogenous universe are described by the Friedmann equation. Standard models of Friedmann universes contain matter, radiation, and vacuum densities with spatial curvature. Exact solutions were found for all relative magnitudes of mixed-content and spatial curvature. Most solutions contain Jacobian elliptic functions, which were determined by the root types of the Friedmann polynomial.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Layne Jansen, Jillian Terdy

Educational Studies
Faculty Sponsor: Ann Rule, Ph.D., Keisha Panagos

How Socioeconomic Status Affects Struggling Readers

For our Action Research class, we decided to focus on the question: How does Socioeconomic Status Affect Struggling Readers? We completed a semester long research project focusing on the impact of socioeconomic status and its affects on struggling readers. Through our research, we discovered that people from lower socioeconomic communities are more at risk for reading failure. In order to diminish this failure, we decided to implement a reading program for two students who were at risk readers. We met with them every Monday for a two hour, six week period, and worked on their letter recognition, phonemic awareness, and fluency abilities. Through a successful intervention and use of a variety of reading strategies, we were able to help them become more fluent readers.

Dimensions represented:
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Samantha Johnson

Communication Sciences and Disorders
Faculty Sponsor: Travis Threats, Ph.D.

Tinnitus and the Military

Tinnitus, commonly referred to as “ringing in the ears,” is a symptom that affects many military personnel. Research using academic journals and books were used to understand how tinnitus presents itself and theories behind what causes tinnitus. Although what causes tinnitus is not completely understood, one thing that most research agrees on is loud noise exposure is the leading contributor. The sound levels of common military equipment can range from 85dB-164dB; anything over 85dB can

begin to damage hearing. Tinnitus affects the quality of life of these individuals because they can associate tinnitus with recall of traumatic events

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Spirituality and Values

3:00-5:00pm BSC 172-173

Anthony Jones, William Dobbels, Allison Ianni, Ashley Hobgood

Electrical Engineering
Faculty Sponsor: William Ebel, Ph.D.

SIDS Prevention Device

Sudden Infant Death Syndrome (SIDS) affects thousands of children under the age of one each year. One of the most common causes of SIDS is that stomach sleeping. The SIDS Prevention Device will be able to detect the child's position, and monitor their heart rate. The device weighs less than 50 grams and is attached to the infants' pajamas without disturbing its sleep. The device has multiple sensors to detect unhealthy conditions. When the device detects a problem, an alarm will be wirelessly sent to the dresser module and then magnified and transmitted to the handheld parent receiver.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Jason Jonovski, Derek Brown, Nam Nguyen, Zach Splaingard

Mechanical Engineering
Faculty Sponsor: Mark McQuilling, Ph.D.

SLU AUV: Project BilliSub

SLU AUV consists of one computer, two electrical, and four mechanical senior engineering students working in collaboration to design and fabricate the first autonomous underwater vehicle (AUV) at Parks College of Saint Louis University. The vehicle is being designed to compete in the national collegiate AUV competition held by AUVSI. The vehicle will be navigating an underwater obstacle course where it must complete tasks including: passing through a gate, recognizing and following a line, making contact with a buoy, and detecting submerged beacon signals. The vehicle features custom navigation and vision systems, as well as custom designed thrusters.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:00-5:00pm BSC 172-173

Elana Karkowski-Schelar

Physical Therapy
Faculty Sponsor: Joanne Wagner, Ph.D.

The relationships between lower extremity strength, walking speed and walking endurance in adults with multiple sclerosis: A preliminary report.

Purpose: To evaluate the relationships between lower extremity strength, walking speed, and walking endurance in adults with Multiple Sclerosis (MS) and moderate clinical disability. Approaches: Twelve adults with MS were assessed for knee and ankle strength, walking endurance and walking velocity using a Biodex Dynamometer, the Timed 25-Foot Walk Test, and the Six Minute Walk Test respectively. Conclusions: Lower extremity strength correlated more strongly with walking endurance than walking speed. Ankle plantarflexion strength had the strongest relationship with walking endurance. Further research is needed to determine whether increased ankle strength translates into improved walking endurance in adults with MS.

Dimensions represented:
Intellectual Inquiry and Communication
Community Building
Spirituality and Values

3:00-5:00pm BSC 172-173

Mary Keeley

Micah House
Faculty Sponsor: Donald Stump, Ph.D.

