

STUDENT SCHOLARSHIP DAY COMMITTEE

STATISTICS

Phylis Curtiss

STUDENT REPRESENTATIVE

Matt Ferguson

WRITING

Chris Haven

GEOGRAPHY

Edwin Joseph

MANAGEMENT

Nancy Levenburg

COLLEGE OF INTERDISCIPLINARY STUDIES

Colleen Lindsay-Bailey

INTEGRATIVE LEARNING

Susan Mendoza-Jones

CONTINUING EDUCATION

Lisa Miller

PHYSICS

Ross Reynolds

STUDENT REPRESENTATIVE

Charles Smith

GEOLOGY

Pat Vidulich

BIOLOGY

Janet Vigna

SOCIOLOGY

Don Williams

SSD BOOK DESIGNER & ARTIST STATEMENT: KIMBERLY CRAWFORD

I truly believe in the powerful impact that Student Scholarship Day has upon the Grand Valley State University community. Therefore I wanted to take a strong, lasting, and colorful approach for the 2007 booklet. The three symbols on the front cover originate from the idea of a mandala. Mandalas, meaning "circle" or "completion" and being Hindu in origin, were used as representations of the unconscious self. Used in modern times to explore inner creativity they are also thought to enable the creator to seek wholeness of personality. I found that this idea mirrored the goal of GVSU's Liberal Education program. Though each student places emphasis on one particular area of study the undercurrent of a Liberal Education connects us each. Hence the melding of each individual mandala into one cohesive unit.

Though the design and SSD communicate interconnectivity, both strive to maintain GVSU's pledge to uphold a sustainable environment. This book was created with environmentally friendly inks and papers in order to follow this standard. As a young designer I feel increasingly conscious of my responsibility to encourage progress and awareness. I am proud to have contributed to Grand Valley State University's sustainable efforts through an event so rich in these values.



WELCOME FROM THE PROVOST

April 11, 2007

It is with great pleasure that I welcome you to the twelfth annual Student Scholarship Day at Grand Valley State University. Throughout the day you will have the opportunity to share in some of the year's best faculty/student collaborative efforts. The results that are on display represent a wide variety of talent ranging from scientific research and scholarly papers to art exhibits and performances.

Our students and faculty are committed to the belief that scholarship efforts, from the creation of an idea, through the development and presentation of the results, provide extraordinary learning opportunities. You will see a high level of participation and excitement today, confirmation that this kind of learning is both beneficial and enjoyable.

An event of this magnitude requires organization as well as the cooperation and dedication of many people. The College of Interdisciplinary Studies is the sponsor of this activity and students, faculty and staff from liberal arts disciplines and professional colleges across the University have been involved in planning and preparing for this day.

As students, faculty, friends and family, you are encouraged to attend as many of the events as your schedule will allow. It is with a deep sense of appreciation to all who have contributed in such diverse ways, coupled with pride in the accomplishments of our students, that we welcome you.

Sincerely,



Gayle R. Davis
Provost and Vice President for Academic Affairs



WELCOME TO STUDENT SCHOLARSHIP DAY 2007

Thank you for participating in Student Scholarship Day, 2007. In its 12th year, SSD is truly a celebration of liberal education, bringing together the many disciplines represented at GVSU for the open exchange of scholarly and creative ideas. The student presentations you will experience today are the result of rich collaborations between faculty mentors and students representing 53 majors. Over five hundred students will be sharing their work through poster presentations, performances, research discussions, and creative displays. SSD celebrates our students' work by bringing it to the forefront of campus life, and transform thought, blend discipline borders, and spark new ideas for future exploration. We invite you to engage in the kaleidoscope of scholarly and creative achievement presented here today, and to be inspired on your own path of discovery.

There are a great many that have contributed to making this day a reality. First, we thank the College of Interdisciplinary Studies (CoIS) and Dean Wendy Wenner for sponsoring this day. The work of the CoIS office staff and student assistants has been invaluable to us. We thank the faculty and student members of the SSD committee for their hard work and continuous flow of great ideas: Phyllis Curtis, Matt Ferguson, Chris Haven, Edwin Joseph, Nancy Levenburg, Colleen Lindsay-Bailey, Lisa Miller, Ross Reynolds, Charles Smith, Pat Videtich, and Don Williams.

A special thank you goes to Ben Rapin and Dan Slaughter for the tremendous amount of work they put into the new SSD web registration system. In addition, they spent the year on-call, patiently addressing our many queries and putting out various small fires.

Thanks to Kimberly Crawford and Lindsey TePastte in the University Promotions Office for developing this year's SSD visual theme and incorporating it into the various promotional pieces necessary for the success of this event. Also, the Abstract Book design and layout takes a great deal of time. We appreciate their meticulous work in this area. Thank you to Ross Reynolds and Chris Haven for proofreading this year's abstract book.

Thank you to the many student and staff volunteers who are helping this day run smoothly, and to the staff that put in time setting up the atrium for poster display.

We would like to thank the Faculty Mentors for investing in the future of our Grand Valley students. We appreciate the time and patience it takes to successfully mentor. We acknowledge your commitment to the mission and values of GVSU, as represented here today.

Finally, it is the student participants that make this day so rewarding. We acknowledge that the process of developing and presenting a project is time-consuming, difficult work. It is our hope that this experience has rewarded you with a sense of professional accomplishment and a realization of your liberal education. Thank you for sharing your work with us. We are honored to celebrate your outstanding achievements here today.

Sincerely,

Susan Mendoza-Jones
Director, Integrative Learning
College of Interdisciplinary Studies

Janet Vigna
Associate Professor of Biology
College of Liberal Arts & Sciences

Please join us for the
unveiling of fishladder
gvsu's student literary and art journal

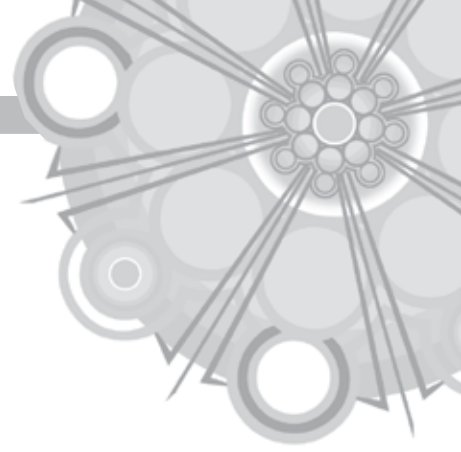


Also featuring the debut of Vinette, a Professional Writing Gallery

April 10 at 7 p.m.
in the Alumni House

fishladder
*A Student Journal of
Art and Writing*

Visit the fishladder art and photography exhibit
in the main concourse of Kirkhof
April 11, 8 a.m. to 5 p.m.



HISTORY OF STUDENT SCHOLARSHIP DAY

BY PROFESSOR NEAL ROGNESS

I am pleased and proud to present to you the 12th Annual Student Scholarship Day (SSD). As the originator and one of the founding members of the event and the chair of the SSD planning committee for the first nine years, I have been asked to provide a brief history of SSD. It is my pleasure to do so.

In the summer of 1995, a small group of faculty members in the Science and Mathematics Division met to explore the feasibility of creating an event which students could present their findings from faculty-mentored research to a university-wide audience. The committee submitted an event proposal to P. Douglas Kindschi, Dean of Science and Mathematics, which he enthusiastically supported...and Student Research Day (SRD) was born.

It was decided to hold the event on April 12, 1996, in conjunction with the dedication and celebration of the new Seymour and Esther Padnos Hall of Science. The committee's early projection was that thirty student participants would be a good start for a first time event. Imagine the committee's surprise and pleasure when the registration period ended with over 150 presenters registered to present almost 100 presentations! The first event was a tremendous success. However, it was unknown whether SRD could be a successful "stand alone" event. The second annual Student Research Day was held in April of 1997 and continued to be a great success with a similar level of participation. SRD 1997 also established the tradition of hosting an appreciation luncheon for the student presenters and their faculty mentors, complete with a keynote speaker.

The SRD Planning committee started to get requests from students outside of science and mathematics majors wanting to present at the event, which the committee very much welcomed. In response to these growing requests, a proposal was prepared to make the event a truly university-wide event, which then Provost Glenn Niemeyer whole-heartedly supported. Students from all majors were encouraged to present and exhibit their faculty-mentored scholarly work at the event. To help make the event more inclusive, its name was changed from Student Research Day to Student Scholarship Day. The first university-wide event doubled in size with nearly 300 students giving almost 200 presentations in 1998. The first SSD keynote speaker was Dr. Robert Powell, Professor of Biology at Avila College, who talked about "Student/Faculty Collaboration: Teaching and Scholarship."

Student Scholarship Day continued to experience growth over the years. What began as an event primarily composed of science and mathematics majors has flourished with student presenters with majors from across the entire university. The GVSU community has truly embraced this annual event as a day in which to take pause and proudly celebrate the scholarly achievements of student from the past year. Many fruits of labor from GVSU students are being presented at today's event. I encourage you to explore and sample as much as you can.

Please Enjoy!

KEYNOTE SPEAKER

Shaily Menon

Associate Professor and Chair, Biology Department

Keynote Address

Curiosity and Creativity – A Kaleidoscope of Ideas

Dr. Shaily Menon received her M.S. in Animal Behavior and Ecology from the University of South Carolina in 1986 and an interdisciplinary Ph.D. in Zoology, Natural Resources, and Anthropology from The Ohio State University in 1993. She was a postdoctoral fellow at the University of Massachusetts, Boston for four years. She joined the faculty of Grand Valley State University in winter 1998 and is currently an Associate Professor and Chair of the Biology Department and Natural Resource Management Program.

Dr. Menon teaches courses in conservation biology, landscape ecology, and environmental ethics. Her research is in conservation biology and biodiversity informatics. She has conducted collaborative research projects in the tropics (particularly India and Brazil) and locally in Michigan. She has conducted research projects with undergraduate and graduate students at GVSU. These included using GIS to study non-point source pollution and conservation of the vulnerable beautiful nuthatch in Vietnam. Her current project with a graduate student involves research on ecological niche modeling and field verification of the distribution of herpetological Species of Greatest Conservation Need (SGCN) identified by the Michigan Department of Natural Resources.



Dr. Menon encourages students to take ownership of their learning, to become involved in research projects where they learn science by doing it, and to expand their horizons by engaging in interdisciplinary and international experiences.

Dr. Menon also works on issues related to gender and science. She co-authored a National Science Foundation (NSF) grant to enhance the participation of women in science and engineering at GVSU. She was recently elected for a six-year term until 2013 to the U.S. National Committee for the International Union of Biological Sciences (USNC/IUBS) of the National Academy of Sciences. She looks forward to working with this committee in its areas of current interests which include integrative biology, biodiversity, and biological education.



SCHEDULE OF EVENTS

8:00 AM - 11:20 AM

Oral Presentations

Padnos Hall (PAD) & Kirkhof Center

9:00 AM - 11:20 AM

Poster Presentations

Henry Hall Atrium

Interdisciplinary Performance - 10:00 AM, Kirkhof Center 204

Exhibition of Art - 10:00 AM, Kirkhof Center Lobby

DISPLAYED ALL DAY

Art Work

Kirkhof Center - Student Artwork

Fishladder Artwork

11:30 AM - 12:50 AM

Lunch with Keynote Speaker Shailly Menon

Presenters and Faculty Sponsors

Grand River Room, Kirkhof Center

1:00 PM - 5:00 PM

Oral Presentations

Padnos Hall (PAD) & Kirkhof Center

1:00 PM - 5:00 PM

Poster Presentations

Henry Hall Atrium

11:00 AM - 12:00 PM

Bach-Around-the-Clock VI

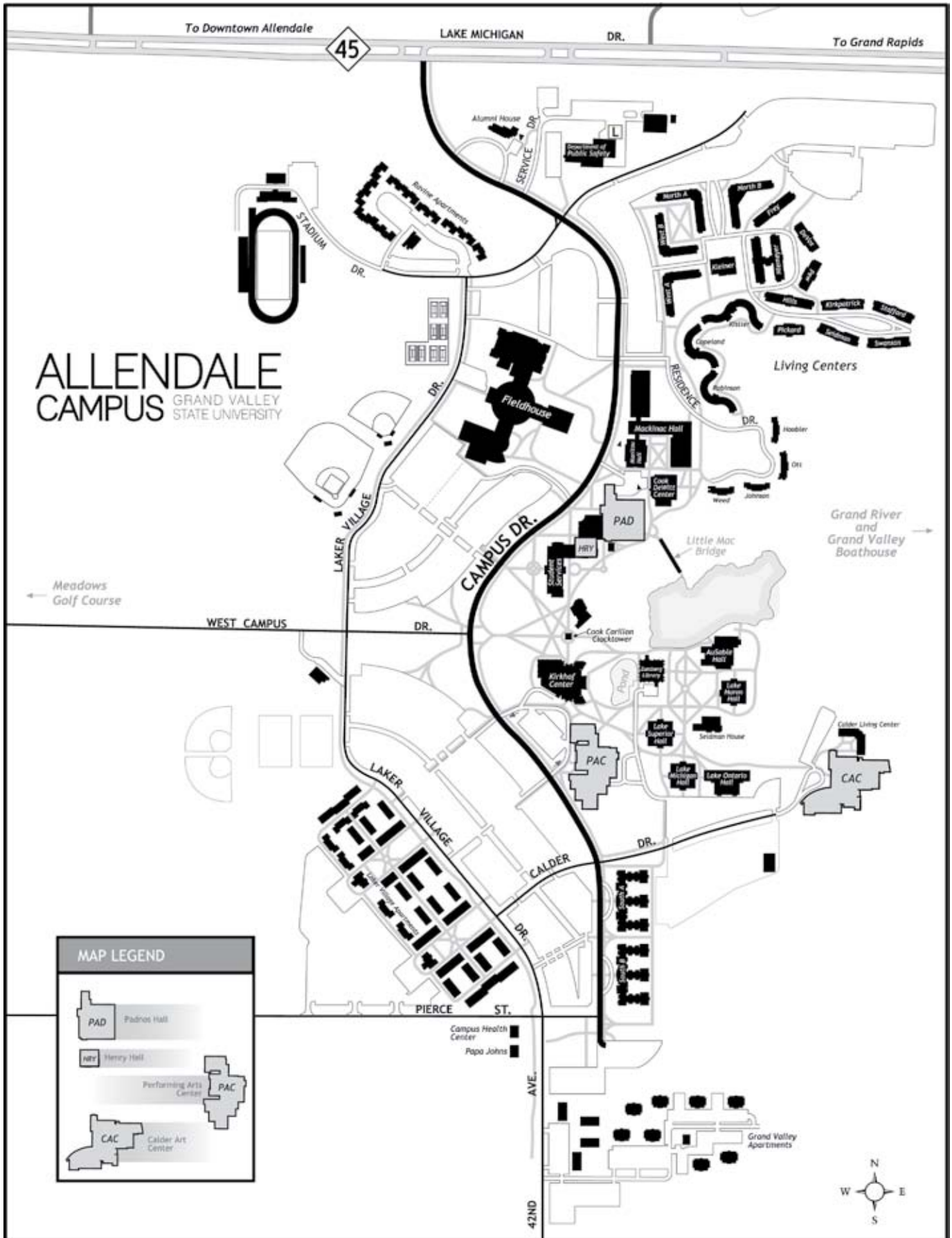
Cook-DeWitt Center

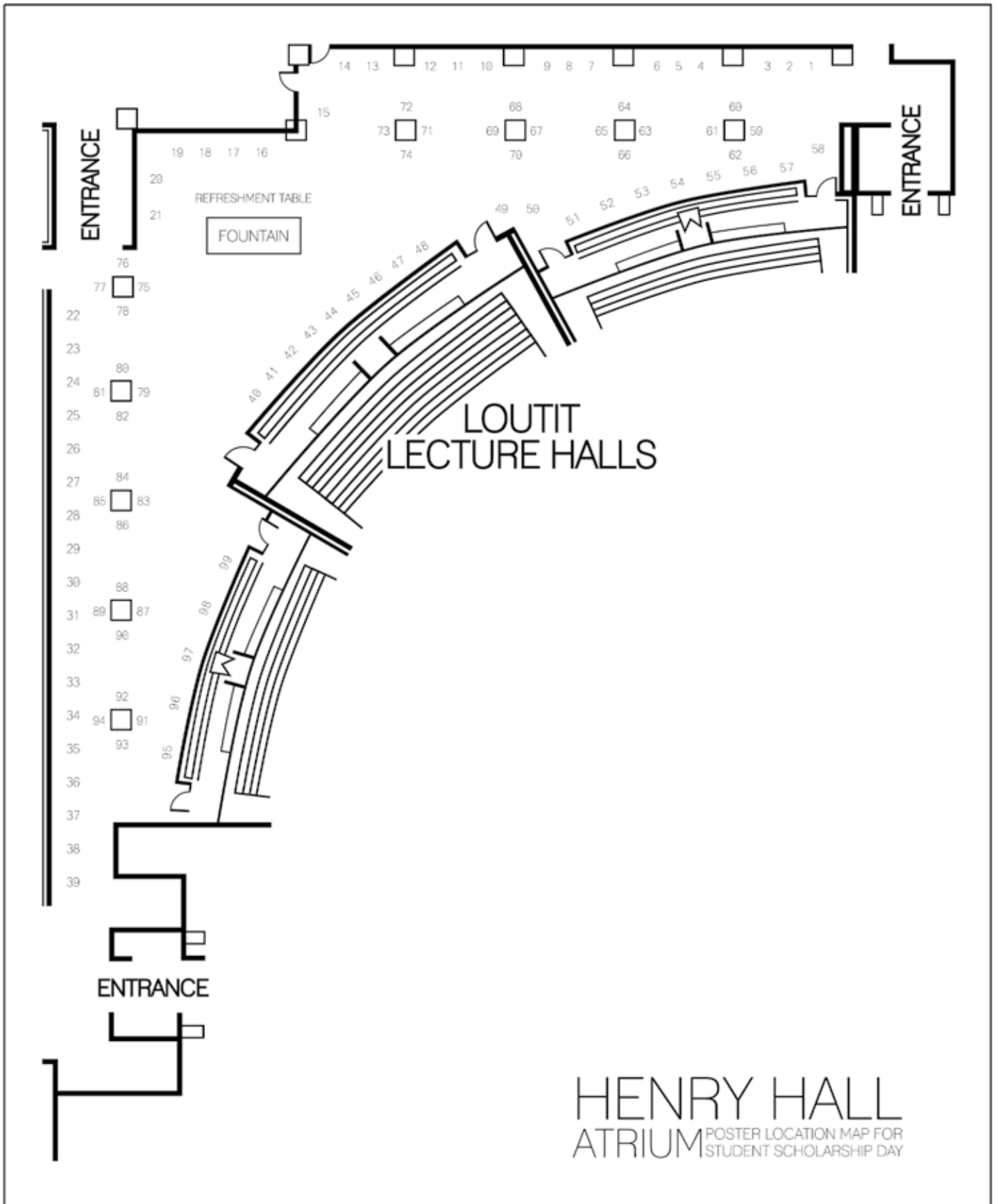
This 12-hour marathon of performances devoted to the music of Johann Sebastian Bach is part of the Sixth Biennial Grand Rapids Bach Festival. The event features hundreds of student and faculty performers from six area colleges and universities, as well as special guest artists.

8:00 PM - 10:00 PM

Trombone Studio Concert

Brian Asher Alhadef conducts a concert featuring the GVSU Chamber Orchestra with violin soloist Dylana Jenson and piano soloist Darren Lael





MORNING ORAL PRESENTATIONS

8:00 AM	PAD 107	Protection of Adult Pig Retinal Ganglion Cells from Glutamate-Induced Excitotoxicity: Lauren Bader
	PAD 108	Women and Academic Advising: Angela Szura
	PAD 109	School Quality and Home Location: Matthew Vance
	PAD 207	The Expression of the Neutrophil Marker cd64 in Acute Coronary Syndrome: Jason May, Rob Deshane, Alex Turnispeed
	PAD 209	Grain Size Analysis of Sedimentary Structures and Flow Regimes from the Lake Michigan lobe's Retreat, Grand Valley State University, Allendale: Kathryn Barnard
	PAD 211	Creating SSD: A Paperless Application: Daniel Slaughter
	PAD 261	The Impact of Infant Gender on Mother-Infant Interactions: Nate Peck
	PAD 262	Stand Description and Management Recommendation for Riley Trails: Robert Holst
8:20 AM	PAD 168	Cannonsburg Wood Products: A New Location: Alyssa Sagolla, Benjamin Rutgers, Stacy LaCrosse, Terry VanDyke
	PAD 262	Timber Management Plan for a Northern Hardwood Forest: David Fraaza
8:40 AM	PAD 207	Analysis of Probable K-T boundary microtektites, Mississippi Embayment, Southeastern Missouri: Kathryn Barnard
	PAD 209	Historic Ceramics From a Little Western Michigan Log Cabin: Katie Kujala
	PAD 210	An Act of Terrorism? The Serbian Black Hand and its Role in the Assassination of Archduke Francis Ferdinand: Justin Noordhoek
	PAD 262	Managing the Stunted Bluegill Population on Crockery Lake, Ottawa Co. MI: Dan Yost
9:00 AM	PAD 107	Phyco Fuels; A Low Impact Alternative to Petroleum: Jordan Devries
	PAD 108	Comparison of Pebble Lithologies from Three Clay Diamictos in Muskegon and Ottawa Counties, Michigan: Matthew Camp
	PAD 109	Economic Valuation of Dune and Beach Ecosystem Services in West Michigan: Lauren Hudson
	PAD 168	Cunningham Dalman Technology Audit: Trisha Lounsberry, Steve Loges, Ben Boland, Nils Petzke, David Koens
	PAD 207	Vibrations and Normal Modes of Three-Atomic Linear Molecules: Julian Markiewicz
	PAD 209	The Money Machine. Developing an Appropriate Information Database for Michigan Fund Raising: Auston Pannill, Thomas Krausz, Devin O'Neill, Sara Stewart, TJ Buist
	PAD 210	Diets of Round Gobies in Lake and Wetland Habitats: Betsy Shafer
	PAD 211	More Than Only Words: A Linguistic Analysis of Danielewski's Only Revolutions: Brooke Heintz
	PAD 261	Attitudes of Nurses Toward Research: Nancee Hofmeister
	PAD 262	A Statistical Consulting Experience: Examining Factors Related to Self-Reported Likelihood of Participating in Prevention Programs for Dating Aggression: Dave Vanthof
9:20 AM	PAD 107	Tobacco Cessation Education in Physician Assistant and Higher Education Nursing Curricula at Grand Valley State University: Delmer Garcia, Michael Beckley
	PAD 108	Water Analysis of Streams and Wells in Antrim County, Michigan: Kathryn Barnard
	PAD 168	A Cross-Cultural Study of WeddingsThrough Media and Ritual: Analyzing Indian and North American Weddings: Erika Buckley
	PAD 207	CD82 Mutants: Aiding the Elucidation of this Tetraspanin's Mechanism: Gary Rajah
	PAD 209	Knitting in the 21st Century: Gender and Knitting Environments: Anna Dwelle
	PAD 210	Relocation of PIT-tagged Mottled Sculpins: Evaluating Diel and Seasonal Recapture Probabilities in a Small Michigan Stream: Matthew Breen
	PAD 211	Nursing Annual Reports: The Process of Capturing the Nursing Image in Hospitals: Amy Manderscheid
	PAD 262	Land Management Practices and their Affect on the Health of Pigeon Creek: Daniel Gloeden
9:40 AM	PAD 108	Grain Size Comparison of Two Neighboring Creeks, Buck Creek and Rush Creek: Western Michigan: Katie Conroy
	PAD 168	Sediment Entrainment in Ice Along the Thornapple River: Emily Temple
	PAD 207	Gender Socialization: Christina Jackson
	PAD 209	Clay Pipes, Bottle Glass, and Coins from a Nineteenth Century Log Cabin: Ami Schlosser
	PAD 210	A Taste of Cuba: Arianne Rabbitt
	PAD 262	Developing a Management Plan for a Mixed-Use Property in Muskegon County, Michigan: Kenneth Leister
10:00 AM	PAD 107	A Statistical Consulting Experience: Studying the Effectiveness of the Structured Learning Assistance Program: Sarah McCormick
	PAD 108	An Analysis of Dune Sand in Manistee and Mason Counties in Western Michigan: Stephanie Anchak
	PAD 109	Effects of the Female Athlete Triad, Changes in Training, and Nutrition on Stress Fracture Risk Among Female Collegiate Distance Runners: Don Wilkins, Diane Painter, Krista Odell, Krista Odell
	PAD 168	Consumption for Man's Best Friend: Human and Animal Relationships: Alana Kincaid
	PAD 207	The Push and Pull of Nursing Work Environment: Nancee Hofmeister
	PAD 209	Guilty by Association: How Stereotypes Create Preconceived Notions Among Arabs, Arab-Americans and Muslims: Eric Hunting
	PAD 210	The Treatment of Belizean Slaves: Isabella Ochoa