Eucharist: Our Personal Call to Work Against Injustice

What do you like to do? Garden? Volunteer? Do you donate clothes to charity? All of this is social justice in its own form. The call to “Go in peace to love and to serve the Lord and one another” is where we get the word for “Mass”, but what does this really mean for us? I will show how this call manifested itself in my life, in the form of working with sick babies at Cardinal Glennon Children’s Hospital. Finally, we will look at the Introductory Rite of the Mass to better understand how and why we must offer these experiences up to God and to our neighbors.

Dimensions represented:
Scholarship and Knowledge
Community Building
Leadership and Service
Spirituality and Values

3:00pm BSC 253D

Whitney Kline

Nutrition and Dietetics
Faculty Sponsor: Jennifer McDaniel

Renel Diet Project and Recipe Modification

The purpose of the Renal Diet Project and Recipe Modification was to apply the nutrition care guidelines for renal patients. The project was twofold; the first portion involved calculating and communicating a diet plan for a renal patient. Students were grouped in pairs and took turns acting as the dietitian and as the patient. Each student followed the prescribed diet for two days and gave feedback. The second portion of the project involved modifying a recipe to make it appropriate for a renal diet. A tropical fruit tart was modified to a lemon blueberry tart with significant nutrient modifications.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

4:20pm BSC 253C

Whitney Kline, Hannah Diamond, Joan Murphy

Nutrition and Dietetics
Faculty Sponsor: Jennifer McDaniel

WIC Fruit and Vegetable Vouchers

The purpose of this marketing campaign is to increase the use of WIC's new fruit and vegetable vouchers among mothers enrolled in the supplemental nutrition program. Our marketing objectives are to raise awareness of the new fruit and vegetable vouchers among WIC mothers, to help mothers make economical choices using the vouchers, and to promote the purchase of healthy, seasonal produce. This program will be promoted through radio, television, and newspaper advertising media to target prenatal and postpartum mothers in the state of Missouri.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

4:40pm BSC 253C

Jill Knapp

Physical Therapy
Faculty Sponsor: Theresa Bernsen

The Meaning of Solidarity: Casa de la Solidaridad Fall 2008

In 2008 I had the fortune of working alongside and learning from the people of El Salvador. Although not proficient in Spanish I developed sufficient communication skills to learn of the horrific conditions facing Salvadorians. Here, women's fundamental rights are virtually non existent; clean water is sparsely available; and public opposition against the government is dealt with brutally. Casa de la Solidaridad afforded me the opportunity to live and work with rural Salvadorian families where I came to understand their hopes and dreams. It was only then that I was able to successfully advocate these families' needs to local organizations.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00pm BSC 253C

Hannah Koesterer

American Studies
Faculty Sponsor: Cindy Ott

The Question of Womanhood in Contemporary Representations of Female Athletes

My thesis considers the question of womanhood in popular media and its depictions of female athletes. In a culture where athletes are routinely worshiped and publicly disgraced, what does it mean to be both a woman and a competitor? By analyzing contemporary representations and depictions of female athletes, I hope to reveal the cultural tensions that are manifested in these often contradictory and frequently groundbreaking public figures.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Katherine Krueger

Political Science
Faculty Sponsor: Ellen Carnaghan, Ph.D.

Regionalism, Populism and the Rise of Europe's New Right: A Case Study of Italy's Lega Nord.

This research seeks to explain the inflammatory populist techniques used by Italy's Lega Nord (Northern League) political party. By observing changes and contradictions in Lega Nord policy, this research finds considerable ideological and policy inconsistencies within the party. It analyzes the context of these inconsistencies and shows that the Lega Nord's extreme rhetoric is primarily a tactic based on securing its own power and influence, as opposed to a real commitment to any purported ideology. This research will prove useful for future investigation of the unstable political climate of today's Italy and the nature of other contemporary far-right, regionalist or populist movements.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Katie Lochhead

Studio Art
Faculty Sponsor: Amy Bautz

A Way of Speaking

I create in order to tell my story and your story as well. I once had a poetry teacher who said that clever syntax aside, any poem that is any good at all creates an "Aha!" moment for their reader – a moment in which the reader recognizes something that came out of their own experience or understanding of life. An artist's role is not unlike the role of a poet; what I need to do as an artist, simply, is take all of the things that you normally experience as a human being and present them in a way that the world has never dared to think up. And while every experience of life is different, the most accurate and available resource that I have is my own. I personally, in my short span of life, have found the world to be a menacing, humorous, divine, and tender sort of place. I believe that my work reflects this. I hope that you can find some of yourself within it.

Dimensions represented:
Intellectual Inquiry and Communication
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Laura Marquardt

Biomedical Engineering
Faculty Sponsor: Rebecca K. Willits, Ph.D.

Investigation of Poly(Ethylene Glycol) Laminin Scaffold for Neural Engineering Applications

The purpose of this study was to investigate the effect of low concentration poly(ethylene glycol)(PEG) and laminin hydrogels for use in neural tissue engineering applications. In particular, we are investigating the use of a PEG-laminin scaffold to act as a nerve graft in the repair of damaged peripheral nerves. Laminin was added or conjugated to PEG hydrogels and the effect of the chemical and mechanical properties on neurite extension was examined though 3D growth of dissociated dorsal root ganglia. Results indicate that with the increase of laminin, neurite length also increases; and length increased with higher stiffness gels.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:00-5:00pm BSC 172-173

Danielle Maurer

Radiation Therapy
Faculty Sponsor: Kathy Kienstra, Sherry Bicklein

Cyberknife Stereotactic Radiosurgery System

The purpose of this project was to explore the Cyberknife system for radiosurgery. Research was obtained through the manufacturer's website and published reports. It is a non-surgical procedure using radiation to eradicate tumors. Cyberknife is different than other radiosurgery devices because it uses robotics with six degrees of freedom delivering several non-coplanar, non-isocentric beams of radiation to any area of the body. The beam is conformed to the shape of the tumor, allowing a higher dose to be delivered to the target while sparing normal tissue and critical structures. Cyberknife has had an excellent success rate for tumor control.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Kate Maxwell

Economics
Faculty Sponsor: Muhammad Islam, Ph.D.

Facing Climate Change in Bangladesh

As the world continues to grapple with how best to address climate change developing countries are especially vulnerable to the threats it poses and few more so than the country of Bangladesh. Potential effects of climate change threaten huge sectors of the Bangladeshi economy. In such a context special precautions must be take to meet development goals while also building the community's capacity to face potential problems and avoiding maladaptation, or development that further exposes Bangladesh's communities to climate change risk. Given Bangladesh's unique vulnerability both geographically and socioeconomically such programs are vital to mitigating the potential harmful effects of global ecosystem shift.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

4:20pm BSC 254

Kate Maxwell

Economics
Faculty Sponsor: Hailong Qian, Ph.D.

Prudential Financial Regulation and Microfinancial Institution Performance: A Cross Sectional Analysis

As the microfinance sector continues to grow the question of regulation becomes increasingly important. As microfinancial institutions (MFIs) begin to take public savings the issue of depositor safety makes regulation necessary. Regulation can be beneficial but also exacerbate already existing tensions between sustainability and outreach. Using an ordinary least squares estimation, the effects of a vector of financial prudential regulation is explored using a sample of 553 MFIs in 48 countries. The results confirm that the regulation does not effect the profitability of the individual MFIs but it is associated with a change in operating procedure. While regulated institutions reach more clients those clients they are wealthier and less likely to be women indicating that regulation forces MFIs to scale up their services.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

4:40pm BSC 254

Robert Moehle

Aerospace Engineering
Faculty Sponsor: Larry Boyer

Connector III

In the past fifteen years, relatively few designs for a practical private supersonic jet have been proposed. The Connector III Supersonic Private Jet attains a cruise speed of Mach 1.8 in the supersonic range as well as quiet transonic operation with an approximate range of 4500 nautical miles. The jet carries a maximum of eight passengers and a crew of three, with an emphasis on minimizing product life cycle costs. This project is the continuation of a supersonic business jet design that was proposed at Parks College of Saint Louis University in the 1980s. The final result incorporates a variable swept wing configuration, a custom-designed engine, and design parameters systematically optimized using a computer program.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Terese Moore

Nuclear Medicine Technology Program
Faculty Sponsor: Crystal Botkin, William Hubble

Incidental brain findings detected on F-18 FDG PET/CT images of patients evaluated for body malignancies

Objectives: Most facilities PET/CT acquire their whole body images from base of skull to mid thigh. The purpose of this study was to assess the added value of including the head in the imaged field of view (FOV). Methods: We retrospectively reviewed reports from whole body FDG-PET/CT scans of 1302 consecutive adult patients with known or highly suspected extra cranial malignancy. Results: The PET/CT scans revealed abnormal brain findings in 12% patients. Conclusion: The additional time and radiation exposure are minimal; therefore, including the head in the PET/CT FOV offers additional benefit to cancer patients.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Kelly Mullen

Criminal Justice
Faculty Sponsor: Martha L. Shockey-Eckles, Ph.D.