MORNING ORAL PRESENTATIONS

10:00 AM	PAD 211	Hamlet: Theories, Perceptions and Visions: Jamie Belisle
	PAD 261	Confronting the Concept of Intersectionality: A Look at the Legacy of Audre Lorde and Feminist Organizations: Rachel Dudley
	PAD 262	Suitability of Three Agricultural Fields for Potential Wetland Restoration and Management in Allegan County Michigan: Rachel VandenBerg
10:20 AM	PAD 107	Marketing Trends and Issues in Therapeutic Recreation: Cassie Smith, Chad Boprie, Stephen Piper, Anne Tillman, Heather Fredlund
	PAD 108	Permian Carbonate from the Guadalupe Mountains May Contain Aragonite: Emily Naughton
	PAD 109	Study of the Human Mitochondrial DNA Polymorphism: Catherine Willis
	PAD 209	Lithic Analysis of the South Flats Archaeological Site (20MU2) Near Muskegon, Michigan: Greg Johnson
	PAD 210	An Exploration of Network License Usage: A Statistical Consulting Experience: Nick Somers
	PAD 211	Ethnographies of Speaking: Mallory Weber, Mary Nuznov, Alicia Vincent, Andrew Hoover
10:40 AM	PAD 261	Above All, Love Each Other Deeply, Because Love Conquers Over a Multitude of Sins: Elizabeth Bishop
	PAD 262	Watershed Delineation and Surface Water Management Plan for Maplewood Lake, Jenison MI: Eric Kretschmer
	PAD 107	The Effects of Habitat Degradation on the Diets of Estuarine Benthivore Nekton: Andria Salas
	PAD 108	Correlating Glacial Clays in Western Michigan: Nicholas Koroleski
	PAD 109	A Numerical Study of Integrable and Chaotic Hamiltonian Systems: Gaetan Vangyseghe
	PAD 168	InvenSolutions for BioSolutions: Carlton Gupton, Scott Moore, Nicole Urban, Adam Hinman
11:00 AM	PAD 207	Beethoven's Continental Folksong Settings: Loreta Lanning
	PAD 209	The Relationship of Depression to Recovery Time and Treatment Modalities in Patients with MTBI: Nick Kopacki, Shannon Parent, Matt Wilson
	PAD 210	African American Women's Knowledge of the Risks and Benefits of Hormone Replacement Therapy: Leoncie Mukarurinda, Jamie Schraft, Elizabeth Hegedus
	PAD 211	An Overview of Ulcerative Colitis and its Implications in Health Care: Kristi Anderson
	PAD 261	The Effect of the Administration of the BCG Vaccine on PPD Results in Bolivian Children: Rebecca Hull, Megan Larson, Megan Larson
	PAD 262	Effects of Ailanthus altissima root extract on root nodulation using Glycine max: Cassandra Boadway
11:20 AM	PAD 107	Irish Dialect and Innocent Point of View in Angela's Ashes: Brenna Fitzpatrick
	PAD 108	Legislative Trends and Issues in Therapeutic Recreation: Erin Hoff, Megan Warren, Kellie Nugteren, Lexi Kendra, Rachel Lloyd
	PAD 109	Ceramic Analysis of the South Flats Archeological Site (20MU2), Muskegon, Michigan: Nathaniel Hansen
	PAD 168	Utilizing Technology in the Childcare Field: Jared DePouw, Jessica Shoop, Joshua Hartman, John Placencia, Sarah Helmstetter
	PAD 207	Internal Communication-Connecting Offices by Integrating Technology: Beth Campbell, Matt DeBoer, Mike Getzlaff, Stephen Townsend, Jennifer Wright
	PAD 209	The Effects of Increased Discharge on Flow Resistance: Joseph Root
11:40 AM	PAD 210	The Enlightenment and Its Effects on the Haitian Revolution of 1789-1804: Rebekah Nicholson
	PAD 211	Finding Peace in the Post 9/11 World: Ecstasy
	PAD 261	Candomble and the Orixas: Sarah Vicari
	PAD 262	Correlation of Treatment Modalities and Return to Work of Patients Treated at the Mary Free Bed Rehabilitation Hospital Mild Brain Injury Program: Sallyann Tarmnel, Leslie Vanderstelt, Jeffrey Baird
	PAD 107	The Polar Bears: West Michigan Soldiers in Russia 1918-1919: Erin Raschke
	PAD 108	Higher Education Trends and Issues in Therapeutic Recreation: Kristen Pierce, Rob Johnson, Leah Hop, Elizabeth Feehan, Kaylie Plante
12:00 PM	PAD 109	Faunal Analysis of a 19th Century Log Cabin Site (20MU93): Erica Schultz
	PAD 168	Improving Operations for a Local Small Business: Joshua Williams, Joe Brunink, Stephen Vrugink, Dawn Slyter
	PAD 207	Presidential Rhetoric: How John Adams and George W. Bush Used Religion to Effectively Communicate With Their Respective Constituency: Elizabeth Fisher
	PAD 209	Microstates: A Case of Survivalability: Christopher Gerica
	PAD 210	Violence in the Eyes of Children: Raymond Cole
	PAD 211	Zebra Mussel Distribution in Great Lakes Coastal Ecosystems: Are Wetlands Resistant to Invasion?: Kristin Nelson
12:20 PM	PAD 261	Creating a Performing Version of L'Amor Marinaro: Kait LaPorte
	PAD 262	Venom Composition as an Indicator of Behavioral and Lifestyle Choices: Jeremy Newton

AFTERNOON ORAL PRESENTATIONS

1:00 PM

- PAD 107 Mikhail Bakunin: Madman or Prophet?: Sarah Holzhausen
 PAD 108 Innocence and My Experience: I Didn't Steal Blake's Poems, Just His Format: Katie Booms
 PAD 109 Willard Wichers and Dutch Immigration Under the Refugee Relief Act: Anita VanTil
 PAD 168 "A Brotherhood Divided," Irish Soldiers in World War I: Kathleen Rice
 PAD 207 Consumer Behavior According to Gender: Kelly Mundt
 PAD 209 Land Use Changes at Grand Valley State University, Allendale, Michigan: 1960-2005: Patrick Womble
 PAD 210 Metamorphosis: Translating Apollo and Daphne: Amanda Sinning
 PAD 211 The Mayan Calendar System: Amanda Aniczak
 PAD 261 The Power of Memory: Grand Valley State College and the Reaction to the Kent State Shootings of 1970: Jodi Moore

1:20 PM

- PAD 107 Cancer Research: Angelique Berens
 PAD 108 Pet Therapy: Stephanie Sander
 PAD 109 The Effect of Fluid Temperature on Settling Velocities: Kirk Perschbacher
 PAD 168 The Comic Book Subculture: Comic Books as a Medium for Identity Creation: Annie Beenen
 PAD 207 Epitope Labeling of Histidine decarboxylase in *Drosophila melanogaster*: Stephanie Payne
 PAD 209 Petrology of sandstone from the Clinch Formation, Thorn Hill Section: Silurian of eastern Tennessee: Steve Polkowski
 PAD 210 Radio Transmission via a Modulated Laser: Nathan Lindy, Patrick McCarthy
 PAD 211 Tolerance of a Homosexual Person or Lifestyle as a Function of the Respondent's Religious Involvement: Christina Carollo, Anna Zych
 PAD 261 Automated Time Tracking: From proposal to production: Chris Gaffney
 PAD 262 A comparative study of two DEM products: Timothy Kolmodin

1:40 PM

- PAD 107 "Leer entre IÃ~neas: Tratamiento polÃ~tico en los cuentos hispanoamericanos": Kelly Weidenmiller
 PAD 108 Nookaler Ambitions: A Social Psychological Analysis of Persuasive Speech: Eric Gladstone
 PAD 109 An Analysis of Modernist Poetry: Katie Booms
 PAD 168 Microwave Discharges in Gases: Thomas Houseman
 PAD 207 Inducing the Holy Spirit through the Pentecostal Message: Melissa Guzman
 PAD 209 Grain Size Analysis of Sand Creek in Western Michigan and its Relation to Glacial Deposits: Joseph Root
 PAD 211 Music in Bulgakov's Master and Margarita: Rebecca Rhoda
 PAD 261 Mengele: A Nazi Doctor's Legacy: Brittni Simonti
 PAD 262 Constuction Site Erosion Near Wetlands: Dustin Grabill

2:00 PM

- PAD 107 Hydrologic response to precipitation events in the ravines at Grand Valley State University, Allendale, Michigan: Patrick Womble
 PAD 108 Alienation within 'A Room of One's Own': Tshering Bhutia
 PAD 109 Perceptions: How Students See Grand Valley's General Education Program: Casey Jelsema
 PAD 168 Pancreatic Islet Cell Transplantation as a Treatment for Type I Diabetes Mellitus: Patrick Collier
 PAD 207 Defining the Role of a Unique Omega-Loop Insertion in the Class D Lactamase OXA-1: Angela Bopra
 PAD 209 Sedimentary Structures and Grain Size as Indicators of Glacial Depositional Environments: Allendale, Michigan: Sarah Nagorsen
 PAD 210 Memories of Sex, Love and Isolation: A Comparative Analysis of Works by Gabriel Garcia Marquez and Yasunari Kawabata: Gerard Kwiatkowski
 PAD 211 Media Coverage of the Civil War in El Salvador: Ebone Colbert
 PAD 261 True Transcendentalists: Ashley VanDort
 PAD 262 Holocaust Memorials: Large and Small: Jessica Bibby

2:20 PM

- PAD 107 La Nuit: On Writing a Novel and How the Publishing Industry is the Real Gothic Horror: Shannon Lewis
 PAD 109 Coping and Emotional Intelligence in Women with a History of Eating Disordered Behavior: Charlene Boyd
 PAD 168 Tattoo and Piercing Consumption Behavior: Daniel Shannahan
 PAD 207 Exploring Important Protein Interactions in the Mammalian Diaphanous-related Formins: Brent Hehl
 PAD 209 Do outwash plain deposits in Kalamazoo County, Michigan, represent high-flow, braided streams from outburst floods?: Eric Hojnacki
 PAD 211 Pressure in a Mixture of Oil and Water: Tim Major
 PAD 261 How Did It Get Here? Using Petrographic Analysis to Explain the Presence of Transcaucasian Culture in the Malatya-Elazig Region of Turkey: Katherine Erdman
 PAD 262 Infrastructure Study: Julia Kukulski

AFTERNOON ORAL PRESENTATIONS

2:40 PM	PAD 107	Mayan Ball Games: Robert Boerkoel
	PAD 108	The Universal Mother, Community Outreach, and Interfaith in West Michigan: Jamie Wasilchenko
	PAD 207	Remember: A Short Story About Love, Loss, and Moving on Through Memories: Shannon Lewis
	PAD 209	Analysis of Ooids from the Ordovician Lower Knox Group, Grainger County, Tennessee: Ronald Friend
	PAD 210	Holocaust Suite: Spring 2006: Elizabeth Leonard
	PAD 211	Probing the Specific Amino Acid Residues Involved in the Regulation of the Diaphanous-Related Formins: Jonathan Rawson
	PAD 261	Public Discourse in a Democracy: Rachel Salata
	PAD 262	Groundwater Flow around Maplewood Lake: Emily Daniels
3:00 PM	PAD 109	Statistics of the NFL Draft: Aaron Sprague
	PAD 209	Hydrometer Analysis for Determining Grain Size of Fine Sediment: Christine McWain
	PAD 210	Who Shall Ascend?: Sara Sheehan
	PAD 261	The Electrical Industry in Grand Rapids: Improving Technology in Operations at J. Taylor Electric: Jenna Bryans, Greg Smith, Jeremy DeJong, Nathan Gentile
	PAD 262	Evaluating the Effectiveness of the Florida Keys National Marine Sanctuary on Coral Health: Alexis Sherman
3:20 PM	PAD 209	Comparison of Laser Particle Counter, Hydrometer, and Magnetic Susceptibility Methods for Fine Grain Size Analysis: Alex Snider
	PAD 210	Traces of Memory: Jill DeLeeuw
	PAD 262	Managing for Wildlife Habitat on Private Land: Angela Herban
3:40 PM	PAD 107	Injecting Tecnology into Plastics: David James, Justin Brunink, Ken Sailler, Evan Neustifter, Jeremy Arndt
	PAD 108	Dodgeball: The Art of Throwing: Sarah Simon, Sarah Bier, Malcolm Campbell
	PAD 210	Auschwitz and Sachsenhausen: Witnesses to a Holocaust: Carly Paszek
	PAD 262	Ethanol: Tomorrow's Hero or Fairy Tale?: Jeffrey DeVries
4:00 PM	PAD 107	Anna Howard Shaw: A Maligned Leader: Veronika Stevens
	PAD 108	Effects of the Biological Pesticide, Bacillus thuringiensis israelensis, on Frog Larvae Development: Meredith Harleton
	PAD 168	Depth Perception and Volumetric Imaging: Nathanael Ferrero
	PAD 210	Analyzing Water Quality Data: A Statistical Consulting Experience: Justin Birkholz
	PAD 211	The Cool Cities Get Freezer Burn: Critical Analysis of the Urban Policy Influence: Brad Fowler
	PAD 262	Improving Operations for Meals on Wheels: David McManaman, Erin Hoebeke, David Koens, Tara Skelton
4:20 PM	PAD 108	Impact of Black Church in African American Community: Horace Lattimore, Jr.
	PAD 211	Perceived Danger and Perceived Restoration: Ashley Rector
4:40 PM	PAD 107	The Impact of English as a Second Language and Bilingual Education on Spanish Language Proficiency of Elementary Students: Tina Struyk
	PAD 109	Primetime for Violence: Tara Truran

MORNING POSTER PRESENTATION SCHEDULE

8:00 AM - 9:00 AM

Atrium Display 1
Atrium Display 18
Atrium Display 31

Atrium Display 47
Atrium Display 51
Atrium Display 53
Atrium Display 59
Atrium Display 61

Inclusion in Education: Kasey Rozga
The Function and Role of Myosin 1 in *Trypanosoma brucei*: De'Vona Glover
A Statistical Consulting Experience: Determining the Effects of Class Size, Major, and General Education Course Groups on GPA: Harley Rohloff
Comparative Massage Techniques: Cassie VanDussen
Investigation of *Ailanthus altissima* Extracts on Microbial Species: Dustin Mier Sonogashira
Coupling in the Synthesis of Modified 2'-Deoxyribonucleoside Derivatives: Matthew VanGessel
Sweeps and Sex: Jenna Pagan
Online Support for Grandparents Raising Grandchildren: Hilary Marine, Abi Lamar, Jane Brouwer

9:00 AM - 10:00 AM

Atrium Display 16
Atrium Display 22

Atrium Display 24
Atrium Display 4
Atrium Display 44
Atrium Display 46
Atrium Display 50
Atrium Display 6
Atrium Display 80
Atrium Display 85

Atrium Display 87
Atrium Display 94

Access to Prenatal Care in Kent County: Understanding the Issues that Influence Provider Participation in the Medicaid Program: Andrew Wilson
Golf Course Management and Amphibians: Impacts of Wetland Habitat Management on the Occurrence of Green and Leopard Frog Populations: Amanda Massau
Habitat Restoration on Sickle Creek, A 1st Order Tributary of the Big Manistee River: Jason DeBoer
Family Structure and Children's Literature: Lisa TenBrink
Adolescents' Value of Children and its Relation with Their Future Family Planning: Carla Ingram
The Evolution of the Female Body Form in the Media: Victoria Velding
Front Page News: Nicole Mayes
Attributions About Ostracism During the Completion of a Cognitive Task: Kevin Betts
Adolescent Girls, Osteoporosis, Social Norms, and Social Support: Suzanne Clyne
Constructing and Implementing a Periodized Strength and Conditioning Program for an Elite Level Soccer Player: Application of Advanced Techniques with Further Differentiation Based on Field Position: Christopher Safronek, Joshua Saleeby
Retrograde Amnesic Effects of Nitric Oxide Scavenger Carboxy-PTIO in Goldfish: Katherine Zmolek
Magnetoresistance and Hall Effect in Electrochemically Doped b-Ag₂-dTe: Paige Lampen

10:00 AM - 11:00 AM

Atrium Display 102
Atrium Display 19

Atrium Display 25

Atrium Display 35
Atrium Display 7

Atrium Display 74

Atrium Display 79
Atrium Display 81

Democratic Peace in South America: Joshua Dobson
The River Connection: Contribution of Carbon and Nutrients by West Michigan Rivers to Lake Michigan: Eric Strickler
An Investigation of the Elements Required for a Successful Cervical Cancer Awareness Campaign Designed to Meet the Needs of Women in Rural Nicaragua: Rachael Hamilton
Social Class, Meaning of Education, and Views of Work Life: Bethany Doneth
The Effect of Dihydrotestosterone on Vascular Reactivity in Coronary and Pulmonary Arteries: Benjamin Eovaldi
Determining the Environmental Factors at Several Golf Courses and Their Effects on the Leopard Frog Populations: A Student Statistical Consulting Experience: David Hunter
Gender Roles Reinforced In Major Motion Pictures: Abigail Blanding
Acceptance as a Function of Homosexuality Gender and Religious Devotion: Erin Shreve

11:00 AM - 12:00 AM

Atrium Display 15
Atrium Display 28

Atrium Display 33

Atrium Display 37
Atrium Display 40
Atrium Display 43
Atrium Display 57
Atrium Display 60
Atrium Display 64

Atrium Display 65

Atrium Display 66
Atrium Display 9

The Meaning of Education: Do Sex and Motivation Matter?: Samantha Schenk, Kelly Valdivia
Empowerment and Educational Goals: A Study on the Outcomes of a Mentoring Program: Amy Kulon, Kristen Snell, Sarah Grow
Development of a Fluorescent Biosensor Based on the Interaction Between BRCA1 and p53: Derrick Kroodsmo
Exercise? Wait Can It Do?: Jackee Keller, Erin Raymond, Andria McCabe
Periodized Strength and Conditioning Program for an Amateur Figure Skater: Devin Clemence, Roger Dook
Prevention and Preparedness for Potential Avian Influenza Pandemic: Sarah Jaquith
Analysis of Spc98 Homologues in the Plant Family Brassicaceae: Amanda Bliemeister
The Effects of Architecture on Exact-String Searching Algorithms: Jonathan Leidig
A Comparative Analysis of the Physical and Functional Outcome Measures of Patients Who Have Received Bilateral Total Knee Arthroplasties: One Knee at a Time vs. Simultaneous Replacements: Laura Hemerling
Changes in Substrate Composition (and Fish Assemblage) Following Road-Stream Crossing Improvements on Pine Creek, Manistee County, MI: Kristofer Nault
Analyzing Scat of American Martens in Michigan: Uncovering Their Diet Requirements: Amanda Kulpa
The Division II Athlete and Undergrad: Why Are There So Many Not Finishing?: Taushauna Churchwell, Ryan Lyster, Bethany Hecksel, Tommy Fellows

AFTERNOON POSTER PRESENTATION SCHEDULE

1:00 PM - 2:00 PM

Atrium Display 10
Atrium Display 12

Atrium Display 26
Atrium Display 29
Atrium Display 38
Atrium Display 41
Atrium Display 55

Atrium Display 62
Atrium Display 63

Atrium Display 67
Atrium Display 77

Atrium Display 82

Atrium Display 86

Atrium Display 89

Atrium Display 92

Circle Packings and Penrose Tilings: Matthew Stamps

Periodized Strength and Conditioning Program for Elite Female Hockey Players: Emily Pearson, Elizabeth Carr

The Effect of Music on Reaction Time and Cognitive Ability: Amanda Sterenberg, Jessi Roedema

The Use of Quilts as Symbolic Communication on the Underground Railroad: Darci Cole

Health Services in Belize: Colene Slackangast

Female Childhood and Adolescent Bone Health and Paternal Influences.: Megan Feldmeier

Whose Science is it Anyway?: Models of Science According to Chemistry Students, Faculty, and Teachers: Laura Kennedy

Determination of Hdc Transcription Initiation in the Drosophila Genome: Sara Smolinski

SOC 495 Capstone: White Allies at GVSU and the Greater Multicultural Perspective:

Kimberley Waslawski

cis-1,3,5-Cyclohexanetriol interaction with metal catalysts in aqueous solutions: Tadas Kasputis

A Statistical Consulting Experience: A Comparison of Student Ratings Between Credentialed and Non-credentialed Clinical Instructors: Andrew Van Garderen

Target inquiry: How Does a Chemistry Research Experience Impact Teachers' Perceptions of Science Inquiry: Cynthia Luxford

Mechanisms Underlying Hormone-Induced Changes in the Moss Physcomitrella Patens: A Genetic Approach: Illea Swinehart

Strength and Conditioning Program for the Advanced NCAA Track & Field Thrower: Jeff Warber, Morgan Acre

Proposed Management Solutions for Controlling Purple Loosestrife (Lythrum salicaria) and Sedimentation along a Portion of the Muskegon River: Tania Howard

2:00 PM - 3:00 PM

Atrium Display 27
Atrium Display 34
Atrium Display 39
Atrium Display 52
Atrium Display 54
Atrium Display 75
Atrium Display 78
Atrium Display 88

Atrium Display 91

Partial Versus Full Notes: Learning Outcomes and Attendance: Andrea Wandel

Regioselective Bromination of Aromatic Compounds: Katherine Hamilton

Influential Victims: Jessica Fischbach

Reaction of Lithium Nitride with Organophosphines: Ryan Ward

DEVELOPMENT OF EFFICIENT CuI-CATALYZED SYNTHESIS OF ARYL ETHERS: Erick Lindsey

A Statistical Consulting Experience: Student Knowledge in Chemistry: William Wilt

Conceptions and Misconceptions of Negative Integers: Laura Howell

Relationships Between Gender, Parental Factors, Self Concept, and Autobiographical Memories: April Irwin

A Statistical Consulting Experience: Reviewing Research Concerning Reading Specialists and Literacy Coaches: Jason Olsen

3:00 PM - 4:00 PM

Atrium Display 13
Atrium Display 14
Atrium Display 3
Atrium Display 42

Atrium Display 48
Atrium Display 5
Atrium Display 72
Atrium Display 83
Atrium Display 90

A Reusable Web Site for Student Organizations: Chris Nowak

An Environment-Based Artificial Life Simulation: Zach Kinstner

A Critique of Popular Culture (Working Title): Samantha Talbot

The Carbon Mystery: Photochemical and Biological Fate of Carbon in a Temperate Watershed: Chad Meece

The Impact of Music Tempo On Exercise Efficiency: Seth DeHaan, Adam Scott, Miguel Iles

Strength and Conditioning Program for Triathletes: Timothy Gates, Danielle Kosheba, Mandi Zemba

Progress Towards the Synthesis of Apomorphine: Ondersma Jesse

Perceptual Fading and Stereopsis: Casey Fechter, Patrick Donahue, Emily Cummins

Identification of Development-Specific mRNA Splice Variants from the *rosa* Gene of *Drosophila* *Melanogaster*: Jesse Veenstra

4:00 PM - 5:00 PM

Atrium Display 11
Atrium Display 2
Atrium Display 56

Atrium Display 58
Atrium Display 76
Atrium Display 93

NCAA/NFL Combine Training: David Giacherio, Jason Downing, Ryan Iott

Asymmetric Synthesis of Chiral Silanes: Eliminating the Doppelganger: Chad Meece

Effects of Androgens on Porcine Coronary Artery Contraction and Dilation: Jonathan McKee, Erica Bechtel

Imitative Play and Free Play in Young Children with Autism: Nicole Henriksen

Proximity and Mother-Infant Interaction: Angela Cunningham

Teaching Social and Play Skills to Young Children with Autism: Nicole Henriksen

ALL ATRIUM DISPLAYS ARE LOCATED IN HENRY HALL.

Please reference pages 8 and 9 for more information.

ORAL PRESENTATION ABSTRACTS

Beginning at 8:00 AM

Padnos Hall 107

Protection of Adult Pig Retinal Ganglion Cells from Glutamate-Induced Excitotoxicity

Presenter(s): Lauren Bader

Glaucoma is a group of diseases characterized by an increase in intraocular pressure (IOP), which leads to the death of optic nerve fibers and consequent blindness (Glaucoma Research Foundation, 2005). One theory suggests that increased IOP prompts the release of excess glutamate, the CNS's primary neurotransmitter. The overabundance of glutamate causes an excitotoxic effect, which kills the retinal ganglion cells (RGCs). However, acetylcholine released from amacrine cells in the retina has been shown to prevent excitotoxicity by acting as nicotinic agonists specific for the alpha7 receptors on RGCs (Wehrwein et al, 2004). PNU 282987 is a synthetic drug that is also a nicotinic agonist specific for the alpha7 receptor (Tocris, 2006). To determine if PNU has neuroprotective effects against glutamate-induced excitotoxicity, RGCs were isolated from adult porcine eyes using a two-step panning technique, which utilized an antibody selective for RGCs. The isolated cells were placed in a DMEM CO₂-independent medium and plated on culture dishes so that the cell density remained consistent between dishes. Two dishes contained no treatment, two dishes contained glutamate, and the remaining dishes contained glutamate and agonist (PNU or nicotine) at various concentrations. Cell survival was measured after the RGCs received constant exposure to the treatment for three days. Cells were stained with a vital dye and counted using fluorescence under a microscope. Results showed that PNU displayed neuroprotective effects at concentrations of 10nM and 100nM. When nicotine was used in place of PNU, similar results were obtained, with maximal effects seen at 500nM. When alpha-bungarotoxin, a nicotinic antagonist specific for the alpha7 receptor, was applied prior to the addition of PNU, the efficacy of PNU in aiding cell survival was reduced, suggesting that the PNU is alpha7nChR selective.

Sponsor(s): David Linn

Padnos Hall 108

Women and Academic Advising

Presenter(s): Angela Szura

The subject of my presentation is to examine how academic advising may influence the majors chosen by male and female students at Grand Valley State University. This is important research because, if female students are receiving different messages than their male counterparts and feel compelled as a result to opt for female friendly majors, it will have consequences for occupational segregation and implications for the wage gap in society. To examine this idea, the students of Grand Valley were surveyed and then evaluated as mentioned above.

Sponsor(s): Sonia Dalmia

Padnos Hall 109

School Quality and Home Location

Presenter(s): Matthew Vance

Many previous studies have found that the value of a house is determined, in part, by the quality of education available to that location. The K-12 education of East Grand Rapids, MI (EGR) is broken down into one high school, one middle school, but three separate elementary schools. The city's reputation of high quality schools provides an opportunity, and families moving into EGR for these schools have a choice between three in which to begin their child(ren)'s education. Assuming they are paying more to live within the EGR school district as a whole begs the question: are they also paying more to live in the best elementary ed. district? We feel the public relevant to this study equates quality and standardized test performance; we use the Michigan Educational Assessment Program (MEAP) to represent the quality of a given school. We then combine elementary school MEAP data and data provided by the East Grand Rapids Tax Assessors Office to create a hedonic valuation of the homes in EGR. We find that year to year changes in relative school performances have very little effect on home values. However, theoretically buying three homes, alike in all ways but school district, would indeed result in three different sale prices. It is not the largely anticipated MEAP score release that sends buyers waving money at the highest scoring district; it is reputation that creates differences in district prices.

Sponsor(s): Aaron Lowen

Padnos Hall 207

The Expression of the Neutrophil Marker cd64 in Acute Coronary Syndrome

Presenter(s): Jason May, Rob Deshane, Alex Turnispeed

Sponsor(s): Theresa Bacon-Baguley

ORAL PRESENTATION ABSTRACTS

Padnos Hall 209

Grain Size Analysis of Sedimentary Structures and Flow Regimes from the Lake Michigan lobe's Retreat, Grand Valley State University, Allendale

Presenter(s): Kathryn Barnard

Analysis of sand deposits located in the southern-most ravine system on Grand Valley's campus was performed. The gully branching north from this ravine has exposed well-preserved sedimentary structures including laminar bedding, cross-beds, and ripples in sand layers separated by clay deposits making up multiple sequences. These stratigraphic sequences were sketched, photographed and correlated in order to make a detailed profile of this outcrop. Grain size analysis was performed on samples taken from each sand horizon with a different sedimentary structure in two sequences. This was done with the intention of discovering minute differences pointing to variations in the flow regime in which they were deposited and in order to determine if the sequences are related to seasonal variation in the rate of glacial melting. The main goal was to determine if these sequences are attributed to glacial melt water and outwash or influxes of sediment caused by larger events.

Sponsor(s): Peter Wampler

Padnos Hall 211

Creating SSD: A Paperless Application

Presenter(s): Daniel Slaughter

The Student Scholarship Day Online Application was created with the goal of allowing students and mentors to amalgamate in an online environment. The internet allows that opportunity in addition to saving on paper costs, employee services and location scheduling. Grand Valley State University has been known for its sustainability efforts and this application accomplishes just that.

Sponsor(s): Ben Rapin, Dave Poortvliet

Padnos Hall 261

The Impact of Infant Gender on Mother-Infant Interactions

Presenter(s): Nate Peck

The acquisition of gender roles in children can be obtained through several different social influences. Perhaps the first of these influences becomes apparent during the interactions between mothers and their infants. This mother-infant interaction has become the central focus of this study and will concentrate on how the total amount of utterances, question use, and use of commands can vary when mothers interact with an infant of a particular gender.

Sponsor(s): Gwenden Dueker

Padnos Hall 262

Stand Description and Management Recommendation for Riley Trails

Presenter(s): Robert Holst

Riley Trails, a 300-acre parcel of land, is largely undeveloped save for a large landfill restoration area at its center. This parcel is undergoing a development plan by the Ottawa Co. Parks and Recreation Department. To date, little is known about the actual structure of the stands on the sight that are to be managed. For the capstone project, I will develop a basic stand description including a basal area estimate of the various hardwood, pine and open areas within the parcel.

Sponsor(s): Erik Nordman

Beginning at 8:20 AM

Padnos Hall 168

Cannonsburg Wood Products: A New Location

Presenter(s): Alyssa Sagolla, Benjamin Rutgers, Stacy LaCrosse, Terry VanDyke

Our group has consulted with Cannonsburg Wood Products. We have researched sites on the East Side of the state for a new location to expand their business. We have also researched the competitive market of companies producing mulch products around the area of the new location site.

Sponsor(s): Nancy Levenburg

Padnos Hall 262

Timber Management Plan for a Northern Hardwood forest

Presenter(s): David Fraaza

My parents live in Blendon Township, and they have a neighbor who owns 24 acres of hardwoods. He has always wanted to timber his property to make some money but also to make the stand healthier and more suitable for later timber harvests as well as wildlife. There is little understory and lots of trees that need to be removed. I plan on implementing a management plan to create some profit, make the stand healthier for both wildlife and the individual trees. I plan on doing some stand inventories of the species, to figure out what needs to be done. Once I have collected my data I will write up a report on my findings and also include a presentation of my findings using pictures, figures and tables.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 8:40 AM

Padnos Hall 207

Analysis of Probable K-T Boundary Microtektites, Mississippi Embayment, Southeastern Missouri

Presenter(s): Kathryn Barnard

Microtektites were recently discovered in a kitty litter strip mine in Cretaceous to Tertiary marginal marine sediments in the Mississippi Embayment, Stoddard County, Missouri (Campbell et al. 2006). The microtektites are present in the lower Paleocene Clayton Formation, which is sandwiched between the Cretaceous Owl Creek and Paleocene Porters Creek Formations. Based on sedimentology and paleontology, Campbell et al. (2006) interpret that the graded beds and rip-up clasts containing the microtektites represent a tsunami deposit associated with the well-documented K-T Chicxulub impact crater in the Yucatan peninsula, Mexico. By studying the composition and textures of the microtektites using standard microscopy, x-ray diffraction, and microprobe analyses, we plan to compare the geochemistry of glasses in the Missouri microtektites to the target rocks and impact glasses in the Chicxulub crater. This will determine whether this is indeed the source of the SE Missouri microtektites.

Sponsor(s): John Weber

Padnos Hall 209

Historic Ceramics From a Little Western Michigan Log Cabin

Presenter(s): Katie Kujala

In 2006, archaeological excavations at a site in Muskegon County (20MU93) uncovered a log cabin that contained an array of historic ceramics, most dating from the last half of the 19th century. This presentation describes the historic ceramics from the site and discusses their significance with regard to the socio-economic status of the inhabitants of the cabin.

Sponsor(s): Janet Brashler

Padnos Hall 210

An Act of Terrorism? The Serbian Black Hand and its Role in the Assassination of Archduke Francis Ferdinand

Presenter(s): Justin Noordhoek

Human nature tends to favor simple explanations for events. Whether it is the defense of war as an answer to the call of freedom, or the labeling of one's enemies as terrorists, nations and their leaders rarely choose to look deeply into the historical, political, and social conditions that lead men to act in ways that seem contrary to reason and compassion. It is far easier to label an organization as terrorist, or to place fault for complex problems in the hands of one person, than it is to look closely and thoroughly at the underlying factors which contribute to the problem. One such event which history textbooks and lectures often dismiss as the work of a terrorist organization is the assassination of the Archduke Francis Ferdinand, allegedly by members of the secret Serbian society, the Black Hand. By labeling this organization as terrorist in nature, however, history teachers do a great disservice to their students. The situation in Serbia in 1914 resulted from a sad and unjust history that culminated in the assassination of Franz Ferdinand, his wife, and their unborn child.

Sponsor(s): Frances Kelleher

Padnos Hall 262

Managing the Stunted Bluegill Population on Crockery Lake, Ottawa Co. MI

Presenter(s): Dan Yost

Crockery Lake is a body of water that has endured much change since white people took residence on it, taking it from the Indians. Over the last 25 years, walleye have been stocked but recently they have not been sustaining a large population. This has seemed to lead to stunted bluegills and an overabundance of forage fish. With the help of data from water quality samples, fish population surveys, scale pressing, and previous stocking history, I will devise a management plan to help the natural bluegill in the lake and find a way to take advantage of the overabundance of forage fish.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 9:00 AM

Padnos Hall 107

Phyco Fuels; A Low Impact Alternative to Petroleum.

Presenter(s): Jordan Devries

Phytoplankton are single celled microalgae that form intense summer blooms when exposed to nutrients and warm temperatures. By harnessing their impressive growth characteristics, these algae can be used simultaneously to decrease eutrophication events from sewage treatment overflows while producing organic compounds that can be harvested as a biodiesel source. Various concentrations of sewerage overflow water will be used as a culture medium for species of microalgae that have high growth rates and high oil production. Controlled experiments will be run to find the most productive species and the optimal conditions for their growth. Experiments on oil extraction will be performed to find the least toxic and most efficient method. The goal will be to produce one liter of biodiesel fuel and to calculate the efficiency of the processes developed. In addition, the environmental benefits of turning tertiary sewage treatment into a source of alternative energy will be estimated. If these experiments are successful, these techniques might be used as best-management practices for bioremediation of brown water as well as for renewable fuel production.

Sponsor(s): Mark Luttenton, Karel Rogers, Eric Snyder

Padnos Hall 108

Comparison of Pebble Lithologies from Three Clay Diamictos in Muskegon and Ottawa Counties, Michigan

Presenter(s): Matthew Camp

Michigan's landscape is dominated by deposits from glacial advances that occurred from ~26,000-10,000 years BP during the late Pleistocene Epoch. This study focuses on a red-brown clay bed found adjacent to and beneath Lake Michigan's eastern shore near Grand Haven, Michigan. The clay appears to be glaciolacustrine sediment, or basal till in association with the Whitehall moraine, which formed about 12,700 years BP near Muskegon during the Port Huron phase. Three specific dimensions of pebbles from the clay are compared with those of two other glacial tills from the Whitehall and Lake Border moraines. Also, lithologies, surface textures of pebbles, and overall weight percent of pebbles in the clay samples will be compared. If the clay collected along Lake Michigan can be shown to have a similar lithology as clays in the Whitehall moraine, this may indicate that the diamicton was associated with the Whitehall moraine.

Sponsor(s): Patricia Videtich, Patrick Colgan

Padnos Hall 109

Economic Valuation of Dune and Beach Ecosystem Services in West Michigan

Presenter(s): Lauren Hudson

Ecosystems contribute many market and non-market services that support our welfare. Ecosystem services provide us with a variety of natural benefits such as: clean water and air, the pollination of crops, and the cycling of essential nutrients. There is a growing movement among policy makers and investors to reverse or slow the harm that is being done to ecosystems that compromises benefits received by humans. To aide decision-making, a monetary value must be placed on these services that often do not pass through markets. In West Michigan a regional research project is underway that will value ecosystem services, such as those provided by beaches and sand dunes, by performing a benefit transfer, as well as employing contingent valuation, and travel cost methods. Studies published in peer-reviewed journals will be used to transfer land values from other parts of the country and world to West Michigan, whether directly or through the use of statistical methods. The research process and methodology for the economic valuation of West Michigan's beaches and sand dunes will be discussed along with the monetary land values determined.

Sponsor(s): Paul Isely

Padnos Hall 168

Cunningham Dalman Technology Audit

Presenter(s): Trisha Lounsberry, Ben Boland, Nils Petzke, David Koens, Steve Loges

Cunningham Dalman, PC is a full service law firm located in Holland, MI. Our team, 5 members of MGT 362 (Technology in Operations Management), worked with Cunningham Dalman during the 2007 winter semester. Our goal was to evaluate the use of existing technology, as well as recommend new solutions to the firm to improve customer relations and profits. After providing a technology audit for the firm, our group was able to make recommendations to maximize their profits, and help them explore the new technology options available to them.

Sponsor(s): Nancy Levenburg

ORAL PRESENTATION ABSTRACTS

Padnos Hall 207

Vibrations and Normal Modes of Three-atomic Linear Molecules

Presenter(s): Julian Markiewicz

We plan to study longitudinal molecular vibrations of three-atomic linear molecules. Atomic interactions of bonded pairs in a molecule will be modeled by the Morse potential, yielding the forces acting on atoms. We will perform classical molecular dynamics simulation based on the Verlet algorithm, where the atomic positions and velocities at a given time step are determined iteratively from the known forces, velocities and positions at the previous time step. We will examine position and velocity vs. time functions to visualize the vibrations. Performing Fourier transform analysis we will identify the dominant frequencies and their relative prominence in the atomic motion. To understand the origin of particular modes of vibration, we will perform normal mode analysis for the collective motion of atoms when their displacements from the equilibrium positions are small, and the Morse potential can be approximated by the harmonic potential of three coupled oscillators.

Sponsor(s): Maja (Maya) Krcmar (Kr-ch-mar)

Padnos Hall 209

The Money Machine. Developing an Appropriate Information Database for Michigan Fund Raising

Presenter(s): Auston Pannill, Devin O'Neill, Thomas Krausz, TJ Buist, Sara Stewart

Michigan Fund Raising has expressed their desire to efficiently utilize new and currently tools to keep track of all inventory, produce various reports, order and delivery information, and vendor information. In our research we evaluated new as well as currently used products and have determined that ACT! and Microsoft Excel would sufficiently help organize the firm's vital information. From there, we suggested new and alternative ways of utilizing the programs to maximize the benefits the company receives, allowing Michigan Fund Raising to continue to grow.

Sponsor(s): Nancy Levenburg

Padnos Hall 210

Diets of Round Gobies in Lake and Wetland Habitats

Presenter(s): Betsy Shafer

Great Lakes ecosystems are increasingly being threatened by exotic species that alter food web patterns and compete for habitat resources. One example is the round goby (*Neogobius melanostomus*), introduced to the Great Lakes in 1990. Round gobies naturally forage on zebra mussels that thrive on rocky substrates that are usually absent in wetlands. We hypothesized that diets of round gobies in lake habitats would have more zebra mussels than wetland habitats. Preliminary results show diets were not markedly different between adjacent habitats and the most common prey items eaten by round gobies were Cironomidae, Ostracoda, and Cladocera. Zebra mussels were rarely eaten, but the size of the round gobies sampled was small, the largest being 10.7 cm.

Sponsor(s): Carl Ruetz

Padnos Hall 211

More Than Only Words: A Linguistic Analysis of Danielewski's Only Revolutions

Presenter(s): Brooke Heintz

Novelist Mark Danielewski undertook a major linguistic experiment with his newly released text, *Only Revolutions*, building upon the groundbreaking manipulation of graphology, narrative voice, and intertextuality in his first work, *House of Leaves*, while branching out into even deeper linguistic territory. This research seeks to break down the ways in which Danielewski turns stylistics as well as the linguistic community into both receiver and participant in the work, while also examining the essential question of what a text is and can accomplish. Drawing on theories of Drucker, Higgins, Johnson-Laird, and Riffaterre, this research works to explain several of the inner workings of the novel's many games, twists, and "revolutions."

Sponsor(s): Kathryn Remlinger

Padnos Hall 261

Attitudes of Nurses Toward Research

Presenter(s): Nancee Hofmeister

The purpose of this study was to examine the attitudes of nurses toward research. Donabedian's Framework of Structure, Process and Outcome provided the conceptual foundation. A convenient sample of registered nurses at Midwest hospital was used. Boothe's Attitude on Nursing Research Scale was the instrument used to assess nursing attitudes toward research. The survey consisted of 84 items answered on a 5-point Likert scale. The scores will be analyzed using t-tests and ANOVAs. This presentation will include an overview of the results and implications for nursing practice, administration, education, and research.

Sponsor(s): Andrea Bostrom

ORAL PRESENTATION ABSTRACTS

Padnos Hall 262

A Statistical Consulting Experience: Examining Factors Related to Self-Reported Likelihood of Participating in Prevention Programs for Dating Aggression.

Presenter(s): Dave Vanthof

Many prevention programs for dating violence have been implemented. Dr. Tara Cornelius wanted to examine what factors predict an individual's behavioral intention to participate in dating violence prevention programs. This presentation will highlight my role as a statistical consultant in helping Dr. Cornelius assess which factors contribute to the behavioral intention to participate in such programs.

Sponsor(s): Neal Rogness, Tara Cornelius

Beginning at 9:20 AM

Padnos Hall 107

Tobacco Cessation Education in Physician Assistant and Higher Education Nursing Curricula at Grand Valley State University

Presenter(s): Delmer Garcia, Michael Beckley

A call to make tobacco cessation curricula a part of graduation requirements for all medical schools and other key healthcare professions has been made. What has yet to be established is the confidence that health care professions students have in providing smoking cessation interventions. The authors will evaluate the confidence physician assistant students and higher education nursing students have in their own ability to provide tobacco cessation interventions. All students with declared majors in Masters of Physician Assistant Studies and Masters in Nursing at Grand Valley State University will be invited to participate in a multiple choice questionnaire using a Likert scale to rate their level of confidence in applying tobacco cessation interventions. Data collection will be soon underway. This information will serve to identify strengths and weaknesses in GVSU's healthcare professions curricula so that strengths can be expanded and weaknesses rectified.

Sponsor(s): Wallace Boeve, Lisa Van Ryn

Padnos Hall 108

Water Analysis of Streams and Wells in Antrim County, Michigan

Presenter(s): Kathryn Barnard

Water analysis using a colorimeter was performed in November of 2006 on streams and wells in Central Lake Village, Antrim County, Michigan. The data revealed concentrations of chloride, nitrate, phosphate, sulfate, and iron in varying amounts. This information was used to determine correlations between development and the concentrations of these ions. City and well water from three homes was analyzed as well as water from four different streams. Results showed concentrations over the Environmental Protection Agency's (EPA) limits for phosphates and iron in the city and well water samples. Based on 12 samples taken from four streams, results indicated chloride concentrations steadily decreased from more developed to less developed locations. The chloride concentrations also decreased in concentration towards the mouths of the streams but none were over the EPA limits. Further study of the groundwater aquifer and the city water is needed to determine the sources for some of these ions.

Sponsor(s): Patricia Videtich

Padnos Hall 168

A Cross-Cultural Study of Weddings Through Media and Ritual: Analyzing Indian and North American Weddings

Presenter(s): Erika Buckley

The average North American wedding costs can range from \$26,800 to \$35,530. The price of an Indian Wedding can range from \$34,000 to \$2 million. Few other rites of passage involve such expenses and planning as the wedding. There are rituals and traditions of weddings in different cultures that are accepted, practiced, and unquestioned. In an attempt to demystify these rituals, I performed a content analysis of texts and films that focus on North American and Indian marriage rituals. I also applied the technique of grounded theory to generate testifiable hypotheses for future research.

Sponsor(s): Jennifer Stewart, Dolli Lutes

ORAL PRESENTATION ABSTRACTS

Padnos Hall 207

CD82 Mutants: Aiding the Elucidation of this Tetraspanin's Mechanism

Presenter(s): Gary Rajah

KAI/CD82 is a tetraspanin transmembrane protein which acts as a metastasis suppressor in rat prostate cancer models. Loss of endogenous CD82 expression in human prostate cancers correlates with a poor prognosis and metastasis. Increased expression of a receptor tyrosine kinase, c-Met, is also associated with metastatic prostate cancer. Work in our laboratory has demonstrated that re-expression of CD82 at physiological levels in metastatic prostate cancer cell lines induces a dramatic down regulation of c-Met receptor kinase activity. The mechanics of the CD82, c-Met interactions are unknown. Through the use of mutant CD82 proteins, the mechanism may be elucidated. My approach has been to generate mutations in the extracellular domain of CD82 to determine if this region of CD82 is required for its ability to suppress c-Met activity. Proper folding and glycosylation of CD82 is required for it to be active at the cell membrane. To detect expression of the CD82 mutants we wished to place an HA tag at the N-terminus of CD82. However, addition of the HA-tag to the N-terminus of CD82 resulted in an inactive form of CD82 due to the loss of glycosylation. I am currently attempting to place an HA-tag on the C-terminus of CD82 to determine if I can express a functional HA-tagged CD82 protein. This work was done under the direction of Dr. Miranti of the Van Andel Institute's Lab of Integrin Signaling and Tumorigenesis, Grand Rapids.

Sponsor(s): Cindy Miranti

Padnos Hall 209

Knitting in the 21st Century: Gender and Knitting Environments

Presenter(s): Anna Dwelle

Why do people knit in the 21st century? This paper presents results of an ethnographic study of gender and knitting in contemporary settings. Though commonly practiced by men in the past, knitting has most recently been associated with women as a hobby and leisure time activity. However, knitting is still practiced by men in a variety of contexts. Using the methods of participant observation and interviews, knitting environments are explored to address the question of how gender stereotypes and gender relationships structure the practice of knitting.