Battered Women, Learned Helplessness, and Nuisance Laws: Does It All Make Sense?

The purpose of my project was to look at a policy and determine if it is effective in implementing its goal of deterring crime. I examined a policy regarding victims of intimate partner violence and the impact, both physically and emotionally, the St. Louis City public nuisance ordinance has on them. Also discussed in this paper is the theory behind the public nuisance ordinance, the history of domestic violence, some of the restrictions victims have in obtaining help from the police, and how the policy negatively affects the victims. I propose that domestic violent calls be identified by police and withheld from the sanctions identified in the policy, thereby saving the victims from unnecessary punishment under this policy.

Dimensions represented:
Scholarship and Knowledge
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Jennifer Nelson

Music
Faculty Sponsor: Robert Hughes, Ph.D.

Benefits of Music Therapy in Treating Children with Autism Spectrum Disorders

The purpose of this presentation is to show the benefits Music Therapy has in treating children with Autism Spectrum Disorders. It will survey current uses of Music Therapy in Autism Spectrum Disorders, suggest additional uses and demonstrate its improvements in communication and social interaction deficits in children with Autism. Music Therapy produces significant positive results in children with ASD, helping them become more fully integrated in classrooms and society.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:20pm BSC 253C

John Newcomer

History
Faculty Sponsor: Charles Parker, Ph.D.

Archival Preservation with the National Park Service

During the summer of 2009, I cast off on journey of discovery at the Archives of the Jefferson National Memorial. Guided by Archivist Jennifer Clark, I toured the collections at the Old Courthouse, viewing such articles as the snuffbox of Meriwether Lewis and an early blueprint of the Gateway Arch. I traveled back in time to 1809 to outline the Records of Marie Leduc, Justice of the Peace. Fast forward to the post-Civil War era and I transcribed “Oaths of Loyalty” from St. Louis natives. I departed the archives with the story of Percy Green, culminating in my Senior Seminar.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

4:00pm BSC 253A

Emma Obata

Women's Studies
Faculty Sponsor: Robert Strikwerda, Ph.D.

Breathing Life into Cyborg Women: Différánce and Agency in Conceiving Female Cyborgs

This essay examines modern science fiction and the present situation for “real world" cyborgs and cybersexuality in demonstrating the fluidity in the definition of a credible “person.” Modern science fiction writers and engineers increasingly explore “constructed” robotic humans, termed “cyborgs," who replace living humans and are considered agents. Utilizing cyborg theory á la Donna Haraway's generative "Cyborg Manifesto," the essay analyzes the potential for agency in nonhuman cyborgs, concluding that certainly limited and potentially full personhood can be conferred on intelligent automata

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:20pm BSC 253D

Gregory Orf

Chemistry
Faculty Sponsor: Brent Znosko, Ph.D.

Thermodynamics of Short RNA Duplexes Containing Pseudouridine-Guanine Base Pairs

Pseudouridine (Ψ) is the most abundant nonstandard nucleotide

found in RNA and is widely distributed across different types of RNA. Enzymes known as Pseudouridine Synthases catalyze the post-transcriptional modification of certain Uridine (U) residues to Ψ. Although Ψ is thought to stabilize these RNAs, a systematic investigation into the thermodynamic consequences of U à Ψ isomerization has not yet been performed. Here, we report thermodynamic parameters for short RNA duplexes containing Ψ-G base pairs. The data obtained here are compared to U-G base pairs, and preliminary data suggest that the stabilization gained from U à Ψ substitution is sequence dependent.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Laura Peabody

Communications Sciences and Disorders
Faculty Sponsor: Travis Threats, Ph.D.

Traumatic Brain Injury: Pre- and Post-Injury Relationships with Family and Friends

The purpose of my project was to research the pre- and post-injury social relationships of individuals with traumatic brain injury (TBI). I integrated my own experiences with my best friend who recently suffered a TBI as well as those of her siblings, as discussed through an interview. The research I found generally concluded that the family and friends of those with TBI are an under-researched population. Professionals need to raise awareness about TBI. It is essential that professional assistance be provided not only for the brain-injured individuals, but also for the family.

Dimensions represented:
Scholarship and Knowledge
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Robert Peters

Art History
Faculty Sponsor: Bradley Bailey, Ph.D.