Sponsor(s): Janet Brashler

Padnos Hall 210

Relocation of PIT-tagged Mottled Sculpins: Evaluating Diel and Seasonal Recapture Probabilities in a Small Michigan Stream

Presenter(s): Matthew Breen

Many Small-bodied, non-game species are an important component of lotic ecosystems, but there is uncertainty about their movement patterns. Common techniques to assess movement (e.g., radio telemetry) do not accommodate smaller fishes. Passive integrated transponder (PIT) tags can be used to mark mottled sculpins (*Cottus bairdii*) while also minimizing bias associated with disruptive mark-recapture protocols. Our objective was to monitor PIT-tagged mottled sculpins on a diel and seasonal basis to determine the efficacy of using a hand-held multidirectional antenna for estimating movement patterns. Sculpins of two sizes (small=55-65 mm TL, large>65 mm TL) were injected with PIT tags and relocated during daytime and nighttime in summer (N=50) and winter (N=45) in a 150-m stream reach. Winter recapture probabilities (0.763 ± 0.044) were greater than summer (0.725 ± 0.041). Day and night recapture efficiencies were equivalent during winter, but chances of detecting sculpins were greater at night (0.77 ± 0.041) than day (0.68 ± 0.044) in summer. Additionally, smaller individuals were detected more readily than larger fish (0.774 ± 0.055 ; 0.731 ± 0.036). Recapture rates approached previous studies conducted on this species in enclosed areas, suggesting that hand-held antennas are appropriate for assessing mottled sculpin movement. However, researchers must account for PIT-equipment limitations and their effect on fish recapture: 1) fish may be present but avoid in-stream operators due to the limited detection range (only suitable for less-mobile species) and 2) fish that move outside of designated study sections avoid detection because it is impractical to search extensive areas regularly.

Sponsor(s): Carl Ruetz

Padnos Hall 211

Nursing Annual Reports: The Process of Capturing the Nursing Image in Hospitals

Presenter(s): Amy Manderscheid

The annual nursing report is an integrative way to highlight nursing successes and contributions during a one year period. Many hospitals publish an annual nursing report each year and focus on nursing quality, patient safety, image of the profession, models of care, and nursing leadership, in addition to other unique enhancements that are related to the nursing profession. Join this presentation to discover the process of consolidating an annual nursing report and how you can contribute to the process in your health care organization.

Sponsor(s): Linda Scott

Padnos Hall 262

Land Management Practices and their Affect on the Health of Pigeon Creek

Presenter(s): Daniel Gloeden

Chemical testing is often complicated and technical and only supplies land managers with what is happening to a water course at that given time. Sampling of benthic invertebrates such as Ephemeroptera (Mayflies) and Plecoptera (Stoneflies) tells a story of the watercourse history. The sensitivity of aquatic insects is very well documented, and their presence or absence can help grade the condition of a water course. Rapid bio-assessments are quick, cheap and easy to do with very little training and education. Proper identification is the most technical part of the assessment. In this study

ORAL PRESENTATION ABSTRACTS

I will focus on the Pigeon River in Ottawa County, Michigan. The purpose of this study is to see if land use practices such as agriculture, industrial waste, and or water extraction is having any effect downstream of the various point and non-point sources. A rapid bio-assessment using the MDEQ procedure #51 above and below the various points of disturbance should give me an idea of how much negative impact these land uses are having on the health of the Pigeon River.

Sponsor(s): Erik Nordman

Beginning at 9:40 AM

Padnos Hall 108

Grain Size Comparison of Two Neighboring Creeks, Buck Creek and Rush Creek: Western Michigan

Presenter(s): Katie Conroy

Buck Creek runs through Allegan, Kent and Ottawa Counties in western Michigan. Rush Creek only runs through Ottawa County. Both creeks empty into the Grand River near the Ottawa-Kent boundary, with Buck Creek flowing in from the east, and Rush Creek flowing in from the west. The type of glacial sediment does not change in the area covered by Buck and Rush Creek, so both creeks should have similar sediments. A grain size analysis will be performed on four samples from each creek using a Ro-tap. Sample locations will be the same distance, in miles, upstream from the mouth of both creeks. The analyses will then be compared to determine similarities. Also, a comparison of grain shape and mineralogy for each sieve interval will be done. Cumulative grain size distribution graphs should show similar patterns for Buck Creek and Rush Creek. For the individual sieve intervals, the grain shape and mineralogy should be similar as well.

Sponsor(s): Patricia Videtich

Padnos Hall 168

Sediment Entrainment in Ice Along the Thornapple River

Presenter(s): Emily Temple

The Thornapple River runs through Kent and Barry County. It begins at Thornapple Lake near Hastings, Michigan and flows into the Grand River. For this study I examined the amount of sediment incorporated into ice along the banks of the Thornapple River. My hypothesis is that sections of river near agricultural fields will have more erosion and sediment entrainment in ice than unfarmed areas. Ice samples were collected from various points on the river. The sediment to ice ratio was determined to show the rate of erosion.

Sponsor(s): Peter Wampler

Padnos Hall 207

Gender Socialization

Presenter(s): Christina Jackson

The objective of this project is aimed at the argument of gender socialization and whether the roles are biologically or socially constructed. It is my assertion that they are socially constructed. Socialization is so natural for most people that it is hard to recognize why things are set the way they are. I will use content analysis as my method of assessment. I will browse children's toy stores in various locations in the area to examine the use of color difference in toys for boys and girls. There are biological differences between the sexes, but I believe that biology has less of an influence than socialization. I argue that if these roles would occur naturally, why the dichotomization of roles?

Sponsor(s): Don Williams

Padnos Hall 209

Clay Pipes, Bottle Glass, and Coins from a Nineteenth Century Log Cabin

Presenter(s): Ami Schlosser

Archaeological excavations in 2006 by the Grand Valley State University archaeological field school revealed a historic log cabin in Muskegon County, Michigan (20MU93) that contained an array of clay pipe fragments, bottle glass, coins, and other small objects. The artifacts suggest an occupation during the mid to late 19th century by inhabitant(s) that were well-connected to regional and international trade as evidenced by the amount and variety of imported materials. This presentation describes the clay pipe fragments, bottle glass, coins, and other small artifacts as well as their significance in regards to the inhabitant(s) of the log cabin during a period of settlement and boom in Muskegon County.

Sponsor(s): Janet Brashler

Padnos Hall 210

A Taste of Cuba

Presenter(s): Arianne Rabbitt

This project is going to discuss the history and culture of the Cuban cuisine and holidays/traditions/festivals and how they are related. This will briefly go over the Cuban cuisine, (cultural and traditional); their main holidays; the main influences on their cuisine/holidays; and how the Cuban cuisine has integrated into our American culture/society.

Sponsor(s): Khedija Gadhoum

ORAL PRESENTATION ABSTRACTS

Padnos Hall 262

Developing a Management Plan for a Mixed-Use Property in Muskegon County, Michigan.

Presenter(s): Kenneth Leister

Development of a management plan for a 30 acre property located at SE Â1 4, SW Â1 4, T9N R14W, Ravenna Township, Muskegon County, Michigan. The property is a mix of agriculture and lowland hardwoods. There is also a small plantation of scotch pines on the property. There are two drains which run through the property and there are also seasonal pools in the hardwoods. I will gather data from the property and use this information to weigh various management options. The deliverables for this management plan include a this presentation, a written report, and a map illustrating the various resource features on the property.

Sponsor(s): Erik Nordman

Beginning at 10:00 AM

Padnos Hall 107

A Statistical Consulting Experience: Studying the Effectiveness of the Structured Learning Assistance Program.

Presenter(s): Sarah McCormick

The purpose of the Structured Learning Assistance (SLA) program is to assist students in select mathematics, statistics, and science courses. For all SLA classes, there are usually two additional hours a week in which a facilitator, a GVSU student, reviews class material with the students. For my STA 319 project, I worked with Dr. Rod Morgan in the Biology department to compare "pre-test" and "post-test" scores for SLA and non-SLA students as a measure of the effectiveness of the SLA program for Bio 120 students. This presentation will explain my role as the statistical consultant on this project and highlight the results of the analysis.

Sponsor(s): Neal Rogness, Rod Morgan

Padnos Hall 108

An Analysis of Dune Sand in Manistee and Mason Counties in Western Michigan

Presenter(s): Stephanie Anchak

The eastern shore of Lake Michigan is generally rimmed by sand dunes, some large, some small. In this study, sand from the crest and base of four of these dunes of varying sizes will be examined to determine whether there are greater similarities in grain size and mineralogy between the crests of the dunes, or between the crest and base of each individual dune. I hypothesize that each of the crests will have a great deal more in common with their bases than with the other dunes' crests. I collected my samples in late September, 2006, at the Ludington State Park, Magoon Creek Park, Man-Made Lake, and Orchard Beach State Park, which are in Manistee and Mason counties. By sieving these samples, along with determining the mineral composition, I will find out where the greater similarities lie. I can then hypothesize as to the relative importance of dune location, sample location on the dune, and dune size in determining grain size and mineralogy.

Sponsor(s): Patricia Videtich

Padnos Hall 109

Effects of the Female Athlete Triad, Changes in Training, and Nutrition on Stress Fracture Risk Among Female Collegiate Distance Runners.

Presenter(s): Don Wilkins, Krista Odell, Diane Painter, Krista Odell

Stress fractures are among the most common debilitating injuries among young adult athletes. Existing literature has identified several risk factors for poor bone health in this population. These potential risk factors, which include amenorrhea, eating disorders, nutritional deficits, and training style variations, place the female collegiate athlete at a high likelihood of sustaining a lower extremity stress fracture at some point in her running career. Specifically, the female athlete triad, a condition characterized by disordered eating and potential subsequent menstrual changes, have been widely accepted as an influential risk factor for poor bone health. Additionally, the intense training utilized by female athletes may also contribute to their risk of stress fracture. The aim of this current retrospective experimental study was to examine the relationships between the known risk factors, as well as to determine which of these factors has the greatest importance in determining the likelihood of sustaining a lower extremity stress fracture. This research endeavor serves to build upon the existing body of scientific evidence regarding stress fracture risk among this population, as well as to aid in the education of collegiate athletes and coaches about the potential consequences of these risk factors.

Sponsor(s): Barb Hoogenboom

Padnos Hall 168

Consumption for Man's Best Friend: Human and Animal Relationships

Presenter(s): Alana Kincaid

The role of animals has changed over time from wild creatures to domesticated companion pets. As more and more animals are becoming domesticated, consumption of goods for pets is on the rise. Consequently, the pet industry is one of the largest growing in the United States expanding even larger than the candy and toy industries. My research will explore the extent of consumption for companion animals and the driving societal forces behind the ever growing pet industry. Broader consumption patterns in society will be examined in order to understand specifically the consumption for pets. My research has indicated that there are numerous influences affecting the excessive consumption

ORAL PRESENTATION ABSTRACTS

people partake in for their pets. Animal personification and the intense human-pet relationships many people experience are a couple of the core influences on owners' consumption. Yet, these reasons alone are not sufficient in explaining the phenomenon of the growing pet industry.
Sponsor(s): Joel Stillerman

Padnos Hall 207

The Push and Pull of Nursing Work Environment

Presenter(s): Nancee Hofmeister

Ensuring a healthy work force is a priority in nursing in the 21st century. Work-related injuries can be costly not only to an employee but to an organization. Implementation of safe patient handling programs is occurring across healthcare organizations nationwide. This project includes a nursing needs assessment of a large hospital system, equipment assessment, and a financial assessment. The goal of this project is development of a comprehensive implementation plan that supports a safe patient handling work environment.

Sponsor(s): Linda Scott

Padnos Hall 209

Guilty by Association: How Stereotypes Create Preconceived Notions Among Arabs, Arab-Americans and Muslims

Presenter(s): Eric Hunting

This study will analyze how stereotypes of Arabs, Arab-Americans and Muslims are affected by information processing and social cognition. The study will be a survey consisting of two generic news stories depicting some criminal act and measuring people's initial reactions to these stories. One of the stories will have a noticeably ethnic name, such as something like Mohamed, Mustafa, Hakim etc, at the beginning of the news story while the second story will have the name at the end. What I expect to happen is that in the first story, participants will make some sort of decision based on that story that will not be affected by reading the name at the end of the story. While in the second, people's preconceived notion about Arabs, Arab-Americans and Muslims will have the opposite effect from the first story.

Sponsor(s): Don Williams

Padnos Hall 210

The Treatment of Belizean Slaves

Presenter(s): Isabella Ochoa

This project deals with Belizean slaves who were not treated as badly as slaves elsewhere in Latin America. Why? Because slaves did not have the same kind of work that slaves elsewhere in Latin America did.

Sponsor(s): Khedija Gadhoun

Padnos Hall 211

Hamlet: Theories, Perceptions and Visions

Presenter(s): Jamie Belisle

Sponsor(s): Dr. D. Ihrman

Padnos Hall 261

Confronting the Concept of Intersectionality: A Look at the Legacy of Audre Lorde and Feminist Organizations

Presenter(s): Rachel Dudley

Audre Lorde was one of many women to critique second wave feminism for overlooking issues of intersectionality. This research examines the ways in which Lorde introduced intersectionality into feminist discourse and how feminist organizations embrace this concept today. Five organizations are examined (National Organization for Women, Grand Valley State University Women's Center, Ms. Foundation, Third Wave Foundation, and Guerilla Girls) by interviewing representatives and/or evaluating websites to assess organizational mission, vision, values and practices. Analyses reveal that all five organizations have specific policy statements addressing intersectionality. This research can conclusively say that intersectionality is at least considered by all of the organizations. Determining whether or not the current intervention strategies are effective for women experiencing overlapping oppressions is beyond the scope of this study. The different rhetoric used by each organization to address the intersectional issue, however, suggests that intersectionality is "applied" or put into practice differently by different organizations.

Sponsor(s): Dennis Malaret, Dolli Lutes

Padnos Hall 262

Suitability of Three Agricultural Fields for Potential Wetland Restoration and Management in Allegan County Michigan

Presenter(s): Rachel VandenBerg

Many wetlands in Michigan were converted to serve agricultural purposes. Maintenance and improvement of water quality in the Macatawa watershed has become an increasing priority as poor agricultural practices have created water quality problems. For this project I am going to look at the characteristics of each field and determine how suitable one or all of them are for a potential wetland restoration. I will utilize aerial photos, soil surveys, GPS, and field observations to map the current land use as well as areas proposed for wetland restoration. From that information I will develop a management plan that outlines the requirements of a restoration project.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 10:20 AM

Padnos Hall 107

Marketing Trends and Issues in Therapeutic Recreation

Presenter(s): Cassie Smith, Heather Fredlund, Stephen Piper, Anne Tillman, Chad Boprie

Using mixed methods, this session will explore marketing trends and issues in therapeutic recreation from a historical perspective.

Sponsor(s): Kari Kensinger

Padnos Hall 108

Permian Carbonate from the Guadalupe Mountains May Contain Aragonite

Presenter(s): Emily Naughton

Many modern marine organisms and cements are composed of aragonite; however, the instability of this mineral allows it to be dissolved easily under Earth surface temperatures and pressures. This accounts for the near lack of aragonite found in ancient carbonates today. Chafetz and Wu (2006) found a Permian carbonate cement sample from the Guadalupe Mountains that still contains aragonite. Chafetz and Wu found that dark areas of the cement contain aragonite, but the lighter colored areas do not. A similar sample from the Guadalupe Mountains of Texas was analyzed using x-ray diffraction. The results were compared against three pure standards of calcite, aragonite, and dolomite. Both dark and light sections of the rock were sampled in an attempt to duplicate the previous findings. If aragonite is found in the sample, it can be used to run further analyses, such as percent strontium to determine the composition of the sea at the time of formation.

Sponsor(s): Patricia Videtich, Kevin Cole

Padnos Hall 109

Study of the Human Mitochondrial DNA Polymorphism.

Presenter(s): Catherine Willis

Sponsor(s): Alexey Nikitin, Dolli Lutes

Padnos Hall 209

Lithic Analysis of the South Flats Archaeological Site (20MU2) Near Muskegon, Michigan

Presenter(s): Greg Johnson

The South Flats earthwork (20MU2), located within the Muskegon State Game Area, was excavated during the spring of 2006 as part of the GVSU archaeological field school. This paper discusses the significance of the stone tool (lithic) assemblage from the site. The analysis of the stone tool assemblage aids in understanding the site chronology and possible relationships with other sites in the immediate area and throughout the Great Lakes region. Spatial analysis of flaked stone material from the site is utilized in testing current hypotheses pertaining to site function and the cultural significance of earthworks.

Sponsor(s): Janet Brashler

Padnos Hall 210

An Exploration of Network License Usage: A Statistical Consulting Experience

Presenter(s): Nick Somers

Grand Valley State University has a license agreement with MapleSoft, the supplier of a mathematics software product called Maple. The license permits 100 GVSU users to be signed on Maple simultaneously. The majority of users are mathematics and engineering majors, but computer science, biology, chemistry, physics, and statistics majors are also exposed to Maple. Given that roughly 1,000 different users utilize Maple every year, Dr. Chakrabarti was interested in determining if 100 licenses are sufficient for the needs of Grand Valley students and faculty. My statistical consulting experience entailed a large amount of exploratory analysis in hopes of identifying trends and patterns in Maple usage that would answer these types of questions.

Sponsor(s): M Chakrabarti, Neal Rogness

Padnos Hall 211

Ethnographies of Speaking

Presenter(s): Mallory Weber, Mary Nuznov, Alicia Vincent, Andrew Hoover

This brief presentation incorporates perspectives from four students' ethnographies conducted during the Fall 2006 semester. Students address a range of speaking situations including those involving: musicians, restaurants, universities and city-cultures. Each presenter weaves an additional theoretical element into the talk in order to conclude with an overarching appeal for additional efforts to conduct ethnographic research on college campuses.

Sponsor(s): Danielle Wiese

ORAL PRESENTATION ABSTRACTS

Padnos Hall 261

Above All, Love Each Other Deeply, Because Love Conquers Over a Multitude of Sins

Presenter(s): Elizabeth Bishop

There are many ways a person can be trapped by outside factors. In the Argentine film *Camila*, two forbidden lovers fight against the circumstances and people that trap them.

Sponsor(s): Khedija Gadhoum

Padnos Hall 262

Watershed Delineation and Surface Water Management Plan for Maplewood Lake, Jenison MI.

Presenter(s): Eric Kretschmer

Maplewood Lake is currently experiencing problems with non-point source pollution, which causes eutrophication and a foul odor to the surrounding neighborhoods during the summer months. I will attempt to map out the watershed boundary using ArcGIS, and then will be able to try to determine the course of the drainage ditched throughout the surrounding area. The deliverables for this project will include a presentation to the class, a written report of my findings, and a series of maps showing the watershed delineation, drainage ways, and a map showing the surface water flow to the lake.

Sponsor(s): Erik Nordman

Beginning at 10:40 AM

Padnos Hall 107

The Effects of Habitat Degradation on the Diets of Estuarine Benthivoric Nekton

Presenter(s): Andria Salas

This study related habitat quality of muddy, mesohaline habitats in the Chesapeake Bay to their suitability as a food source for benthivoric nekton. Juvenile fish and *Callinectes sapidus* were captured using crab traps, minnow traps, and cast netting. The measurements of length, width, and mass were taken and the gut contents of these organisms analyzed. Comparisons of the gut contents to the known benthic community revealed that the food items within *Leiostomus xanthurus* matched the available benthic prey at all sites. The gut contents of *C. sapidus* matched the benthic community at the two highest quality sites, however at the lowest quality site bivalves appeared in the guts when they were not available in the community; suggesting that they were feeding elsewhere. *L. xanthurus* had a significantly smaller length and width at the lowest quality site compared to the highest quality site. *Callinectes sapidus* had worse condition values at the lowest quality site but showed no differences in length, width, or mass across the three sites. Both of the patterns noted with the *C. sapidus* and *L. xanthurus* will negatively affect the lifetime fitness of those organisms residing in low quality habitats.

Sponsor(s): Dolli Lutes

Padnos Hall 108

Correlating Glacial Clays in Western Michigan

Presenter(s): Nicholas Koroleski

During the Pleistocene, lobes of ice advanced and retreated over Michigan. As the ice retreated, sediment was left behind. A sample was collected of suspected Port Huron Moraine glacial sediment from an actively eroding beach on Lake Michigan south of Grand Haven. Glacial sediment from the Port Huron Moraine just south of Muskegon Lake will be compared to the suspected Port Huron sample. With these samples I will determine if the sample of glacial mudstone is indeed part of the Lake Border Moraine or if it is part of the Port Huron Moraine. X-ray diffraction will be the analysis performed on the samples. The sediment will be suspended in a graduated settling tube, allowed to settle, and then the suspended layers of clays will be extracted and X-rayed to determine the mineralogy of the two clays. From these data I hope to determine if the clays are from the same glacial advance or from separate advances.

Sponsor(s): Kevin Cole, Patricia Videtich, Patrick Colgan

Padnos Hall 109

A Numerical Study of Integrable and Chaotic Hamiltonian Systems

Presenter(s): Gaetan Vangyseghe

This project will be a study of Hamiltonian Dynamics of both integrable and chaotic systems. A FORTRAN program will be written to solve Hamilton's differential equations of motion for a given system. This program will be extended to numerically generate Poincare Surfaces of Section, and be applied to multiple systems. One such system is a two-dimensional Henon-Heiles system. Another is a charged pendulum in the presence of a uniform gravitational and magnetic field, of which the mutual orientation is varied. These numerical results will be represented graphically and examined further.

Sponsor(s): Milun Rakovic

ORAL PRESENTATION ABSTRACTS

Padnos Hall 168

InvenSolutions for BioSolutions

Presenter(s): Carlton Gupion, Nicole Urban, Adam Hinman, Scott Moore

BioSolutions, of Grand Haven, is a producer of environmentally friendly industrial cleaning products and machine coolants. BioSolutions is a good example of a small business that is beginning to grow larger at a rapid rate. With this growth they required a new Inventory Management System that could keep track of materials in all stages of completion. Our group was able to research and locate an IMS software program that was able to adapt to BioSolutions' unique business requirements, and a UPC code system that reduce the time of the physical inventory, thereby reducing inventory costs and misplaced or lost product.

Sponsor(s): Nancy Levenburg

Padnos Hall 207

Beethoven's Continental Folksong Settings

Presenter(s): Loretta Lanning

Beethoven's Continental folksong settings were first arranged and compiled in 1816. Although this is not the only collection of settings that Beethoven arranged, these particular settings are different from all the other collections of Beethoven's arrangements in their authenticity, their origins, and the extent to which they reflect to present-day listeners and scholars the cultural stereotypes of the time. Personally chosen by Beethoven, as opposed to the others which were chosen by his editor, these songs not only provide a glimpse into Beethoven's wide-ranging personal cultural experience, they also are a catalogue of what types of folk music were in the public's ear at the time, as these settings include the original texts with the melodies, unlike other collections in circulation. In addition, these folksongs provoke and provide deeper insight into the true origins and nature of what is commonly considered to be folksong, when considering the broad range of origins and styles that are all included in one collection.

Sponsor(s): Lisa Feurzeig

Padnos Hall 209

The relationship of depression to recovery time and treatment modalities in patients with MTBI

Presenter(s): Nick Kopacki, Matt Wilson, Shannon Parent

In the United States Traumatic Brain Injury (TBI) is a large problem that affects 1.5 million Americans per year. Seventy five percent of the TBI's consists of concussion or other forms of mild traumatic brain injuries (MTBIs). Though labeled "mild," brain injuries of this can cause long-term or permanent impairments and disabilities. The injuries sustained by the patients can affect their normal activities of daily living, leave them wheelchair bound, unable to care for themselves, and mentally handicapped. Depression can be the result of many of these handicaps leading to the prolonged rehabilitation time of patients with MTBI's. The Mary Free Bed Hospital Mild Brain Injury Program has created an extensive program to address the many elements of rehabilitation including occupational therapy, physical therapy, speech therapy, cognition, and behavioral rehabilitation. This study presents the relationship of depression to the recovery time and treatment modalities (PT, OT, speech therapy, psychotherapy) in subjects with MTBI.

Sponsor(s): Theresa Bacon-Baguley

Padnos Hall 210

African American Women's Knowledge of the Risks and Benefits of Hormone Replacement Therapy

Presenter(s): Leoncie Mukarurinda, Jamie Schraft, Elizabeth Hegedus

Hormone replacement therapy (HRT) has been shown to have a significant association with breast cancer, uterine cancer, osteoporosis, and cardiovascular health. It was hypothesized that African American women greater than 40 years of age would not be knowledgeable regarding the overall risks and benefits of hormone replacement therapy despite the increased media coverage on the topic. The goal of this research was to determine the current level of knowledge on hormone replacement therapy use in African American women greater than 40 years of age in order to determine the need for further patient education.

Sponsor(s): Theresa Bacon-Baguley

Padnos Hall 211

An Overview of Ulcerative Colitis and its Implications in Health Care

Presenter(s): Kristi Anderson

Ulcerative colitis is a life-altering disease that affects thousands of Americans, yet it is widely unheard of. A disease of the digestive system, it attacks the large intestines, causing a variety of symptoms, many of which are painful and embarrassing. This presentation offers a short overview of the disease and different treatment options available for those affected by the disease, with a focus on surgical removal of part or all of the colon and the ramifications of choosing such a drastic course of action. Implications for nurses and other health care providers will be discussed.

Sponsor(s): Linda Scott

ORAL PRESENTATION ABSTRACTS

Padnos Hall 261

The Effect of the Administration of the BCG Vaccine on PPD Results in Bolivian Children

Presenter(s): Rebecca Hull, Megan Larson, Megan Larson

1.7 of the 8.8 million new cases of tuberculosis end in death each year. In fact, in underdeveloped countries this disease is the second leading cause of death after HIV/AIDS. Many efforts have been made to stop the progression of Tb both for personal and economical reasons. Currently, most countries vaccinate their newborns with the BCG vaccine in an attempt to decrease the incidence. However, current literature regarding the efficacy of this vaccine is conflicting. There is evidence to support efficacy ranging anywhere from 0-80%. With such variability, it is important to evaluate the effectiveness of the BCG vaccine. In this study we compared the PPD results in children who had been vaccinated versus those who had not been vaccinated. In the end, this study was an attempt to identify if having the BCG vaccine results in fewer cases of positive PPD findings as compared to those who had never received the BCG vaccine.

Sponsor(s): Theresa Bacon-Baguley

Padnos Hall 262

Effects of *Ailanthus altissima* root extract on root nodulation using *Glycine max*

Presenter(s): Cassandra Boadway

Ailanthus altissima, an invasive tree from China, is present in all 48 contiguous states and south to Argentina and north to Canada. Its extensive range, abundance and competitive abilities give it the potential to change American forest ecosystems. *A. altissima* traits promoting invasion include: rapid maturation and prolific seed production, cloning from roots, toxicity to insect herbivores and neighboring plants, and robust growth even in nutrient poor soils. Unpublished research (Greer) has shown *A. altissima* increases root nodulation in neighboring legumes, yet the mechanism (addition or removal of a compound) utilized remains unknown. Legume root nodules add nitrogenous compounds to the surrounding soil that *A. altissima* could use, in part, to flourish in poor soils. I investigated the mechanism of root nodule stimulation by watering *Glycine max* with aqueous *Ailanthus* root extracts. Plasticity in nodule stimulant production by *A. altissima* was tested under nutrient rich, nutrient starvation and nutrient starvation + simulated injury treatments. *G. max* in the nutrient rich treatment (control) possessed 0.97 ± 1.16 nodules per plant, 0.57 ± 0.82 in the nutrient starved treatment, and 1.62 ± 2.54 in the nutrient starved + simulated injury treatment. Differences in *G. max* nodule quantities are statistically apparent; hence *Ailanthus* alters surrounding soil when it is exposed to different growing conditions.

Sponsor(s): Gary Greer, Dolli Lutes

Beginning at 11:00 AM

Padnos Hall 107

Irish Dialect and Innocent Point of View in Angela's Ashes

Presenter(s): Brenna Fitzpatrick

In my analysis of Frank McCourt's *Angela's Ashes* (1996), I will be examining the linguistic features of phonetic usage, lexicon, syntax, and speech and thought representation, placing emphasis on how these features contribute to the point of view and dialectal representation used in the novel. I believe all of the linguistic features that I am analyzing will contribute to the importance of the two main features of my analysis, which contribute to the importance of communication between author and reader. Phonetic usage, lexicon, and syntax contribute to dialect, while syntax and speech and thought representation contribute to a naïve, childlike point of view. The way McCourt writes using the Western-Irish dialect, as well as the point of view through the eyes of a young boy, makes this sad story a bearable account of the atrocities of hunger and poverty that were taking place in Frank's life in Ireland.

Sponsor(s): Kathryn Remlinger

Padnos Hall 108

Legislative Trends and Issues in Therapeutic Recreation

Presenter(s): Erin Hoff, Megan Warren, Lexi Kendra, Kellie Nugteren, Rachel Lloyd

Using qualitative research methods, this session will explore the legislative trends and issues in therapeutic recreation from a historical perspective.

Sponsor(s): Kari Kensinger

Padnos Hall 109

Ceramic Analysis of the South Flats Archeological Site (20MU2), Muskegon, Michigan

Presenter(s): Nathaniel Hansen

The South Flats archaeological site (20MU2) located near Muskegon, Michigan was excavated by the Grand Valley State University Archaeological Field School in 2006. The most prominent element of this site is the presence of a circular earthwork that lies low to the ground. Discussed here is the classification and spatial analysis of the prehistoric ceramics from the site with special interest in how they relate to the previously established typologies in Western Michigan. In addition, analysis of the spatial distribution of the ceramics will be used to test hypotheses of the earthwork's function including its possible use as a fortification, ceremonial locale, or a village location.

Sponsor(s): Janet Brashler

ORAL PRESENTATION ABSTRACTS

Padnos Hall 168

Utilizing Technology in the Childcare Field

Presenter(s): Jared DePouw, Jessica Shoop, Joshua Hartman, Sarah Helmstetter, John Placencia

We will be working with Baby Bear Daycare for our technology audit. Baby Bear Daycare purchased a software management program called "Childcare Manager" as a result of their participation in the MGT 365 project last year. We hope to research the software program and identify problem areas. Depending on what we find, our group will come up with recommendations to aid Ms. Pauleteer in fully implementing this system. These recommendations should make it much easier for Baby Bear to handle their current issues including staffing issues and user difficulties.

Sponsor(s): Nancy Levenburg

Padnos Hall 207

Internal Communication-Connecting Offices by Integrating Technology

Presenter(s): Beth Campbell, Matt DeBoer, Stephen Townsend, Mike Getzlaff, Jenifer Wright

Technology plays a key role in managing the daily operations of an organization. During a technology audit for a local company, MiBiz, we discovered the need for coordinated communications. A further challenge we encountered was the use of different (multiple) operating systems. It was necessary to search for a broad array of programs to provide potential solutions for the specific needs of the company. In doing this, we considered a File Transfer Protocol (FTP) system to enhance the availability of information and improve the efficiency of person-to-person communication over an Internet platform, including internal and external interaction.

Sponsor(s): Nancy Levenburg

Padnos Hall 209

The Effects of Increased Discharge on Flow Resistance

Presenter(s): Joseph Root

Manning's equation, $v = k R^{2/3} S^{1/2} / n$, shows an inverse relationship between stream velocity, v , and the coefficient of flow resistance, n . Generally, as the discharge of a stream increases, the flow resistance will decrease. To test this idea, a clear acrylic flume has been designed to measure the flow resistance at varying stream discharges. The flume will have a fixed channel perimeter and area, and will also have a constant slope, allowing for a direct relationship between velocity and flow resistance. The height of the water surface will be measured to determine the presence, and longitudinal spacing of, standing waves. The working hypothesis is that standing waves will form as discharge increases to increase the internal flow resistance.

Sponsor(s): Peter Wampler

Padnos Hall 210

The Enlightenment and Its Effects on the Haitian Revolution of 1789-1804

Presenter(s): Rebekah Nicholson

The Haitian Revolution of 1789-1804, led by Toussaint L'Ouverture, was the second major revolution in the Western Hemisphere. It is clear that L'Ouverture was influenced by Enlightenment ideals of liberty and freedom, as will be demonstrated via analysis of his writings. However, there is inadequate research on the transfer of the ideas to the slaves and the impact they had on them. The research focuses on how the ideas were conveyed to Haitians, how the slaves learned of ideas, and how L'Ouverture and the former slaves made the ideas their own.

Sponsor(s): Grace Coolidge, Dolli Lutes, David Eick

Padnos Hall 211

Finding Peace in the Post 9/11 World

Presenter(s): Ecstacy

The tragic event, commonly referred to as 9/11 brought many revelations, one of which is that current approaches to conflict have not been successful. A new approach to resolving conflict is necessary for a more peaceful coexistence among the world's people. I propose an alternative model based on a restructuring of fundamental social and cultural values, which arises from four cultural movements: feminism, pragmatism, dialogue, and Eastern influences. From reading prominent authors, I hope to find the values that need to be changed and how to change them so that the levels of conflict do not escalate to destruction.

Sponsor(s): Stephen Rowe

Padnos Hall 261

Candomble and the Orixas

Presenter(s): Sarah Vicari

This project focuses on the religion of Candomble and its presence in South America during the slave trade along with the importance of the Orixas within the same religion.

Sponsor(s): Khedija Gadhoum

ORAL PRESENTATION ABSTRACTS

Padnos Hall 262

Correlation of Treatment Modalities and Return to Work of Patients Treated at the Mary Free Bed Rehabilitation Hospital Mild Brain Injury Program

Presenter(s): Sallyann Tarmnel, Jeffrey Baird, Leslie Vanderstelt

Many patients experience head trauma that results in a mild traumatic brain injury, but there is little data that correlates this type of injury with patients' work status before and after the injury. The study investigated the impact of these injuries on work status by comparing the patients' working status before the injury and their working status after the injury. A data sheet developed by Dr. Bloom at Mary Free Bed Rehabilitation Hospital (MFBRH) was filled out for each patient at the initial evaluation at MFBRH. Examples of variables include demographics, type of injury, pre- and post-injury symptoms, and types of treatment received at MFBRH. The study also evaluated the data to determine if there is a correlation between the types of treatments received (i.e. physical therapy, occupational therapy, speech therapy) and the patients' working status after the injury.

Sponsor(s): Theresa Bacon-Baguley, Paul Stephenson, Stephen Bloom

Beginning at 11:20 AM

Padnos Hall 107

The Polar Bears: West Michigan Soldiers in Russia 1918-1919

Presenter(s): Erin Raschke

Sponsor(s): Frances Kelleher

Padnos Hall 108

Higher Education Trends and Issues in Therapeutic Recreation

Presenter(s): Kristen Pierce, Kaylie Plante, Elizabeth Feehan, Rob Johnson, Leah Hop

Using qualitative research methods, this session will explore the higher education trends and issues that influence therapeutic recreation from a historical perspective.

Sponsor(s): Kari Kensinger

Padnos Hall 109

Faunal Analysis of a 19th Century Log Cabin Site (20MU93)

Presenter(s): Erica Schultz

In 2006 the Grand Valley State University archaeological field school excavated a portion of the mid to late 19th century Headquarters site (20MU93) in Muskegon County. The site produced well preserved faunal remains including both domesticated (cow) and wild specimens (turkey, deer fish and other rodents). The species composition of the faunal assemblage suggests that the occupants relied on wild game more than domesticates, in keeping with patterns of animal exploitation seen in other early Euro-American settlements.

Sponsor(s): Janet Brashler

Padnos Hall 168

Improving Operations for a Local Small Business

Presenter(s): Joshua Williams, Joe Brunink, Stephen Vrugink, Dawn Slyter

Technology Audit Proposal As a group we intergrated all of Vierson's electronic information into one program. We identified a strategy to minimize Vierson's paperwork and converted it to electronic data. We also developed a long-term statagy to upgrade Vierson's workstations, hardware, and Internet connections. These objectives took some collaboration and teamwork between your group members and Vierson Boiler.

Sponsor(s): Nancy Levenburg

Padnos Hall 207

Presidential Rhetoric: How John Adams and George W. Bush Used Religion to Effectively Communicate With Their Respective Constituency.

Presenter(s): Elizabeth Fisher

President George W. Bush's affiliation with the conservative and political Christian right helped him win the presidential elections of 2000 and 2004. During the past six years, Bush has courted this vast voting public by referencing Christian doctrine in his speeches. John Adams, this nation's second president, was of Puritan ancestry. Yet Adams, an eloquent writer, carefully crafted his communiquÃ©s to avoid overt religiosity. An analysis of the public communications of these two presidents will show how allusions to Christianity have been used as a rhetorical and political tool to facilitate national unity for their agendas.

Sponsor(s): Frederick Antczak, Dolli Lutes

Padnos Hall 209

Microstates: A Case of Survivalbility

Presenter(s): Christopher Gerlica

Sponsor(s): Polly Diven

ORAL PRESENTATION ABSTRACTS

Padnos Hall 210

Violence in the Eyes of Children

Presenter(s): Raymond Cole

West Michigan has been a nice place to start a family and raise children. Recently, violence has become rampant on the SE side of Grand Rapids. This analysis will examine this perception of violence at the root, and determine the difference between how children view death and violence in the inner-city and in the suburbs. The study will consist of children drawing their depiction of death. These drawings will be categorized based on the type of death portrayed in the picture. Findings from this study will determine death and violence through the eyes of children. My observations will be from illustrations by grade school students at city and county schools.

Sponsor(s): Don Williams

Padnos Hall 211

Zebra Mussel Distribution in Great Lakes Coastal Ecosystems: Are Wetlands Resistant to Invasion?

Presenter(s): Kristin Nelson

Coastal wetlands are a vital part of the Great Lakes ecosystem. While Great Lakes coastal wetlands are being degraded and destroyed by many anthropogenic impacts, some systems appear to be quite resistant to invasion by zebra mussels (*Dreissena polymorpha*). To determine if some Great Lakes coastal wetlands are resistant to invasion, artificial substrates were placed in adjacent lake and wetland habitats. Substrates were incubated for 10 weeks at 10 different sites in Great Lakes coastal drowned river mouths and open and protected lacustrine wetlands during the summer and early-fall 2006. Preliminary analysis suggested that zebra mussel abundance differed between type while keeping water quality and substrate consistent. Some wetland habitats appeared to have significantly lower zebra mussel abundances than adjacent lake habitats, while others showed no difference in abundance. The difference was determined to be based on wetland type (drowned river mouth or lacustrine). These data suggest that some wetlands are resistant to invasion and identifying factors that cause this resistance is critical for Great Lakes management and restoration.

Sponsor(s): Carl Ruetz

Padnos Hall 261

Creating a Performing Version of L'Amor Marinaro

Presenter(s): Kait LaPorte

The purpose of this project was to create a performing version of the little known opera L'Amor Marinaro, composed in 1797 by Joseph Weigl. Popular in its time and for some decades thereafter, the opera inspired many influential and popular composers. The most famous number in the opera, a trio, was so well-known that it became the theme of a clarinet trio by Beethoven as well as a violin piece by Paganini. This talk will discuss the sources, methods and problems encountered in creating a new score for this opera. The first performances using this new score occurred on March 16 and 17, 2007. I will play excerpts from the performance during the oral presentation.

Sponsor(s): Lisa Feurzeig

Padnos Hall 262

Venom Composition as an Indicator of Behavioral and Lifestyle Choices

Presenter(s): Jeremy Newton

One of the most useful physical traits an organism can possess is the ability to manufacture and dispense venom. This research integrates natural history and molecular analyses in order to understand the patterns behind the high level of diversity and specialization present in venomous organisms. In many cases it is possible to make accurate inferences about an organism's prey, predators, and even breeding habits by examination of the composition and action of the venom produced. This relationship between venom composition and life history will be illustrated by using characteristically venomous animals including snakes, spiders, scorpions, and parasitoid wasps.

Sponsor(s): Karel Rogers

Beginning at 1:00 PM

Padnos Hall 107

Mikhail Bakunin: Madman or Prophet?

Presenter(s): Sarah Holzhausen

In this paper, I examine the 19th century Russian thinker, Mikhail Bakunin, whom many regard as the father of modern anarchism, and attempt to determine whether he was a visionary thinker or a lunatic. To do this I compare his philosophy to Marxism and attempt to explain, using examples from Russia's history, why the Russians so strongly took to Marx and not to Bakunin. I also analyze pieces of Bakunin's philosophy by using logic to see how they hold up.

Sponsor(s): Christine Rydel, Edward Cole

ORAL PRESENTATION ABSTRACTS

Padnos Hall 108

Innocence and My Experience: I Didn't Steal Blake's Poems, Just His Format

Presenter(s): Katie Booms

An oral presentation involving reading of a personal collection of poems and display of the accompanying illustrations. The poems and illustrations are integrated in a similar manner to that utilized in the engravings of William Blake, one of the original English Romantic poets. The subject matter of the poems varies, covering a range of personal experiences and broader abstract themes. Formally, they range from open verse to more structured pieces.

Sponsor(s): Dr. D. Ihrman

Padnos Hall 109

Willard Wichers and Dutch Immigration Under the Refugee Relief Act

Presenter(s): Anita VanTil

Following the Second World War, the United States Congress enacted the Refugee Relief Act (1953-1956) in order to facilitate emigration out of countries that were devastated by the war. As one of these countries, the Netherlands benefited greatly from the Refugee Relief Act because of the law's loosening of restrictions on immigration quotas. Under the Refugee Relief Act, voluntary organizations, usually faith-based, assisted immigrants from the Netherlands. As part of one of these voluntary organizations, the Netherlands Pioneer and Historical Society located in Holland, Michigan, became a clearinghouse for Dutch immigrants. As head of the Netherlands Pioneer and Historical Society, Willard Wichers oversaw the difficult task of finding sponsor groups and families for the thousands of Dutch immigrants who desired to come to the United States. The focus of my paper is on Wichers' involvement with other organizations involved in the immigrants' cause, his personal involvement with the immigrants themselves, and his tireless promotion of Dutch immigration in the United States.

Sponsor(s): David Snyder

Padnos Hall 168

"A Brotherhood Divided," Irish soldiers in World War I

Presenter(s): Kathleen Rice

Sponsor(s): Frances Kelleher

Padnos Hall 207

Consumer Behavior According to Gender

Presenter(s): Kelly Mundt

The key to marketing is determining one's target audience and reaching as many of its members as possible both efficiently and effectively. Through observation it has become apparent that gendered shopping patterns exist. It appears that women not only purchase more products than men but their consumer behavior indicates they purchase products whose intended use is for other people. This is observable in any grocery store where one is more likely to see a woman with a cart full of groceries than a man. As the manager of a health food store the primary focus of my research concerns not only who is making the most purchases but who the intended consumer is. The profit margin of the products purchased must also be considered. In an effort to determine who my most valuable consumer is, I intend to quantify data according to gender based on coded receipts. Data will be gathered for two full working days and the expected outcome is a marketing focus on women over the age of thirty.

Sponsor(s): Don Williams

Padnos Hall 209

Land Use Changes at Grand Valley State University, Allendale, Michigan: 1960-2005

Presenter(s): Patrick Womble

Land use practices at Grand Valley State University (GVSU) have dramatically altered the amount of runoff into the ravine system adjacent to campus. This study utilized Geographic Information System analysis of current and historic data. Aerial photographs from 1973, 1998, and 2004 were used to create land use maps. The impermeable surface area has increased from virtually zero acres in 1963 to 168 acres in 2004 and by 189% between 1973 and 2004. Increasing impermeable surface area has resulted in increased runoff into the ravines. GVSU has installed rock gabion cages and boulder armoring to reduce erosion due to runoff. The practice of concentrating runoff into a few locations then treating it with energy dissipation structures is resulting in numerous failures of engineered structures. Storm water detention and runoff volume reduction should be integrated into the design of any future changes to the infrastructure. More runoff should be directed toward the west part of campus, perhaps into vegetated wetlands, even if this involves some redesign of storm water pipe grades. A new committee composed of faculty and students is working to reduce runoff back to 1960s levels.

Sponsor(s): Peter Wampler, Susan Mendoza-Jones

ORAL PRESENTATION ABSTRACTS

Padnos Hall 210

Metamorphosis: Translating Apollo and Daphne

Presenter(s): Amanda Sinning

Apollo and Daphne, one of the most famous myths from Ovid's *Metamorphoses*, has captivated translators and readers alike for hundreds of years with its evocative language and imagery. Ovid's Latin poem, filled with vivid similes and subtle humor, is a joy to read, but a daunting work to translate into English--as its many incarnations prove. Is it better to remain faithful to the Latin, or translate more loosely? Should a translator add her own words to the source text? Should a poetic structure be retained in translation? Through an exploration of translation theory as it applies to my own translation of Apollo and Daphne and that of three other translators, I compare the choices that translators must make regarding the Latin text, and I discuss how these choices can have a positive or negative impact on the work as a whole. As a result, I hope to provide readers with a better understanding of the difficulty and care involved in translation, and to help them to appreciate translation as not only the creative endeavor of a translator, but also as an attempt to convey ancient authors into our time.

Sponsor(s): Diane Rayer

Padnos Hall 211

The Mayan Calendar System

Presenter(s): Amanda Aniczak

One of the most important aspects during the study of any ancient civilization is time. Exact dates may not seem significant initially, but in reality dates are what give history a chronology. Many civilizations have developed and used calendar systems, but it is the calendar system used by the Mayans that is especially important in Latin American history because of the sequential foundation it gives to the Americas. The Mayan calendar system is not only a reflection of the mathematical talent of their civilization, but evidence of the social organization in their society.

Sponsor(s): Khedija Gadhoum

Padnos Hall 261

The Power of Memory: Grand Valley State College and the Reaction to the Kent State Shootings of 1970

Presenter(s): Jodi Moore

Grand Valley State University can attribute its success to its rich legacy, a legacy created from memories of the institution during its turbulent formative years. As a young college in the chaotic 1960s, the school struggled to find its place among the other higher learning institutions. My research focused on the memory of the reaction at Grand Valley State College to the shootings at Kent State in 1970. To discover how Grand Valley responded to the national crisis, I interviewed a faculty member and a former student who were present at the time. In addition, I looked at newspaper accounts as well as questioned someone who joined the faculty later and had heard the stories of Grand Valley's history. I found surprisingly different perspectives and memories of those significant events. I discovered that as memories change and become distorted over time, the history that is left behind has been altered from the true course of events. By exploring Grand Valley's early history through oral interviews, primary source documents, and reflective memoirs, I have found the history of Grand Valley is complicated by the passage of time in conjunction with the differing memories and perspectives.

Sponsor(s): William Morison

Beginning at 1:20 PM

Padnos Hall 107

Cancer Research

Presenter(s): Angelique Berens

Sponsor(s): Rod Morgan

Padnos Hall 108

Pet Therapy

Presenter(s): Stephanie Sander

Sponsor(s): Don Williams

Padnos Hall 109

The Effect of Fluid Temperature on Settling Velocities

Presenter(s): Kirk Perschbacher

This is a study of how changing the temperature of a liquid will affect the settling velocities of ball bearings. For this set of experiments Karo syrup will be used so that a range of viscosity will be observable. This experiment will consist of six runs, each at different temperatures. A range of ball diameters will be used to evaluate the relationship between particle size, settling velocity and temperature. Typically viscosity decreases with increasing temperature. Lower viscosity will result in higher settling velocity. My hypothesis is that the settling velocities will increase with an increase in temperature, and also that larger ball bearings will have the highest settling velocities. Experimental settling velocities determined will be compared to calculated settling velocities and any lack of correlation will be discussed.