The Universe in a Microscope: Diego Rivera and His Healthy Human Embryo

The purpose of this study is to examine the cosmology of artist Diego Rivera in reference to the Detroit Industry Murals-specifically addressing the depictions of cellular biology within the mural. I approached this research from the methodologies of iconography, Marxist-social history, biography, and semiotic/symbolic interpretation. When taken in the context of such an extensive mural, Rivera's representation of biological cells portrays a microcosm of his philosophy, political ideology, and macrocosmic cosmology.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication

3:40pm BSC 253C

Christopher Pierse

Physics
Faculty Sponsor: Vijai Dixit, Ph.D.

Neural Connectivity in Caenorhabditis elegans

Although there is a vast amount of information on how individual neurons operate, there is relatively little understanding of the emergent phenomena present in large neural networks. This study looks at the neural connectivity of the model organism Caenorhabditis elegans, primarily focusing on how each neurons is organized with respect to one another. This organization is quantified by the amount of neural clustering present in the system and the average distance a signal must travel between neurons. Through a comparison with a random neural network, we show that the system is characterized by high clustering and short average distances.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00pm BSC 254

Kelly Pontius

International Business
Faculty Sponsor: Seung Kim, Ph.D.

Emerging Markets Field Study: Panama

The purpose of this project is to display and discuss the experiences of a group of students who traveled to Panama City, Panama for an undergraduate International Business course in January 2010. This course was designed to give students first-hand and practical understanding of business competition in emerging markets, specifically Panama. The students lived in Panama for 8 days and gained knowledge that will greatly benefit their future careers in international business. This presentation will display what the students learned and experienced.

Dimensions represented:
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Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Emily Price, Laura Rundell

Psychology
Faculty Sponsor: Bryan Sokol, Ph.D.

Perspective-Taking and School Climate: A Service Project Comparing Two St. Louis Elementary Schools

We explored the psychological constructs of perspective-taking and school climate through a service project at two St. Louis schools: a low-income parochial school and a language immersion charter school. We drew from Selman's (2003) model of perspective taking and Cohen's (2009) dimensions of school climate to inform our comparison of students' conduct. According to Selman, perspective-taking skills are related to social context, especially the kind of interpersonal relationships contributing to a positive school climate. Cohen identifies a variety of dimensions of school climate – safety, interpersonal relationships, teaching and learning practices, and external environments – that could be related to the development of perspective-taking. We focused particularly on the dimensions dealing with navigating peer interactions, building a sense of community, and implementing effective discipline.

Dimensions represented:
Scholarship and Knowledge
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Leadership and Service

3:00-5:00pm BSC 172-173

Bryan Psimas

Math and Computer Science
Faculty Sponsor: Kevin Scannell, Ph.D.

Open Source Software Benchmarks

The goal of the project is to provide feedback for software developers about the performance of open source software over time. My project downloads software, compiles it, performs benchmarks, and then automatically posts the results online. Users can compare the speed of open source programming languages, and see how their latest code updates affect the speed of test cases. This provides valuable feedback for software developers, and enables them to know about any increases or decreases in software performance.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00pm BSC 253A

Mallory Schwarz

Political Science
Faculty Sponsor: Timothy Lomperis, Ph.D.

The Ramayana: Fated or Free? A study of dharma and its affects on the structure of Indian society

This paper explores whether Free Will exists in the worldview presented by the fatalistic Indian epic, the Ramayana. It analyzes Hindu tenets, dharma and karma to understand how Hindus view "freedom." Free Will does exist in the Ramayana however dharmic and karmic obligations constrict state's and individual's freedom. Fate placates people to living within these limitations. While both Free Will and fate simultaneously fit into the Hindu tradition, freedom cannot. Instead the Ramayana guides individuals to seek freedom through belief in a moral determinism. By following Rama's moral handbook, Hindu society maintains stability, the primary concern of all Asian societies.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:00-5:00pm BSC 172-173

Katie Semkiu

Theology
Faculty Sponsor: J. A. Wayne Hellman, OFM

Health Care Ethics and Immigration: Respecting Human Dignity and Honoring the Common Good

The purpose of this presentation is to examine health care ethics regarding immigration within the United States. The theological principles of human dignity and common good will first be used to evaluate the systemic injustice undocumented immigrants face when seeking health care. The case study of Casa de la Salud will then be used to illustrate an effective model for Gospel performance and public conversion, both of personal attitudes and national policy.

Dimensions represented:
Scholarship and Knowledge

Community Building
Spirituality and Values

4:00pm BSC 253D

Kathryn Shoemaker

Philosophy
Faculty Sponsor: Theodore Vitali, C.P.