Sponsor(s): Peter Wampler

ORAL PRESENTATION ABSTRACTS

Padnos Hall 168

The Comic Book Subculture: Comic Books as a Medium for Identity Creation

Presenter(s): Annie Beenen

Diversity may be created and reproduced through commodity purchases, and involvement in a subculture is central to the identity creation of many Americans. For some, comic books create a culture based on a common interests and self-created identity. This is especially evident at the modern comic book store, where the books are purchased and interactions with other readers occur. However, even outside of the store, a comic book reader maintains a unique identity that is based upon appreciation and knowledge of comics. This presentation will explore how readers of American comic books have used comics as a medium for the creation of a culture with its own language and set of knowledge.

Sponsor(s): Joel Stillerman

Padnos Hall 207

Epitope Labeling of Histidine decarboxylase in *Drosophila melanogaster*

Presenter(s): Stephanie Payne

Histidine decarboxylase (HDC) plays a critical role in the synthesis of histamine, a central nervous system neurotransmitter used by both vertebrates and invertebrates. Past attempts to create antisera that recognize *Drosophila* HDC in vivo have not been successful. While some HDC antisera have been made in other organisms, they appear not to be useful across species, including in *Drosophila melanogaster*. As a result, little is known about the localization as well as the biochemistry of HDC in the fly. It has been suggested that HDC undergoes a complex maturation process, including cleavage at both the N- and C- termini of the predicted protein. We report an approach that will allow the HDC protein to be examined in vivo using internal epitope tagging. A plasmid containing a functional *Hdc* gene was modified by insertion of the epitope tag 6xHis into the protein coding region of the *Hdc* gene at specific sites. The location of the tag in the protein structure is predicted to be present in the mature HDC protein, and thus, should be present where HDC is active. This project will allow future research investigating the biochemistry and cell biology of HDC, after germline transformation of the tagged *Hdc* construct is completed.

Sponsor(s): Martin Burg

Padnos Hall 209

Petrology of sandstone from the Clinch Formation, Thorn Hill Section: Silurian of eastern Tennessee

Presenter(s): Steve Polkowski

Analyzing sandstone samples of the Lower Silurian Clinch Formation and comparing the results to those in the literature constitute the goals of this study. Also, the provenance and depositional environment are determined. The Thorn Hill Section outcrops in Grainger County, Tennessee, south of the town of Thorn Hill. The Clinch Fm. consists of the Hagan Shale and Poor Valley Ridge Members, and lies near the top of the Thorn Hill Section. The Clinch grades conformably into the Upper Ordovician Juniata below and disconformably underlies the Devonian Chattanooga Fm. Five samples taken from a 3 m vertical section at the Bean's Gap road cut are examined for quartz types, rock fragments, texture, bedding, and ichnofacies. Point counts of thin sections are used to quantify grain size and mineralogy. To determine provenance, quartz grains are observed for extinction type, mineral and fluid inclusions, shape, aggregation/boundary configuration, and deformation lamellae.

Sponsor(s): William Neal, Patricia Videtich

Padnos Hall 210

Radio Transmission via a Modulated Laser

Presenter(s): Nathan Lindy, Patrick McCarthy

The purpose of this project was to build a wireless communication system that transmits radio signals through the air via an amplitude modulated laser. The amplitude modulation was caused by adding the alternating voltage signal from an Apple Ipod (R) to the battery voltage of the laser. A receiver was constructed using a photovoltaic cell and an amplified speaker. The quality and range of the transmission is acceptable for indoor use.

Sponsor(s): Ross Reynolds

Padnos Hall 211

Tolerance of a Homosexual Person or Lifestyle as a Function of the Respondent's Religious Involvement

Presenter(s): Christina Carollo, Anna Zych

A sample of 100 Grand Valley State University students will rate their religious involvement using self-report items. They will then read a description of a homosexual person and details of their life. There will be two versions of the description differing only in viewing the homosexual as a person or the homosexual's lifestyle. Participants will then respond to a set of self-report items measuring their tolerance of the homosexual. The major finding will be a significant interaction between tolerance and religious involvement for the initial reaction to a homosexual person, but a negative reaction for the initial reaction to a homosexual lifestyle. As religious involvement increases tolerance for the homosexual person increases, but tolerance for the homosexual lifestyle decreases. We believe this pattern will result from the religious teaching learned that an individual is taught to love the sinner but not the sin, where the sin in this relationship is the homosexual lifestyle.

Sponsor(s): Thomas Herzog

ORAL PRESENTATION ABSTRACTS

Padnos Hall 261

Automated Time Tracking: From Proposal to Production

Presenter(s): Chris Gaffney

Each semester students taking introductory language courses have to spend 50 minutes per week in the Language Resource Center (LRC). During the Summer and Fall of 2006 we began the process of converting the traditional Windows lab into one filled with brand new Apple iMacs. The change has been positive, but left us no automated way of tracking the students' time. This presentation is a case study into the development of the time tracking system that was written to fill this need. The presentation will cover the project's evolution and major design decisions that have brought it from the initial concept through to daily use in the LRC. The system itself is comprised of a client written in Java, a server, and a web interface both written in Ruby. Data is permanently stored in a PostgreSQL database that connects the server and web interface. The system was designed to be easily developed and run on a wide range of systems.

Sponsor(s): Christian Trefftz

Padnos Hall 262

A Comparative Study of Two DEM Products

Presenter(s): Timothy Kolmodin

The world of technology is constantly changing. As new technology is introduced, much of the "old" technology is tossed aside and thrown out. How do we know though that the new technology is better than the old? The purpose of my project is to compare two different DEM (Digital Elevation Modelling) products. These two products are the conventional 30m DEM from the USGS and the high resolution (less than 1m) LIDAR DEM. The results from this project will indicate if it is necessary to upgrade from our conventional DEM program to the LIDAR DEM program that is more expensive. I will use three water bodies for this project: Maplewood Lake near the Trillium farm in Jenison, MI, Ottawa Creek in Allendale, MI, and Rushmore Lake in Jenison MI. I will first use the conventional DEM program to delineate all three water bodies. Next, I will delineate the same water bodies only this time using the LIDAR DEM program. These results will allow me to analyze and compare the watersheds created using both programs.

Sponsor(s): Erik Nordman

Beginning at 1:40 PM

Padnos Hall 107

"Leer entre l neas: Tratamiento pol tico en los cuentos hispanoamericanos"

Presenter(s): Kelly Weidenmiller

Algunos autores hispanoamericanos expresaron sus ideas contra las dictaduras a trav s de la literatura. Debido a la censura y el peligro que pod an vivir en sus pa ses, tuvieron que usar temas sutiles dentro de sus cuentos para expresar las situaciones de los gobiernos que explotaban a su gente y destru an su dignidad. Mediante instrumentos de intimidaci n, asesinato, y miedo, a menudo los gobiernos usurpaban el derecho b sico: el derecho a la vida. En los cuentos "El pr cer" de Cristina Peri Rossi (Uruguay), "La maestra" de Enrique Buenaventura (Colombia), "Mi hermano cruza la plaza" de Lu s Alberto Tamayo (Chile), y "La historia de papito" de Luisa Valenzuela (Argentina), los autores valientes representaron a trav s de distintas estrategias literarias la opresi n y el dolor que muchos latinoamericanos sufrieron en sus realidades.

Sponsor(s): Zulema Moret

Padnos Hall 108

Nookaler Ambitions: A Social Psychological Analysis of Persuasive Speech

Presenter(s): Eric Gladstone

This study proposes a general model of persuasion based in social-psychology and cognitive information processing theory and is composed of an ideal listener/speaker/environment interaction. Drawing upon research conducted by Lowenthal and Guterman (1950), Erich Hoffer (1952), and Prakanis and Aranson (1992), the model is oriented towards post-9/11 presidential communications for testing. Presidential rhetoric is organized into seventeen themes, and these themes are analyzed so as to determine what effect, if any, said persuasive trends have on the individual listener. Insight into the characteristics and effects of persuasive communication is essential to the development of rational, critical psyches within persuasively-dense environments.

Sponsor(s): Dolli Lutes, Jennifer Stewart

Padnos Hall 109

An Analysis of Modernist Poetry

Presenter(s): Katie Booms

An analytical, interpretive look at works of American Modernist poets, such as Gertrude Stein, E.E. Cummings, and T.S. Eliot.

Sponsor(s): Dr. D. Ihrman

ORAL PRESENTATION ABSTRACTS

Padnos Hall 168

Microwave Discharges in Gases

Presenter(s): Thomas Houseman

In our studies, a uniform microwave electric field was used to induce discharges in gases. Impacts of free electrons on atoms in the gas and the electrodes causes a gas discharge, which is an avalanche of electrons provided by background ionization, primary ionization, and secondary emission. The breakdown electric field depends on variables that can be regulated within the experiment, such as the critical dimension of the electric field and the type and pressure of the gas used. The characteristics of electric breakdown are described by Paschen's Law and depend on the product of pressure and the critical dimension of the electric field ($V=f(pd)$). By using a transparent top chamber we were able to view the glow discharge, adding a visual element to our observations of breakdown's dependence on the controlled variables, confirming Paschen's law and yielding quantitative measurements of the primary ionization process.

Sponsor(s): Stephen Remillard

Padnos Hall 207

Inducing the Holy Spirit through the Pentecostal Message

Presenter(s): Melissa Guzman

Sponsor(s): George Lundskow, Dolli Lutes

Padnos Hall 209

Grain Size Analysis of Sand Creek in Western Michigan and its Relation to Glacial Deposits

Presenter(s): Joseph Root

Sand Creek flows 34.6 km through Kent and Ottawa Counties in western Michigan. The general landscape is agricultural, and is composed of glacial outwash sand and gravel, fine textured till, and postglacial alluvium. I've collected stream bed samples at eight locations along Sand Creek, each representing a glacial deposit. The samples will be dry sieved using a Ro-Tap, and analyzed for variations in size and shape (roundness and sphericity). This data will be compared to the type of glacial drift associated with the sample locations. Near the head, the stream flows through fine textured till, whereas at the mouth outwash is found. But, because finer grains are transported downstream, I hypothesize that in the stream bed finer sediments will be found near the mouth.

Sponsor(s): Patricia Videtich

Padnos Hall 211

Music in Bulgakov's Master and Margarita

Presenter(s): Rebecca Rhoda

In my presentation I will examine the many roles music plays in Mikhail Bulgakov's novel, *The Master and Margarita*. Various musical genres, from jazz to vaudeville to opera, underscore themes that inform the basic moral issues of the work. Music also serves as a counterpoint to several crucial scenes in the novel. The frequent references and allusions to music in this book indicate that Bulgakov appreciated how a melding of the arts lends a more universal scope to events that dominated a specific time and place: Soviet Moscow in the 1930s.

Sponsor(s): Christine Rydel

Padnos Hall 261

Mengele: A Nazi Doctor's Legacy

Presenter(s): Brittni Simonti

This project covers the legacy left by Dr. Joseph Mengele: the chief physician at Auschwitz during the second World War. Although he was neither the most brutal nor the most influential doctor during the Holocaust, he has become the face of all Nazi doctors. Why did Mengele in particular become so infamous? This project will work to answer that question by separating fact from fiction and discussing why Mengele has become such a prominent figure both in the media and within the modern world.

Sponsor(s): Rob Franciosi

Padnos Hall 262

Constuction Site Erosion Near Wetlands

Presenter(s): Dustin Grabill

This study will look at the standard erosion control practices at construction sites that are located close to wetland environments. Sedimentation of wetlands is a problem that can diminish or destroy the natural function and water holding capacity of the wetland. Sedimentation is a result of surface erosion; most surface erosion occurs where there is bare soil like construction sites. In this study the universal soil loss equation will be used to help determine if standard erosion control practices are sufficient to prevent sedimentation from occurring.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 2:00 PM

Padnos Hall 107

Hydrologic Response to Precipitation Events in the Ravines at Grand Valley State University, Allendale, Michigan

Presenter(s): Patrick Womble

The urbanization of Grand Valley State University over the past 45 years has dramatically altered the way storm water flows off campus following precipitation events. Increasing the amount of impermeable surfaces has caused a decrease in the time between peak precipitation and peak discharge in the ravines. Four continuous-recording stream gages, installed in the ravines, provide hydrograph data for the summer of 2006. Runoff data, combined with continuous precipitation data, provide lag time estimates for storm water runoff. Recent erosion and overbank flooding was observed and documented after a storm event on July 11th, 2006. Lag times during this event ranged from 10 to 25 minutes on campus. The primary storm drain in the Little Mac ravine (Sauron) contributes 50% of the total discharge measured below all of the storm water inputs while only 25% of the flow can be attributed to natural runoff and/or accretion processes. A large grant has just been awarded by Facilities to continue storm water monitoring.

Sponsor(s): Peter Wampler

Padnos Hall 108

Alienation within 'A Room of One's Own'

Presenter(s): Tshering Bhutia

The presentation will explore the twofold alienation that the protagonist in Gilman's "The Yellow Wallpaper" experiences. Hegelian and Marxist ideas of alienation will be integral to the analysis.

Sponsor(s): Dr. D. Ihrman

Padnos Hall 109

Perceptions: How Students see Grand Valley's General Education Program

Presenter(s): Casey Jelsemu

The purpose of this study is to gauge student perceptions of the general education program at Grand Valley. Data on students and their views concerning the general education program was collected through surveys designed by STA 215 classes taught by Dr. Curtiss in the Fall 2006 semester. Some results to be presented include aspects such as perceived difficulty or ease of general education classes, perceived usefulness, enjoyment, and more.

Sponsor(s): Phyllis Curtiss

Padnos Hall 168

Pancreatic Islet Cell Transplantation as a Treatment for Type I Diabetes Mellitus

Presenter(s): Patrick Collier

Almost 15 million Americans, or about 5% of the population, have been diagnosed with diabetes, a disease responsible for more deaths than both AIDS and breast cancer combined. In type 1 diabetes mellitus, pancreatic islet cells are destroyed and can no longer produce insulin, a hormone necessary for maintenance of suitable blood glucose levels. Recent research has shown, however, that islet cell transplantation can reduce the need for daily insulin injections by type 1 diabetics for up to nine years with 70-80% of patients coming off insulin for at least a full year. Through the utilization of a donor pancreas, the minimally invasive procedure usually takes less than an hour. Preliminary results of clinical trials currently taking place at the Diabetes Research Institute in Miami, Florida as well as other institutions around the world have been released and will be discussed.

Sponsor(s): Patricia Matthews

Padnos Hall 207

Defining the Role of a Unique Omega-Loop Insertion in the Class D Lactamase OXA-1

Presenter(s): Angela Bopra

In Class A, C and D β -lactamases, an omega-loop is found near the active site and is involved in both catalysis and substrate selection. Among the class D oxacillinases, OXA-1 has the largest omega-loop, which is six hydrophilic residues longer than in other OXA enzymes. To determine the effect of the extended β -loop found in OXA-1 on substrate affinity, we removed the six additional residues using polymerase chain reaction mutagenesis. Minimum inhibitory concentration (MIC) testing showed that the deletion provided no significant alteration in resistance to most penicillin and cephalosporin antibiotics; one main exception to this was a four-fold enhancement of the MIC for cefepime. The enzyme was then purified and the protein was subjected to kinetic analysis. For cefotaxime, the K_m for the OXA-1 omega-loop deletion showed no large difference, and the K_{cat} was slightly lower than wild-type. However significant differences were found for cefepime compared to wild-type OXA-1. The K_m and the K_{cat} values were significantly higher, suggesting that the deletion of the omega-loop has an effect both on binding and catalysis for cefepime.

Sponsor(s): Dave Leonard

ORAL PRESENTATION ABSTRACTS

Padnos Hall 209

Sedimentary Structures and Grain Size as Indicators of Glacial Depositional Environments: Allendale, Michigan

Presenter(s): Sarah Nagorsen

About 26,000 to 14,000 years ago, near the end of the Pleistocene Epoch, the Lake Michigan lobe of ice advanced and retreated over the region encompassing Allendale, Michigan. In its final retreat, the ice lobe left behind deposits of glacial till and lacustrine and fluvial sediments. An exposed section of the lacustrine and/or fluvial sediment can be found in a ravine on the southern border of the campus of Grand Valley State University in Allendale. This section will be measured, and samples from consecutive layers in the outcrop will be studied using grain size analysis. Additional outcrops along the length of this ravine will be used to form a composite stratigraphic column. Photographs, sketches, and descriptions of sedimentary structures observed at these outcrops will be interpreted along with the results of the grain size analysis to help determine the depositional environments that once existed in this area.

Sponsor(s): Patrick Colgan, Patricia Videtich, Peter Wampler

Padnos Hall 210

Memories of Sex, Love and Isolation: A Comparative Analysis of Works by Gabriel Garcia Marquez and Yasunari Kawabata

Presenter(s): Gerard Kwiatkowski

Memory plays a vital role that influences perceptions of self in society, and as we age the significance of these memories becomes ever more central to our self-concept. Two novels: *Memorias de mis putas tristes* (Gabriel Garcia Marquez, 2004) and *House of the Sleeping Beauties* (Yasunari Kawabata, translated 1969), address the lengths one will go to discover oneself through the memories one embraces. I will compare and contrast the protagonists' dilemmas and motivations; giving insight as to the implications that each novel yields in their respective contexts of Mexican and Japanese culture.

Sponsor(s): Zulema Moret

Padnos Hall 211

Media Coverage of the Civil War in El Salvador

Presenter(s): Ebone Colbert

The United Nation's Truth Commission Report documented the 1980-1992 Civil War in El Salvador. During the Civil War the Salvadoran government's repression was connected to the 1989 murder of six Jesuit priests. This analysis focuses on newspaper and television coverage of this event in the United States media. I used the Truth Commission Report as my historical source and compared it to media reports in the United States media. I also used a 1989 Radio Venceremos radio broadcast as a source of information. Interviews were conducted in 2006 with Salvadorans to explore their perception of the 1989 media coverage of the Jesuit Priests.

Sponsor(s): Dolli Lutes, Julia Guevara,

Padnos Hall 261

True Transcendentalists

Presenter(s): Ashley VanDort

Sponsor(s): Dr. D. Ihrman

Padnos Hall 262

Holocaust Memorials: Large and Small

Presenter(s): Jessica Bibby

Sponsor(s): Rob Franciosi

Beginning at 2:20 PM

Padnos Hall 107

La Nuit: On Writing a Novel and How the Publishing Industry is the Real Gothic Horror

Presenter(s): Shannon Lewis

In today's market, it is exceedingly difficult for new writers to make their way from agent, to publisher, to bookshelf. This struggle toward publication is understood intimately by the speaker, Shannon Lewis, the unpublished author of two novels in the gothic horror genre. During her presentation, she will read a brief excerpt from each of her books, and discuss the struggles she has undergone throughout the writing process, as well as her personal effort to find her way into the literary world.

Sponsor(s): Dr. D. Ihrman

Padnos Hall 109

Coping and Emotional Intelligence in Women with a History of Eating Disordered Behavior

Presenter(s): Charlene Boyd

Sponsor(s): Dolli Lutes, Andrea Rotzien

ORAL PRESENTATION ABSTRACTS

Padnos Hall 168

Tattoo and Piercing Consumption Behavior

Presenter(s): Daniel Shannahan

In recent years, the incidence of tattooing and body piercing among young adults has become significantly more prevalent. As a result, the connoted meaning of a tattoo or piercing has undergone a transition from an indicator of membership in a distinct subculture to a fashion statement lacking its previous social implications. This transition is a noteworthy one, as it reflects a significant shift in cultural attitudes toward what had previously been a marker of a relatively stigmatized group. It is also important to determine the extent to which generational differences have played a role in this attitudinal shift. The theoretical works of Karl Marx and Dick Hebdige, as well as some more recent applied studies provide valuable insight into the investigation of this issue. Although they did not indicate a clear generational divide, my interviews of individuals regarding their attitudes about tattoos and piercings nevertheless yielded some interesting findings indicative of increasing acceptance of such consumption behavior.

Sponsor(s): Joel Stillerman

Padnos Hall 207

Exploring Important Protein Interactions in the Mammalian Diaphanous-Related Formins

Presenter(s): Brent Hehl

Sponsor(s): Brad Wallar, Dolli Lutes

Padnos Hall 209

Do outwash plain deposits in Kalamazoo County, Michigan, represent high-flow, braided streams from outburst floods?

Presenter(s): Eric Hojnacki

Previous studies have proposed that landforms formed by the late Wisconsinan, Michigan lobe of the Laurentide Ice Sheet are consistent with a surging glacier and ice marginal stagnation during the formation of the Kalamazoo moraine. The literature suggests that large, sub-glacial reservoirs of water built up and were released as outburst floods, which cut through the frozen moraine as tunnel channels. Some layers of sand in gravel pits in the outwash plain are discontinuous, which is consistent with braided stream deposits. Other beds have a fining upwards sequence with large cobbles and boulders fining to cross bedded sands suggesting high water flow velocity during flooding and a decrease in velocity as the flood diminished. Each fining upwards sequence could represent a different flood event. In this study correlation across a single gravel pit will be attempted by measuring stratigraphic sections and by analyzing grain size distributions.

Sponsor(s): Patrick Colgan, Patricia Videtich

Padnos Hall 211

Pressure in a Mixture of Oil and Water

Presenter(s): Tim Major

We learn in physics that the pressure in a liquid is dependent only on the density of the liquid and depth of the measurement. When two different liquids, such as oil and water, are layered in the same container, the pressure at the bottom is the sum of the pressure due to each liquid. This pressure can vary, however, depending on the shape of the container and if the liquids are mixed.

Sponsor(s): Ross Reynolds

Padnos Hall 261

How Did It Get Here? Using Petrographic Analysis to Explain the Presence of Transcaucasian Culture in the Malatya-Elazig Region of Turkey

Presenter(s): Katherine Erdman

During the fourth and third millennia B.C., evidence of Transcaucasian culture appears throughout much of Eastern Anatolia. Migration, diffusion, and emulation are the leading theories to explain the presence of Transcaucasian culture in this region, in particular, the distinct black burnished pottery type associated with this culture. This paper focuses on the results of a petrographic analysis of pottery from the Malatya-Elazig region of Turkey. Our results demonstrate the utility of this method in analyzing this problem and provide suggestive results as to the nature of Transcaucasian material culture in Anatolia.

Sponsor(s): Mark Schwartz

Padnos Hall 262

Infrastructure Study

Presenter(s): Julia Kukulski

Citywide infrastructure improvement projects were put on the ballot of two West Michigan cities in 2005; both of these millages were rejected by the voters. The cities of Grand Haven and Roosevelt Park have enlisted the help of Grand Valley statistics students to design, implement, and analyze results from a survey of their residents. The results of these surveys will be used by the cities to understand citizen willingness to fund needed infrastructure improvements. This presentation focuses on my experience assisting Dr. John Gabrosek and his class, Statistics 311: Introduction to Survey Sampling. The focus of the presentation will be on the process of creating surveys, compiling data and communicating statistical results.

Sponsor(s): John Gabrosek

ORAL PRESENTATION ABSTRACTS

Beginning at 2:40 PM

Padnos Hall 107

Mayan Ball Games

Presenter(s): Robert Boerkoel

Sports comprise a large part of modern society across the world. However, few people know the roots of many sports can be found in the Mayan Ball Game. A game involving intense physical strength and human sacrifice, the Mayan ball game provided not only immense entertainment, but also important religious ceremony throughout the Mayan civilization.

Sponsor(s): Khedija Gadhoum

Padnos Hall 108

The Universal Mother, Community Outreach, and Interfaith in West Michigan

Presenter(s): Jamie Wasilchenko

The Universal Mother is an integral part of faith systems in India often manifested in goddess forms, which are believed to use their primal power to nurture, protect, and exercise justice. These mother-focused aspects have sometimes been transplanted and adapted to new social contexts in the United States. Mother's Trust/Mother's Place in Ganges, Michigan, attributes the Universal Mother as one inspiration for its interfaith program, the Lakeshore Interfaith Institute, as well as for its programs dedicated to helping families in crisis and health care communities. By interviewing those most closely involved in MT/MP services and facilitating discussions between those who attend courses at the LII, my research will examine what interfaith is and what it means to those involved at MT/MP/LII. It will also document how the intentional community at MT is created through the transmission of these interfaith values.