The Co-existence of God and Evil: A Look at the Theory of Marilyn McCord Adams

I chose to consider the question of how both God and evil can co-exist. I explored this topic by reading, analyzing, and evaluating a theory proposed by Marilyn McCord Adams. Her goal was to create a coherent belief-set that could explain how concrete instances of horrendous suffering can be defeated, (and recognized as having been defeated,) by the Goodness of God within the course of an individual's life. She examined the constructs by which we perceive the Divine/creature relationship and proposed that aesthetic values serve as the currency of Divine Goodness to humankind.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:40pm BSC 253D

Jacqueline Siess

Modern and Classical Languages
Faculty Sponsor: Evelyn Meyer, Ph.D.

The White Rose in the German Language Classroom

The purpose of this paper is to explore the story of the White Rose resistance movement in Nazi Germany and the possibilities of teaching it in an upper level high school German language classroom. First, the story of the Scholl siblings Hans and Sophie is discussed. A short review of the necessity of the coverage of this topic in the German language classroom follows. Next several methods and ideas for teaching the story of the White Rose movement are discussed, and finally the unit plan which was implemented and a reflection on its implementation are presented.

Dimensions represented:
Scholarship and Knowledge
Leadership and Service

3:20pm BSC 251

Ryan Soklaski

Physics
Faculty Sponsor: William Thacker, Ph.D.

Modeling Energy Transport in a Photosynthetic Antenna Complex

Until recently, it was thought that the "warm and moist" environment of a photosynthetic organism would restrict energy transport to a classical, incoherent hopping of an excited state along chromophores in an antenna complex. Experimental evidence now suggests that such systems actually exhibit quantum coherence, and that this effect may account for the high transport efficiency seen in the antenna complex. Several models of energy transport across chromophore sites were studied, introducing many-chromophore interactions and environmental effects. Techniques used to describe these systems will be extended to solve for a system of N chromophores in a harmonic oscillator-bath environment.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:20pm BSC 254

Shay Steelman

Public Policy Studies
Faculty Sponsor: Allan Tomey

Improving the Utilization of Minority and Women Owned Businesses

The problem is that economically disadvantaged minority and women owned businesses in the Commonwealth of Massachusetts are underutilized and not reaching their greatest potential in returns to Gross Domestic Product because of inherent barriers. There are several possible solutions to this problem for Massachusetts. This report contains recommendations to be adopted for the time being. Since the Executive Office of Transportation in the Commonwealth of Massachusetts is in the process of updating their disparity, they currently do not have any legal basis for implementing DBE programs. Using race and gender neutral programs will improve minority and women owned business participation without putting the Commonwealth of Massachusetts in a vulnerable legal position.

Dimensions represented:
Scholarship and Knowledge

Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Spencer Stewart

Sociology
Faculty Sponsor: Joel Jennings, Ph.D.

Disenfranchisement Laws: The dilution of minority power
The purpose of this paper is to highlight the arguments surrounding disenfranchisement laws and to call for a reformation. Specifically, I introduce the strong arguments supporting disenfranchisement, then offer relevant counter arguments to each. The second portion provides evidence of how our current disenfranchisement laws dilute the minority power through their disproportionate and unjustified representation in our political process. To conclude, this paper proposes a reformation of the current disenfranchisement laws to bring about equality and justice in our social network.

Dimensions represented:
Scholarship and Knowledge
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4:40pm BSC 253A

Jori Tarjan

Communication Sciences and Disorders
Faculty Sponsor: Richard McGuire. Ph.D.

Pitch-Matching as a Function of Timbre and Duration
Vocal pitch-matching is a skill required for ensemble singing. A cappella singers must be able to match pitch with only a brief instrumental cue. Pitch cueing instruments have unique spectral characteristics, or timbre. This study examined the impact of cueing stimuli on pitch-matching effectiveness. Results indicated that both timbre and duration had an impact on pitch-matching accuracy. Findings suggest that ensemble directors as well as speech-language clinicians should consider the type of elicitation cue employed in pitch-matching activities. Although these results are of interest to ensemble directors, implications related to pitch-matching elicitation also relates to voice therapy.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

Rachel VerBoort

Public Policy Studies
Faculty Sponsor: Allan Tomey

How Saint Louis University Saved Midtown
In 1962, Father Paul C. Reinert acquired 22 acres of the Mill Creek neighborhood transforming a slum neighborhood into Frost Campus. Without this land purchase, Midtown would have further deteriorated; but instead, development continued steadily throughout the Reinert and Fitzgerald years. With the inauguration of Father Lawrence Biondi in 1987, Saint Louis University greatly accelerated its development and increased its real estate ownership of the surrounding areas. This development brought back businesses and performing arts to the area, providing the Grand Arts Center and the Fox Theatre with a chance of surviving and prospering in Midtown.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service
Spirituality and Values

3:00-5:00pm BSC 172-173

Stephanie Vernier, John O'Donnell, Muhammad Meigooni

Biomedical Engineering
Faculty Sponsor: David Barnett, D.Sc.

Clean Water Systems for a Resource Poor Environment
Our project sought to determine the effectiveness of two filter types currently in use in the Dominican Republic and other areas. Specifically, we determined the effect that turbidity, or murkiness of the water, had on both the flow rate of the filters and their ability to remove E. Coli contamination at increasing levels of turbidity. The third phase focused on finding a failure rate for the filters at a constant turbidity level. The expected results included a reduction in flow rate and a lack of reduction of E. Coli, respectively, as the turbidity of the water increased.

Dimensions represented:
Scholarship and Knowledge
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Leadership and Service

3:00-5:00pm BSC 172-173

Christy Wahl

Art History
Faculty Sponsor: Cynthia Stollhans, Ph.D.

"Dissections of a Soul": Love, Death, and Women in Edvard Munch's The Frieze of Life

Edvard Munch beautifully and powerfully rendered love and death in his series The Frieze of Life. Munch's deeply confessional art found universal appeal as his often anxiety-ridden artwork portrayed the troubled psyche of modern man. Through psychological and biographic lenses, I have sought to explore Munch's paintings of women, often called femme fatales by art critics both then and now. While Munch's childhood contributed to his conflicted view of women, I proposed that the usual misogynistic associations with Munch's work are instead constructs of fin-de-ciecle politics and male anxiety about the new social roles and independence of women in the 1890s.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

4:00pm BSC 253C

Alyssa Ward

Modern and Classical Languages
Faculty Sponsor: Jean-Louis Pautrot, Ph.D.

Luc Besson and Subway

The study of Luc Besson with a particular focus on his film, "Subway", helps people to understand what was going on in French cinema at this time, especially the idea of the "Cinema du Look." The film "Subway" is identified as part of the "Cinema du Look" for many reasons including the use of young protagonists, the mix of different genres, and subtle references to other films. The film also displays many of the themes that are often used in Besson's films such as dysfunctional families, death, and alienation. Luc Besson and "Subway" played a large role in the evolving ideas of French cinema at this time.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Spirituality and Values

3:40pm BSC 251

Sally Warning, Jacob Christian, Daniel Ironside, David O'Donnell, Jason Patel, Brandon Smith,

Aerospace Engineering
Faculty Sponsor: Sanjay Jayaram, Ph.D.

Cube44

The purpose of Cube44 is to gain knowledge and experience in the aerospace engineering field. Cube44 designed a satellite meeting requirements by the CUBESAT program. A successful launch will build recognition for Saint Louis University worldwide. Cube44 approached this project by researching successful satellite structure designs. Members created the final structure while others researched parts appropriate for the mission. Evaluation of Cube44's satellite is scheduled throughout the semester once all components are received, tested, and integrated.Cube44 expects the satellite to take pictures of Earth, gather data points of Earth's magnetic field, and transmit the information to SLU's ground station.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building
Leadership and Service

3:00-5:00pm BSC 172-173

Daniel Watson

Pre-professional Health Studies1
Faculty Sponsor: Monica Kempland, Ph.D., Amy Harkins, Ph.D.

Amperometric Analysis of Neurotransmitter Release Using IgorPro

Amperometry is a biophysical technique that allows real-time measurement and characterization of neurotransmitter release. Release events appear as peaks on recordings and the area under these peaks is related to the total amount of neurotransmitter released from a vesicle. Recently, researchers in neuroscience have been trying to standardize analysis of amperometric recordings so data comparisons between different studies can more accurately be carried out. IgorPro is a computer algorithm that aids in amperometric analysis. We show here that users of IgorPro must still be aware of different parameters and variables that could affect the uniform analysis of their recordings and standardization of their data.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Leadership and Service

3:00-5:00pm BSC 172-173

David Whelan

Biomedical Engineering
Faculty Sponsor: David Barnett, D.Sc.

Single Unit Detector

The purpose of this project was to make neural spike detection and characterization easier, more accurate, and more reliable. In order to detect and cluster spikes, wavelet analysis is used to find where spikes differ the most. Using these differences, superparamagnetic clustering (SPC) is utilized to cluster the spikes. Upon completion of SPC, a graphical user interface is opened that allows to the user to observe and edit clusters, view the bursting characteristics of spikes, and examine if the unit is entrained to any other biological function such as the cardiac or respiratory cycle. Test results on artificial data are promising, as they show a low percentage of incorrectly classified spikes.