Sponsor(s): Russell Rhoads

Padnos Hall 207

Remember: A Short Story About Love, Loss, and Moving on Through Memories

Presenter(s): Shannon Lewis

The author, Shannon Lewis, will read her short story entitled "Remember," a piece of short fiction written for a creative writing class. The story depicts two companions and the emotional journey they undergo in order to reconcile themselves with the death of their close friend, and their feelings toward each other.

Sponsor(s): Dr. D. Ihrman

Padnos Hall 209

Analysis of Ooids from the Ordovician Lower Knox Group, Grainger County, Tennessee

Presenter(s): Ronald Friend

In the past, seas have been generally dominated by calcite precipitates such as ooids composed of calcite or aragonite, each of which has a characteristic texture. This change in ooid composition is believed to occur as a result of differences in ocean chemistry, perhaps due to sea floor spreading rates. The sample I am studying is from an outcrop of the Lower Knox Group in eastern Tennessee. This sample has been altered from being originally calcite or aragonite to dolomite and then to chert, which could have altered the original fabrics. I am going to study this sample under a petrographic microscope to see if any fabrics remain that indicate the original composition of the ooids. If any fabrics remain, I will be able to use my results to see if they agree with previous studies, which suggest that calcite dominated during the lower Ordovician.

Sponsor(s): Patricia Videtich

Padnos Hall 210

Holocaust Suite: Spring 2006

Presenter(s): Elizabeth Leonard

I will be presenting three paintings that I painted, based on ideas and concepts from the Honors 311 trip to Germany and Poland during the spring of 2006. The paintings work in series with each other, moving through the thought process I experienced on the trip as we learned about the Holocaust. The first painting is about the horrors of the Holocaust itself and makes use of images from the concentration camps. The second painting is about memory and loss, with images from the memorials that we viewed while on the trip. The final painting is about rebuilding and remembering, and mostly deals with imagery and energy from Berlin.

Sponsor(s): Rob Franciosi

Padnos Hall 211

Probing the Specific Amino Acid Residues Involved in the Regulation of the Diaphanous-Related Formins

Presenter(s): Jonathan Rawson

Sponsor(s): Brad Wallar

ORAL PRESENTATION ABSTRACTS

Padnos Hall 261

Public Discourse in a Democracy

Presenter(s): Rachel Salata

Sponsor(s): Judy Whipps

Padnos Hall 262

Groundwater Flow around Maplewood Lake

Presenter(s): Emily Daniels

Nutrient loading into surface water systems can lead to algal blooms and can degrade water quality. Maplewood Lake in Georgetown Township, Ottawa County, Michigan has elevated levels of nutrients. I will collect information from the County, Township, and landowners as applicable to create groundwater flow maps to aid in determining possible nutrient sources. One map will show just the adjacent Trillium Haven Farm and surrounding residential area, and one will encompass the Township.

Sponsor(s): Erik Nordman

Beginning at 3:00 PM

Padnos Hall 109

Statistics of the NFL Draft

Presenter(s): Aaron Sprague

My research is based on the National Football League Draft of college players. I focus on determining which variables are associated with drafting a great player. Variables include height, weight, college attended, draft round, draft position, combined NFL statistics, and, if possible, stats accumulated in their last season in college. I also discuss how well The Sporting News has done at evaluating player talent (based on their own rankings and scores). Included is a brief analysis of the upcoming 2007 draft. Statistical techniques used include logistical regression and multivariate analysis.

Sponsor(s): John Gabrosek

Padnos Hall 209

Hydrometer Analysis for Determining Grain Size of Fine Sediment

Presenter(s): Christine McWain

Accurately measuring the grain size of fine particles in a sediment sample is a difficult task; however, there are multiple ways to do this. The grain size of ten samples from an outcrop in ravines located on the Grand Valley State University campus in Allendale, Michigan, will be determined using the hydrometer method. This method consists of determining grain size by measuring the density of a mixture of water and suspended sediment as the sediment settles through a 1000 milliliter graduated cylinder. At various time intervals during a twenty-four hour period, the density is determined and grain size is calculated using Stoke's Law. The data are graphed by percent sand, silt, and clay in each sample. In order to determine the best, most efficient method, my analysis will be compared to the results from another project in which the grain size of the same ten samples is measured using the laser particle counter method and magnetic susceptibility.

Sponsor(s): Patricia Videtich, Patrick Colgan

Padnos Hall 210

Who Shall Ascend?

Presenter(s): Sara Sheehan

An excerpt from a fictional interpretation of the psychological strains that World War II put on a German citizen with Jewish relatives. Included in the piece is factual information about Berlin during 1942, the Jewish faith, and actual events during the war, dramatized for artistic effect.

Sponsor(s): Rob Franciosi

Padnos Hall 261

The Electrical Industry in Grand Rapids: Improving Technology in Operations at J. Taylor Electric

Presenter(s): Jenna Bryans, Jeremy DeJong, Greg Smith, Nathan Gentile

This project was undertaken with the goal of improving the technology at Taylor Electric, a minority-owned licensed electrical contractor in Grand Rapids. We met with Taylor Electric several times throughout the semester to discuss what needed to be improved and to determine what costs were acceptable. After conducting research, we determined the most cost efficient ways to improve project and inventory management. We relayed our findings to Taylor Electric with the recommendation that they implement this technology.

Sponsor(s): Nancy Levenburg

ORAL PRESENTATION ABSTRACTS

Padnos Hall 262

Evaluating the Effectiveness of the Florida Keys National Marine Sanctuary on Coral Health.

Presenter(s): Alexis Sherman

The coral reefs of the Florida Keys are a unique and threatened ecosystem which support a wide array of species. They provide many economic benefits to those that live near them. I will evaluate the past and current state of reef health in that area. I will compare current Florida Keys Marine Sanctuary management practices to that of other reef ecosystem areas to determine the most effective management approach. Problems such as reef tourism impacts and local sewage leaks will be addressed. This will include a map of the Florida Keys National Marine Sanctuary, showing the spatial distribution of current reef health as well as management options. Considering these topics will help to assimilate a management plan that will support the ongoing effort of maintaining coral health.

Sponsor(s): Erik Nordman

Beginning at 3:20 PM

Padnos Hall 209

Comparison of Laser Particle Counter, Hydrometer, and Magnetic Susceptibility Methods for Fine Grain Size Analysis

Presenter(s): Alex Snider

A fast way to determine grain size for very fine sand to coarse clay is to use a Laser Particle Counter (LPC), which uses a laser to analyze sediment suspended in pure water. Another way to determine grain size is by the hydrometer test. This test may yield more accurate results than the LPC, but it takes considerable time. This presentation compares LPC grain size data from ten samples gathered from a glacially deposited outcrop on the Grand Valley State University campus. Using hydrometer data from these same ten samples, from another project, I will compare it with the LPC data to make an accurate grain size curve for the LPC. I will also run magnetic susceptibility on the ten samples. Magnetic susceptibility is a measure of the percent magnetic material in a sample. This measurement is easily obtained using a Magnetic Susceptibility Meter. These data could be used along with the LPC data to determine fine grain sizes rather than the more time consuming hydrometer method.

Sponsor(s): Patricia Videtich, Patrick Colgan

Padnos Hall 210

Traces of Memory

Presenter(s): Jill DeLeeuw

See through a new lens as I share with you the experience of visiting one of history's most horrendous truths: Auschwitz. As a German major approaching senior year, I embarked on a life-changing journey to face the most devastating of Germany's historical and cultural events - the extermination of mass numbers of Jews, homosexuals, and gypsies among others. Knowing that I would be confronted with that which any German enthusiast would like to ignore, I detailed my emotions and perspectives in a memoir that surely draws new insight into a thoroughly-discussed topic. Absorb how the challenge of seeing a hard truth becomes the greatest life lesson ever taught.

Sponsor(s): Rob Franciosi

Padnos Hall 262

Managing for Wildlife Habitat on Private Land

Presenter(s): Angela Herban

Wildlife is a valued public resource that is often only included in land management as an afterthought. With working knowledge of historic, current as well as future habitat options, managers can influence wildlife populations over time. This study shows the importance of managing habitat to increase and maintain a healthy landscape and wildlife biodiversity. The study site is on private land located in Ludington, Michigan and is owned by Mark and Bonita Herban. Due to high variability and unique location of the study site, the primary focus will be increasing the biodiversity of small mammals, reptiles and birds through habitat manipulation.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 3:40 PM

Padnos Hall 107

Injecting Technology Into Plastics

Presenter(s): David James, Jeremy Arndt, Ken Sailer, Evan Neustifter, Justin Brunink

KAM plastics is a thermoplastic injection molding company that is seeking help in updating its paper-based management system and utilizing a streamlined computer-based data system. KAM plastics is currently using computer data systems, although they still rely on their paper-based system. Our group took on the task of familiarizing ourselves with the current operations of KAM plastics data management system. We then proposed and elected new solutions to meet KAM's needs.

Sponsor(s): Nancy Levenburg

Padnos Hall 108

Dodgeball: The Art of Throwing

Presenter(s): Sarah Simon, Malcolm Campbell, Sarah Bier

Our project is determining the best, most efficient, way to throw a dodgeball in terms of speed and accuracy. We are using members of the dodgeball team and having them throw the ball at a target using the four different types of throws most commonly used in dodgeball. We have a radar gun to measure speed and a target to measure accuracy. We will use the throw data collected along with the players' height and weight to determine if there is a "best throw" for certain people and if their body type is a factor.

Sponsor(s): Bradley Ambrose, Edward Baum, Jim Scott

Padnos Hall 210

Auschwitz and Sachsenhausen: Witnesses to a Holocaust

Presenter(s): Carly Paszek

Part of my way of experiencing the concentration camps, Auschwitz in Poland and Sachsenhausen in Germany, was through photographing them. Those who were with me took pictures as well, but more than once I heard people saying they wanted to put the camera down for awhile and just experience everything they were seeing without it being through a lens. I, however, found that rather than putting a barrier between myself and everything I was seeing, my camera made me take an even more in depth look at my surroundings. I wanted photographs that would speak to those who would see them. This allowed me to not only look at the buildings and surrounding areas, but to look at the bricks, the wood, and everything else that made up the scene before me so that I could find the right perspective to say what I wanted. Even the best of photographs could not come close to expressing the meaning and feeling of Sachsenhausen and Auschwitz, but I nonetheless had an overwhelming feeling that I had to try to do so. I wanted to be able to show people as best as I could what was there in the hopes that something would affect them. In this way, the tragic tales of those who were murdered at those sites would not be forgotten.

Sponsor(s): Rob Franciosi

Padnos Hall 262

Ethanol: Tomorrow's Hero or Fairy Tale?

Presenter(s): Jeffrey DeVries

Ethanol is an alternative fuel that is made using renewable products such as corn. The question is, with all the fuel already used to grow, harvest, and transport the crops, is the ethanol we get out of the corn worth all the fuel we put in? For this capstone project I will be interviewing local corn farmers to find out how much fuel a year they use on their farms in order to grow their crops. I will also find an average for bushels of corn harvested per acre. Lastly I will find out how many bushels it takes in order to make a gallon of ethanol. The deliverables for this project will include this presentation as well as a written report with my analysis on whether or not we are creating a new worthy fuel source or if we need to look elsewhere in the future.

Sponsor(s): Erik Nordman

ORAL PRESENTATION ABSTRACTS

Beginning at 4:00 PM

Padnos Hall 107

Anna Howard Shaw: A Maligned Leader

Presenter(s): Veronika Stevens

Scholars generally judge Anna Howard Shaw's eleven-year presidency of the National American Women's Suffrage Association a time of failure, but there are significant reasons to doubt both the accuracy and fairness of this assessment. Examining Shaw's presidency proves she lacked interpersonal skills, but made up for that with her remarkable oratory skills and tireless dedication. Analysis of Shaw often neglects the one other area of leadership at which she excelled and for which she receives little credit: her ability to manipulate public opinion. Her efforts to educate and organize, while not immediately successful, led to the later enfranchisement of women. Shaw understood people did not vote for radical proposals. Thus, she dedicated herself to making suffrage a non-threatening, palatable idea the American public and politicians could embrace. The sources for this paper are both primary and secondary; including newspaper reports, Shaw's biography, leadership studies and a thesis completed in 1987 that also evaluates Shaw's leadership abilities.

Sponsor(s): William Morison

Padnos Hall 108

Effects of the Biological Pesticide, *Bacillus thuringiensis israelensis*, on Frog Larvae Development

Presenter(s): Meredith Harleton

Chemical insecticides are pervasively applied to farm fields, gardens, ponds, golf courses, wetlands, streams and roadside ditches for the control of select insect populations. However, the killing mechanism of these chemicals, largely neurotoxins, is not selective, but can adversely affect the physiology of any animal. As widespread use of chemical insecticides continues, and issues of pesticide runoff, bioaccumulation and ground water contamination are illuminated, there is mounting concern for the effects these chemicals have on humans and complex, natural communities. One alternative to traditional insecticide application is the commercial use of *Bacillus thuringiensis israelensis* (Bti). Bti is a toxin-producing bacterium naturally found in soil. Upon ingestion, Bti toxin selectively kills specific orders of insects by causing a disruption in the ion balance in the membranes of midgut cells. While Bti has been deemed "nontoxic" for selected fish and mammalian wildlife, studies have not been performed on sensitive amphibian populations or any natural community. This presentation discusses data showing the direct effects of Bti on frog larvae development and the implications these effects may have on the balance of organisms in aquatic communities. In addition, designs for future mesocosm community studies will be discussed.

Sponsor(s): Janet Vigna

Padnos Hall 168

Depth Perception and Volumetric Imaging

Presenter(s): Nathanael Ferrero

We will investigate a new method of creating volumetric images using optical scanning galvanometers and a HeNe laser. We will consider a volumetric image as a collection of points at various locations in space, allowing for the digitization of the image. This project will initially be limited to locating one point in two dimensions, with one dimension being the perceived depth of the point. The depth will be controlled by pulsing the input light at various frequencies and duty cycles relative to that of the galvanometer mirrors, with the frequency of rotation of the galvanometers controlled with stereo output from a computer. Other issues such as light intensity and the viewing range will be calculated and observed based on the position of the mirrors, laser power, and other variables. This technology could eventually be improved further to create real-time 3-dimensional holographic displays, for which there are innumerable possible applications.

Sponsor(s): Douglas Furton

Padnos Hall 210

Analyzing Water Quality Data: A Statistical Consulting Experience

Presenter(s): Justin Birkholz

The Annis Water Resources Institute of Muskegon is interested in creating a users guide to help K - 12 teachers apply descriptive statistics and hypothesis testing to water quality data collected from the GVSU Research and Education vessels. Trends in the water quality data also will be explored. In this presentation, I will highlight my statistical consulting experience and summarize the project findings.

Sponsor(s): Neal Rogness, Janet Vail

ORAL PRESENTATION ABSTRACTS

Padnos Hall 211

The Cool Cities Get Freezer Burn: Critical Analysis of the Urban Policy Influence

Presenter(s): Brad Fowler

Our research is an analysis of the theories of Richard Florida and how they have influenced urban policy making in recent years. Florida's basic thesis is that physical capital is now less valuable than creative capital "creativity and knowledge" and that this has led to the rise to prominence of a class who possesses this form of capital, the "creative class." Florida contends that the creative class prefers diverse and tolerant inner city environments with active arts and amenities industries. Because the creative class is highly mobile, a competition has arisen between cities in an attempt to attract its members to tap into their creative capital for economic gains, reversing the suburban trend of the last half century. Optimistic policy makers have jumped on Florida's bandwagon, including Gov. Jennifer Granholm, who has implemented the Michigan "Cool Cities Initiative" in response to Florida's ideas. This optimism may be unfounded, as many critiques have arisen in urban sociology and other fields. To address this debate, we proposed to analyze historical and census data on the cities of Minneapolis, St. Louis, Ann Arbor, and Grand Rapids to test Florida's theory. This data, combined with the existing critical literature, provided the basis of our analysis. Our criticisms of Florida include methodological weaknesses, problems in his conception of this "class," his ignorance of other historical trends which have led to the current condition of cities, difficulties with trying to replicate the success of creative centers, and his dismissal of the side effects of gentrification. Census data indicate that more factors affect urban growth than amenities. In the end, Florida's ideas are at the very least overstated.

Sponsor(s): Joel Stillerman

Padnos Hall 262

Improving operations for Meals on Wheels

Presenter(s): David McManaman, Erin Hoebeke, Tara Skelton, David Koenig

We will be presenting on the operation plans we developed and implemented for the Critically Ill Pantry (CIP). We felt the most crucial improvement needed by the CIP was in their storage capacity and facility layout. Capacity needed to be expanded when current space was limited. Existing facilities would not support expected growth, so alternative facilities were considered. We also developed purchasing and inventory management guidelines. Our goal in this area was to decrease overall costs and improve efficiency. The CIP was a relative new Kent County program with limited funding, so we determined maximum capacity and identified constraints during the initial growth period.

Sponsor(s): Nancy Levenburg

Beginning at 4:20 PM

Padnos Hall 108

Impact of Black Church in African American Community

Presenter(s): Horace Lattimore, Jr.

As the unifying force behind the fight for civil rights and voter's rights for African Americans, the black church has historically been a catalyst in the African American community. Is the local black church still a pivotal force toward social advance? How? Is the dream of equality, racial harmony and economic opportunity still a concern of clergy or has the focus shifted? This research will make a content analysis of the *Muskegon Chronicle* from 1968 to present. I will analyze articles on the Black church and gauge the areas of impact concerning the African American community.

Sponsor(s): Don Williams

Padnos Hall 211

Perceived Danger and Perceived Restoration

Presenter(s): Ashley Rector

We investigated the impact of perceived danger on perceived restoration. Participants imagined that they were in a state of directed attention fatigue and then that they were taking a walk in a potentially restorative setting. We varied two properties of the setting in a factorial design. The setting was either a nature trail or a busy urban street, and it contained either no obvious source of danger or an ominous stalker. Measures of perceived danger and of perceived restoration were obtained. For both types of measures, in the low-danger condition the two setting categories differed, with the natural setting seen as less dangerous and more restorative. In the high-danger condition, the difference between the setting categories was eliminated. We conclude that the presence of a serious and potentially uncontrollable source of danger can damage the perceived restorative potential of a setting.

Sponsor(s): Thomas Herzog

ORAL PRESENTATION ABSTRACTS

Beginning at 4:40 PM

Padnos Hall 107

The Impact of English as a Second Language and Bilingual Education on Spanish Language Proficiency of Elementary Students

Presenter(s): Tina Struyk

Language forms part of our cultural identity, and many Latin Americans are in an identity crisis between two psychological borders. Language also is the way we communicate and maintain relationships with our family and friends. Many third generation Latin Americans struggle to communicate with their grandparents and parents. There are many language programs with different instructional approaches, such as English as a Second Language (ESL) and Bilingual education. It is important to access the goals of these language programs and their possible implications on the Latino community. In this study 99 second language students were surveyed in 4 schools. Both students and teachers were asked to fill out a questionnaire. Students also completed a writing activity designed to determine fluency. The purpose of this research is to address the effects such programs have on the Spanish language and any possible consequences this might have on individuals, families, and communities. Suggestions are offered as possible solutions that would allow for a healthier diverse nation.

Sponsor(s): Zulema Moret

Padnos Hall 109

Primetime for Violence

Presenter(s): Tara Truran

Research has indicated that there is a link between viewing violence on television and increased levels of aggression in the viewers who watch the shows. Given these findings, it is important to take a closer look at the level of violence being aired during primetime hours in 2007. The purpose of this study is to examine the amount of violence being shown on three major television stations during their weekly primetime line-up: CBS, FOX, and NBC. The television shows aired between 8pm-11pm will be analyzed to document the level and number of violent acts in a given show. Another person will analyze the shows to ensure reliability.

Sponsor(s): Don Williams

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 1

Inclusion in Education

Presenter(s): Kasey Rozga

Mainstreaming (inclusion) in education is a very controversial area of discussion. Should it be allowed? Who is benefiting? And who isn't? Through extensive research it has been noted that there isn't one definite answer to this debate. This study is designed to look at the benefits of schools participating in mainstreaming. Who benefits exactly, or is it a waste of time, effort, and money? There are numerous findings that the students who aren't disabled benefit greater than those with the disabilities from mainstreaming. Is this the case? Through interviewing teachers, paraprofessionals, and parents, I will evaluate this sensitive debate from a first hand perspective.

Sponsor(s): Don Williams

Henry Hall Atrium Display 2

Asymmetric Synthesis of Chiral Silanes: Eliminating the Doppelganger

Presenter(s): Chad Meece

Two projects involving nucleophilic asymmetric substitution at silicon were studied. In the first project, new analogues of the chiral silane (1), the dibromo compound (2) has been synthesized in 72.6% yield. This dibromo compound reacted with magnesium to give a digrignard, which was then reacted with HSiCl_3 and reduced with lithium aluminum hydride to form a dihydro bicyclic silane (3A). Current experiments are intended to make a dianion from (2) and react it with $\text{Si}(\text{OEt})_4$ to form the diethoxy silane (3B). In a separate related project, diethoxyphenyl silane was reacted with butyllithium in the presence of sparteine to investigate the potential for a single step asymmetric synthesis of chiral silanes. Previous research has shown this reaction to potentially form chiral silanes in enantiomeric excesses greater than 70%. Current results indicate that this reaction can not produce a single enantiomer with an e.e. greater than 18%. (1) (2) (3 A-B)

Sponsor(s): Randy Winchester

Henry Hall Atrium Display 3

A Critique of Popular Culture (Working Title)

Presenter(s): Samantha Talbot

Sponsor(s): Jennifer Stewart

Henry Hall Atrium Display 4

Family Structure and Children's Literature

Presenter(s): Lisa TenBrink

The family institution has changed over the years. In the 1950s the traditional family was the nuclear family. Today, there is a variety of family structures. This study looks at children's literature to determine if children are reading about families that represent their own. There are many kinds of families and the question is whether children's literature reflects these changes. Are children's books accurate in depicting the family structure? The study involves content analysis of the award winners of the Newberry Award over the past fifty years. The study consists of analyzing six books, of winners (one from each decade of winners from 1950-2000). Each book is analyzed to determine how the family is represented.

Sponsor(s): Don Williams

Henry Hall Atrium Display 5

Strength and Conditioning Program for Triathletes

Presenter(s): Timothy Gates, Mandi Zemba, Danielle Kosheba

Triathlons are becoming increasingly popular as individuals are continually seeking out unique ways to become physically active. The purpose of this study is to make a training program for the amateur athlete in training for a sprint distance triathlon. This long distance event will require the athlete to be in top cardiovascular shape as well as having a strong musculature to be able to withstand the stress that will be put on the body during the intense training and competition which includes the disciplines of swimming, biking and running. Along with cardiovascular training in the three disciplines, a strength training program that focuses on muscular endurance as well as the core and balance muscles will be implemented. We will use the principle of periodization to construct our training regimen and to ensure athletes build a strong cardiovascular base and develop speed and fine tunes their training so they reach their physical peak at the time of the race.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 6

Attributions About Ostracism During the Completion of a Cognitive Task

Presenter(s): Kevin Betts

Sponsor(s): Christine Smith

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 7

The Effect of Dihydrotestosterone on Vascular Reactivity in Coronary and Pulmonary Arteries

Presenter(s): Benjamin Eovaldi

The purpose of this study was to determine if incubation of coronary and pulmonary arteries with dihydrotestosterone (DHT) alters vascular reactivity to potassium chloride (KCl) and the nitric oxide donor 6-(2-hydroxy-1-methyl-2-nitrosohydrazino)-N-methyl-1-hexanamine (NOC-9). Porcine coronary and pulmonary arterial segments were dissected, mounted in isolated tissue baths, and incubated with 0.1 mM DHT for two hours. The responses to increasing concentrations of KCl (5-20 mM) and NOC-9 (10^{-8} - 10^{-5} M) were recorded. To study the expression of the androgen receptor (AR) in the vasculature, Western blots were performed utilizing isolated coronary and pulmonary arteries. Both coronary and pulmonary arteries exhibited significant, dose-dependent contractions in response to KCl. NOC-9 induced significant relaxations in coronary and pulmonary arteries. The vascular reactivity was decreased in coronary arteries and increased in pulmonary arteries following prolonged incubation with DHT. The AR is expressed in both coronary and pulmonary arteries. In conclusion, 2-hour incubation of coronary and pulmonary arteries with DHT may alter vascular reactivity in a heterogeneous manner.