Dimensions represented:
Scholarship and Knowledge
Intellectual Inquiry and Communication
Community Building

3:00-5:00pm BSC 172-173

Gabe Young, Luke Erbacher, Corry Daus, Josh McCurdy

Mechanical Engineering
Faculty Sponsor: Sanjay Jayaram, Ph.D.

Plant and Green Waste to Methane Bio-reactor System

The Plant & Green Waste to Methane Bio-Reactor System portrayed in this paper is a batch-fed bio-reactor which utilizes anaerobic growth to break down organic plant and green waste to produce Methane gas. Methanogens are used in this case as the catalyst and agitator to speed up the process of the biogas production. The biogas produced with this bio-reactor system is composed of approximately 60% Methane, which is sufficient for combustion. The net energy will be studied to determine whether or not the energy being inputted into the system via heating energy is of lesser value than the combustible Methane's heating value.

Dimensions represented:
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Intellectual Inquiry and Communication

3:00-5:00pm BSC 172-173

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David O'Donnell *Aerospace Engineering*	3:00-5:00pm	BSC 172-173

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John O'Donnell *Biomedical Engineering*	3:00-5:00pm	BSC 172-173
Emma Obata *Women's Studies*	3:20pm	BSC 253D
Gregory Orf *Chemistry*	3:00-5:00pm	BSC 172-173
James Pan *Clinical Laboratory Science*	3:00-5:00pm	BSC 172-173
Jason Patel *Aerospace Engineering*	3:00-5:00pm	BSC 172-173
Laura Peabody *Communications Sciences and Disorders*	3:00-5:00pm	BSC 172-173
Robert Peters *Art History*	3:40pm	BSC 253C
Christopher Pierse *Physics*	3:00pm	BSC 254
Sarah Pingel *Educational Studies*	3:00-5:00pm	BSC 172-173
Kelly Pontius *International Business*	3:00-5:00pm	BSC 172-173
Emily Price *Psychology*	3:00-5:00pm	BSC 172-173
Bryan Psimas *Math and Computer Science*	3:00pm	BSC 253A
Laura Rundell *Psychology*	3:00-5:00pm	BSC 172-173
Michael Sarmiento *Psychology*	3:00-5:00pm	BSC 172-173
Mallory Schwarz *Political Science*	3:00-5:00pm	BSC 172-173
Katie Semkiu *Theology*	4:00pm	BSC 253D
Kathryn Shoemaker *Philosophy*	3:40pm	BSC 253D
Jacqueline Siess *Modern and Classical Languages*	3:20pm	BSC 251
Brandon Smith *Aerospace Engineering*	3:00-5:00pm	BSC 172-173
Ryan Soklaski *Physics*	3:20pm	BSC 254
Ryan Soles *Psychology*	3:00-5:00pm	BSC 172-173
Zach Splaingard *Mechanical Engineering*	3:00-5:00pm	BSC 172-173
Shay Steelman *Public Policy Studies*	3:00-5:00pm	BSC 172-173
Spencer Stewart *Sociology*	4:40pm	BSC 253A
Jori Tarjan *Communication Sciences and Disorders*	3:00-5:00pm	BSC 172-173

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Jillian Terdy *Educational Studies*	3:00-5:00pm	BSC 172-173
Hiraku Tsujimura *Psychology*	3:00-5:00pm	BSC 172-173
Rachel VerBoort *Public Policy Studies*	3:00-5:00pm	BSC 172-173
Brian Verbus *Aerospace Engineering*	3:00-5:00pm	BSC 172-173
Stephanie Vernier *Biomedical Engineering*	3:00-5:00pm	BSC 172-173
Christy Wahl *Art History*	4:00pm	BSC 253C
Alyssa Ward *Modern and Classical Languages*	3:40pm	BSC 251
Sally Warning *Aerospace Engineering*	3:00-5:00pm	BSC 172-173
Daniel Watson *Pre-professional Health Studies1*	3:00-5:00pm	BSC 172-173
Caroline Weber *School of Nursing*	3:20pm	BSC 253B
David Whelan *Biomedical Engineering*	3:00-5:00pm	BSC 172-173
Terry W. Wood *Educational Studies*	3:00-5:00pm	BSC 172-173
Gabe Young *Mechanical Engineering*	3:00-5:00pm	BSC 172-173