Sponsor(s): Randy Winchester, Francis Sylvester

Henry Hall Atrium Display 8

A One Year Periodization Model for Female Competitive Figure Participants

Presenter(s): Marta Streu, Amy Crawley

What does it mean to have the "total package?" In the world of a figure competitor this would include an overall athletic appearance, a balanced symmetrical physique, firm and round musculature, a small amount of bodyfat and the ability to present oneself on stage with confidence, poise, and grace. The purpose of this presentation is to provide a periodization model for the growing population of amateur female figure athletes training to achieve this goal. This research is both timely and valuable as to date there has been little examination of this emerging sport in the strength and conditioning literature. The macrocycle methodology provided will examine the training, nutrition and physical preparation of a typical competitive regimen. As this approach is theoretical in nature and has yet to be empirically validated there are limitations as to the generalizability of this research. This effort is significant as it will better inform and benefit the principles and practices of the training and preparation of figure athletes and their coaches.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 9 : **CANCELLED**

The Division II Athlete and Undergrad: Why are there so many not finishing?

Presenter(s): Taushauna Churchwell, Ryan Lyster, Bethany Hecksel, Tommy Fellows

The purpose of this study is to examine the graduation rates of Division II student-athletes. We will look at several factors that are affecting the graduation rates, including gender, race, sport and major. After studying the different factors involved, we will look to find the main reasons why many of these student-athletes are not graduating. We will obtain statistics from the NCAA for our investigation. We will also survey former student-athletes to gather information. Using charts and graphs, we will organize our results and analyze our data. As a result of our study, we hope to identify major causes of the low graduation rates in Division II athletics as well as the different groups of students that are affected. We would also like to learn how each of the factors involved affects student athletes. This will allow us to see what action needs to be taken in order to make future changes that will help give more Division II student-athletes the opportunity to graduate.

Sponsor(s): Dana Munk

Henry Hall Atrium Display 10

Circle Packings and Penrose Tilings

Presenter(s): Matthew Stamps

A circle packing is a configuration of circles with prescribed tangencies corresponding to a given triangulation. In fact, given any triangulation, there is a well-established algorithm for creating its associated circle packing. In this project, we will describe circle packings defined by triangulations that arise from Penrose tilings. Penrose tilings are interesting because, though lacking translational symmetry, they are highly ordered through a process known as inflation. This presentation will describe a gluing process which reveals how the geometry of Penrose tilings is reflected in the corresponding circle packings.

Sponsor(s): David Austin

Henry Hall Atrium Display 11

NCAA/NFL Combine Training

Presenter(s): David Giacherio, Ryan Iott, Jason Downing

Sponsor(s): Shari Bartz

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 12

Periodized Strength and Conditioning Program for Elite Female Hockey Players

Presenter(s): Emily Pearson, Elizabeth Carr

The purpose of this project is to develop an ideal strength and conditioning program for elite female hockey players. To perform at an elite level, athletes must reach optimal strength, endurance and power. Research shows that female athletes respond differently to strength training; however, there have not been training programs developed specifically for female hockey players. Motion analysis, physiological demands, and injury data from the sport of hockey will be used to design the strength and conditioning program. The goal of this project is to develop a general strength training program that can be modified to each specific position.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 13

A Reusable Web Site for Student Organizations

Presenter(s): Chris Nowak

Sponsor(s): Roger Ferguson

Henry Hall Atrium Display 14

An Environment-Based Artificial Life Simulation

Presenter(s): Zach Kinstner

Artificial Life is a form of Artificial Intelligence that strives to observe changes in the prevalence of various traits in virtual organisms in some virtual world. The general process is simple: First, initialize a virtual world with hundreds or thousands of virtual organisms with randomized traits and brain functions. Then provide each organism with a means of sensing and interacting with other organisms, with the ability to perform various actions, and with conditions for life, reproduction, and death. Finally, begin the simulation and observe the behavior patterns, population dynamics, and eventual outcome. Allowing interactions between organisms and their environment enriches the simulation by providing yet another level of depth to the emergence of certain traits and characteristics in these virtual organisms.

Sponsor(s): Roger Ferguson

Henry Hall Atrium Display 15

The Meaning of Education: Do Sex and Motivation Matter?

Presenter(s): Samantha Schenk, Kelly Valdivia

The present study examines the relationship between gender and the meaning of education. Participants were given a survey in which they completed a measure of motivation and described what education means to them. Open-ended data from the survey will be coded using a grounded theory approach. We will explore the relationship between intrinsic and extrinsic motivation in relation to gender. First, we will examine whether there are sex-related differences in intrinsic and extrinsic motivation. Next, we will compare males and females who are high on intrinsic motivation and high on extrinsic motivation to examine whether there are differences in the themes that emerge from students' open-ended responses about the meaning of education.

Sponsor(s): Donna Henderson-King

Henry Hall Atrium Display 16

Access to Prenatal Care in Kent County: Understanding the Issues that Influence Provider Participation in the Medicaid Program

Presenter(s): Andrew Wilson

While Medicaid eliminates financial barriers to care by providing a mechanism to pay for needed services, gaps in access between publicly financed care and those with private insurance remain. Medicaid enrollees receiving prenatal care in Kent County, Michigan continue to have comparably less access to care. Between 1998 and 2003, only 55% of Medicaid births in Kent County had adequate access to healthcare, compared to 70% of privately insured births. While ability to pay is highly important in receiving needed medical services, without a sufficient supply of physicians, access remains problematic. This study surveyed OB/GYNs in Kent County, Michigan to gain an understanding of issues that influence physician participation in Medicaid. Specifically, the survey examined capacity, reimbursement, and non-reimbursement issues. Although it was found that most physicians do participate, a majority of physicians (63%) limited their participation. Furthermore, a large proportion of the patient load (80%) was concentrated among a small minority of respondents (13%). The top issues affecting participation were significantly lower reimbursement levels as compared to private insurance and patient problems, such as missed appointments and language barriers. Age and gender differences also seem to significantly impact participation. If policymakers are going to improve the quality of the Medicaid program, they must not only focus on enrollment and coverage related issues, but also craft solutions that make Medicaid participation more attractive for physicians. Unfortunately, the current budgetary strain makes significant fee increases unlikely and because participation extends beyond issues of reimbursement, progress along these lines will prove to be extremely difficult.

Sponsor(s): Stephen Borders

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 17

Periodized Training for the Collegiate Football Player

Presenter(s): James Wood, John Smith

Football as a sport requires athletes to demonstrate a multifaceted athleticism consisting of such things as speed, agility, power, balance, strength and size. In a game where many of the athletes are pushing the 300 pound mark, an individual of 200 pounds may seem almost average. However, this athlete's size coupled with speed may be capable of producing up to 1600 pounds of force during a routine tackle. This amount of force delivered by or to a body that is not well-conditioned to handle it could very well be devastating. In order to prevent these forces from inducing injuries, it is important that the qualities listed above be developed to their maximum. Athletes must take part in a training protocol that is both well-researched and appropriately tailored. The purpose of this presentation is to provide a comprehensive yet understandable periodized training regimen for the collegiate football player. Through the use of sound scientific research methods, this presentation will offer a reliable year-round training program capable of advancing each of the before mentioned attributes beyond their pre-program levels and thereby creating a more capable and less injury prone athlete.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 18

The Function and Role of Myosin 1 in *Trypanosoma brucei*

Presenter(s): De'Vona Glover

Trypanosoma brucei is the causative agent of African trypanosomiasis, also known as sleeping sickness. This overlooked disease is a major cause of death and morbidity in sub-Saharan Africa. *T. brucei* myosin 1 is a Class I myosin motor protein that moves along actin filaments. We hypothesize that myosin 1 is important for endocytosis because actin has been shown to be essential for this process. To test this hypothesis, a tetracycline-inducible RNA interference system will be used to silence the expression of myosin 1. Then using RT-PCR, we will determine if mRNA levels were reduced because the loss of mRNA signals a knockdown. Afterwards, the effect of myosin 1 loss will be investigated using growth curves (cell numbers $\pm$ tetracycline). In the end, we will measure endocytosis in myosin 1 cells via tomato-lectin (FITC-labeled), which labels endosomes by fluorescence microscopy. Finding the function and role of myosin 1 in *T. brucei* may steer us to good molecular targets for drugs to treat trypanosomiasis. In collaboration with Matthew D. Welch, University of California-Berkeley.

Sponsor(s): Dolli Lutes

Henry Hall Atrium Display 19

The River Connection: Contribution of Carbon and Nutrients by West Michigan rivers to Lake Michigan

Presenter(s): Eric Strickler

Henry David Thoreau saw lakes as "Earth's Eyes" that reflect the impressions from the surrounding landscape. An important part of that landscape for Lake Michigan includes the rivers of west Michigan, which contribute substantially to the Lake's water, carbon, and nutrient budgets. In this study, four major rivers of southwest Michigan (the Muskegon, Grand, Kalamazoo, and St. Joseph Rivers), which together annually discharge a volume of water approximately 0.5-1% of the southern Lake Michigan basin, were studied over the spring-summer season of 2006. On average, rivers of West Michigan were 10 to 20-fold more productive and contained 3-fold higher carbon and 10-fold higher phosphorus concentrations than Lake Michigan. Potentially, such riverine discharges can export primary production to the lake, and annually support ~3% of the C requirement of lake heterotrophs and ~10% of the P requirement of phytoplankton in Lake Michigan. Measured rates of biological processes (production and respiration), carbon/nutrient inventories, and colored dissolved organic matter (a signature of terrestrial input), all decreased along the river to lake gradient, suggesting that the rivers of west Michigan act as sources of carbon and nutrients, and substantially influence coastal processes and water quality in Lake Michigan.

Sponsor(s): Bopi Biddanda

Henry Hall Atrium Display 20

Hydrogeologic Analysis of the Muskegon Chemical Company Superfund Site, Whitehall, Michigan

Presenter(s): Sydney Boos, Katie Conroy, Eric Hojnacki, Denni Jo Bisanz, Joy Gryzenia, Carson Klemp, Ronald Friend, Eric Abdo

Soil and groundwater contamination by organic chemicals has occurred at the Muskegon Chemical Company site. As a class project in Geo 440, we analyzed data from soil borings, monitoring wells, pump tests, and groundwater samples collected by consultants at the site. We constructed geologic-cross sections, groundwater flow maps and contaminant plume maps. The migration of the contaminants is affected by the location of a high permeability erosional channel deposit. Transport of contaminants from the leaking floor drain source is in the direction of groundwater flow but the distribution of organic chemicals has been influenced by remediation pumping wells. The groundwater flow velocity at the site is estimated to range from .5 to 1 foot per day.

Sponsor(s): Peter Riemersma

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 21

Hydrogeologic Analysis of the Delphi Corporation Site, Wyoming, Michigan

Presenter(s): Kirk Perschbacher, Alex Snider, Jason Stewart, Sarah Nagorsen, John Vogelzang, Mark Bryson, Emily Daniels, Joseph Root

For our Geo 440 class project, we analyzed the groundwater contamination at the Delphi Corporation plant located in Wyoming, Michigan. We analyzed data from soil borings, monitoring wells, pump tests, and groundwater samples collected by consultants at the site. Organic chemicals, in particular trichloroethylene (TCE), were released from leaking underground storage tanks on the facility. Maps showing the distribution of TCE and its biodegradation products clearly show the extent of contaminant migration between 2004 and 2005. Most of the subsurface sediment consists of high permeability sand and gravel with lenses of low permeability. Depth to bedrock is variable and influences aquifer thickness. In areas of reduced aquifer thickness, an increased hydraulic gradient is clearly visible in groundwater flow maps. Groundwater flow velocity at the site is estimated to range from 2 - 3 feet per day.

Sponsor(s): Peter Riemersma

Henry Hall Atrium Display 22

Golf Course Management and Amphibians: Impacts of wetland habitat management on the occurrence of green and leopard frog populations.

Presenter(s): Amanda Massau

For many years amphibian populations have been declining and much of this is the result of human destruction of the natural habitat of amphibians. To help stem the loss of amphibians we must look for alternative ways to provide habitat, and one way may be the wetlands on golf courses. We conducted surveys on 16 golf courses within the Grand Rapids watershed to determine what kind of habitat features they provided and what species were already present, focusing on leopard (*Rana pipiens*) and green frogs (*Rana clamitans*). We used both night time calling surveys and daytime visual surveys to identify the species present and measure many habitat features including grass height, water quality, depth, North shore characteristics and others. A preliminary review of the results suggests that vegetation height surrounding the ponds does not seem to be significant factor. However other features, like North shore shallows and emergent vegetation appear to be positively linked to leopard frog presence and breeding. In this summary, we will present our results for both leopard and green frogs. With the information determined in this study, golf courses may be able to better design and manage their wetlands in order to encourage leopard and green frog populations.

Sponsor(s): Stephen Burton

Henry Hall Atrium Display 23

In vitro analysis of protective compounds for glaucoma

Presenter(s): Katie Webster, Ashley Kehoe

Glaucoma is a group of diseases characterized by an increase in intraocular pressure (IOP), which that leads to the death of retinal ganglion cells (RGCs) and eventually blindness. One theory suggests that increased IOP prompts the release of excess glutamate, the primary excitatory neurotransmitter of the central nervous system. The overabundance of glutamate causes an excitotoxic effect, which selectively kills the RGCs. However, acetylcholine released from amacrine cells in the retina has been shown to prevent excitotoxicity by acting as nicotinic agonists specific for the alpha7 receptors on RGCs. We are currently conducting studies on isolated RGCs to examine the neuroprotective effect of selective alpha7 agonists. However, we want to translate these studies to animal models of glaucoma. As a bridge from isolated retinal cells to animal studies, we have been using a retinal eye-cup preparation. Briefly, this preparation is the eye ball that has had the anterior portion removed leaving a cup that is lined with the retina. The eye-cup preparation is comparable to a natural petri dish with a retinal lining. We have attempted to duplicate our isolated RGC studies by applying excitotoxins such as excess glutamate and glutamate agonists to the eye-cup and examining cell death. We have been doing this by directly applying compounds to the eye-cup for specific durations. Then, retinal slices of the eye-cups were generated and tested for cell survival. We have done this through the use of a Live/Dead cell staining kit. By comparing the cells that stain Live with those that stain Dead, we are attempting to characterize compounds as potential neuroprotective compounds. Ultimately, we would like to demonstrate that compounds that are effective on isolated RGCs are effective in an in vitro eye-cup preparation and then in an animal model of glaucoma.

Sponsor(s): David Linn

Henry Hall Atrium Display 24

Habitat Restoration on Sickle Creek, a 1st Order Tributary of the Big Manistee River

Presenter(s): Jason DeBoer

Sponsor(s): Eric Snyder

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 25

An Investigation of the Elements Required for a Successful Cervical Cancer Awareness Campaign Designed to Meet the Needs of Women in Rural Nicaragua

Presenter(s): Rachael Hamilton

Cervical cancer is a devastating disease, but with the right resources it is both treatable and preventable. In communities with low socioeconomic status and limited resources, cervical cancer awareness and treatment often falls as a lower priority to other health care needs, and in some places is virtually nonexistent. Every day, 600 women die from cervical cancer (PAHO, 2005). This is a particular crisis within Latin America where access to screening and treatment are often severely limited, and due to social contexts such as machismo, women often hold little power to negotiate the use of condoms or advocate for themselves in the health arena. This study evaluated programs that increase cervical cancer awareness and promote treatment, particularly among rural Spanish speaking populations. A questionnaire was designed and pilot tested with the community leaders of UCA Miraflores. Over 60 health professionals working within Nicaragua were contacted with a request to participate in this survey. This research has identified several key factors in implementing a successful cervical cancer awareness and treatment program in Miraflores. This talk will discuss these key factors as well as possible obstacles to the implementation.

Sponsor(s): Julia Mason

Henry Hall Atrium Display 26

The Effect of Music on Reaction Time and Cognitive Ability

Presenter(s): Amanda Sterenberg, Jessi Roedema

This project stems from other research that draws the conclusion that listening to classical music, particularly Mozart, can help with certain mental tasks. Our goal was to see if other music types also had any effect on mental tasks. We separated our test subjects into two equal groups and tested them with mirror tracing tests (attempting to trace a pattern onto paper as reflected into a mirror) and drop stick reaction time tests (subject attempts to catch a stick between forefinger and thumb when dropped by another person) while listening to four different types of music and a control test without any music. Subjects were allowed to adjust volume to personal preference, and were asked to fill out a survey that included questions about musical preference. This project includes previous research about the effects of music on mental tasks as published in scientific journals.

Sponsor(s): Bradley Ambrose

Henry Hall Atrium Display 27

Partial versus Full Notes: Learning Outcomes and Attendance

Presenter(s): Andrea Wandel

Note taking in college classrooms has been significantly altered by technological advances permitting instructors to provide notes in online formats, such as BlackBoard. However, research has not been consistent on how such notes affect student outcomes. This study expands on previous research by examining the effects of partial versus full Web notes in Introductory Psychology classes while controlling for instructor variables, initial levels of student knowledge, and general academic ability. Results suggested that students receiving partial notes performed better on examinations later in the semester and performed better on conceptual questions during the cumulative final examination than students receiving full notes. There was no significant effect of type of notes on attendance. The article provides possible interpretations of these data.

Sponsor(s): Tara Cornelius

Henry Hall Atrium Display 28

Empowerment and Educational Goals: A Study on the Outcomes of a Mentoring Program

Presenter(s): Amy Kulon, Kristen Snell, Sarah Grow

The intent of this study was to evaluate the outcomes of a mentoring program and assist the program in obtaining funding. Specifically, this study evaluated two mentoring outcomes, empowerment of the mentees, as well as the establishment of goals for higher education. The research process illustrated both statistically significant and anecdotal evidence of the achievement of these goals. The poster presentation will contain details of the research, including background information, details of the mentoring intervention, and a summary of the data obtained, its analysis and the subsequent results.

Sponsor(s): Kirk Anderson, Theresa Bacon-Baguley

Henry Hall Atrium Display 29

The Use of Quilts as Symbolic Communication on the Underground Railroad

Presenter(s): Darci Cole

There is a dispute in literature as to whether quilts were used as a form of symbolic communication on the Underground Railroad to help slaves escape to the North and Canada, and thus to freedom. To gain insight and perspective into the validity of either claim, this research includes existing data and critiques in the form of books and articles, and information gathered through interviews of persons knowledgeable on the history of quilts.

Sponsor(s): Don Williams

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 30

Taking a Bite Out of Childhood Obesity

Presenter(s): Scott Banister, Paul Theuerkauf, Jill Davis

Childhood obesity in the United States is growing at epidemic levels. From 1976 to 2006, the percentage of obese children ages 6 to 19 has grown from 5% to 15.5% (American Obesity Association, 2006). Children have developed unhealthy eating habits and have become less active. Our presentation is intended to provide a framework to change the lifestyle of these children and educate them on the benefits of physical activity and good nutrition. Our strength and conditioning program will create a fun learning environment for middle school children and will incorporate the five components of physical fitness: flexibility, body composition, cardiorespiratory endurance, and muscle strength and endurance. The program will specifically outline activities and explain how children can incorporate them into their daily routines. We will also map out nutritional guidelines, which follow the Food Pyramid created by the Department of Agriculture (USDA). With the Food Pyramid, we will be able to create a healthier diet and also control the portion sizes to negate binge eating. The goal of our periodization model is to change the lifestyles of overweight and obese children and to maintain the active lifestyles of those already exhibiting good physical fitness.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 31

A Statistical Consulting Experience: Determining the Effects of Class Size, Major, and General Education Course Groups on GPA.

Presenter(s): Harley Rohloff

As part of graduation requirements, GVSU students must take a variety of General Education courses. These classes can vary greatly in size from one another. Dr. Carol Griffin, Director of General Education, wanted to determine if class size had any effect on students' GPA's. It was also of interest to determine whether particular majors and General Education course groups impacted GPA results. In my role as consultant, I was to analyze this data and determine if there were any relationships between the factors.

Sponsor(s): Neal Rogness, Carol Griffin

Henry Hall Atrium Display 32

Transfer of Training Between Inline Skating and Ice Skating

Presenter(s): Ty Corey, Nicole Orzechowski, Greg Ostrosky

This research project investigates any possible effect that training on inline skates may have upon ice skating. Research of previous experiments suggests that a large correlation between the two exists. To begin, subjects skated three separate courses on ice skates, which the researchers timed and recorded. Then, the subjects skated identical courses on inline skates twice a week for the next four weeks. After the conclusion of the four weeks, the subjects skated the courses on ice. The researchers recorded the final ice skating results and compared the initial and final results to find any possible improvement. The researchers believed that enough similarities exist between inline and ice skating to have a noticeable effect upon the times.

Sponsor(s): Edward Baum, Bradley Ambrose, Jim Scott

Henry Hall Atrium Display 33

Development of a Fluorescent Biosensor Based on the Interaction Between BRCA1 and p53

Presenter(s): Derrick Kroodsmo

The intrinsically unstructured protein BRCA1 has been found to bind to tumor suppressor protein p53. Upon binding to a small region of BRCA1 (residues 219-248), the unstructured protein changes conformation, switching from unstructured to structured. This conformational change, coupled to the p53 binding event, can be utilized as a biosensor for the detection of p53 within a cell. A measure of the intrinsic tryptophan fluorescence showed that quenching of fluorescence occurs upon binding of p53 to the peptide region of BRCA1. We hypothesize that similar quenching of fluorescence can occur if an external fluorophore is conjugated to the BRCA1 region. To introduce an extrinsic signal transduction moiety to the BRCA1 peptide region, tetramethyl rhodamine-5-maleimide was conjugated to the peptide via thiol groups on the cysteine residues. Upon binding of p53 to the unstructured peptide, fluorescence quenching was observed. The quenching in fluorescence can be related to the molar amounts of p53 in a particular sample. This biosensor platform can be applied to other protein-target pairs and can be used to characterize protein-protein binding events.

Sponsor(s): Dolli Lutes

Henry Hall Atrium Display 34

Regioselective Bromination of Aromatic Compounds

Presenter(s): Katherine Hamilton

Brominated aromatics have many biological applications including their role as antitumor agents, antibacterial agents, antifungal agents, antiviral agents, and antioxidizing agents. Traditional brominating strategies for the synthesis of substituted aromatics are often unselective and are attributed to numerous hazardous and environmental problems. A selective and simple brominating strategy has been developed in which only one product is obtained in the bromination of substituted aromatic derivatives. The brominating reagent is tolerant to different functional groups on the aromatic ring. The results of the synthesis of brominated aromatic derivatives will be presented.

Sponsor(s): Felix Ngassa

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 35

Social Class, Meaning of Education, and Views of Work Life

Presenter(s): Bethany Doneth

Education does not hold the same meaning for all college students. This paper examines the relationship between social status and the meaning of education for college students. Previous research has shown that students with a working class background tend to see their education as a means to a job. Using survey data from GVSU undergraduate students, I will explore the role of social class in the meanings of education that students hold. I will also explore, using open-ended responses about the meaning of education, how students from various class backgrounds describe their future work lives.

Sponsor(s): Donna Henderson-King

Henry Hall Atrium Display 36

The Relationship Between Physical Activity, Anthropometry, and Performance on The Brace Motor Ability Test

Presenter(s): Colleen Burns, Katie Green, Brenna Dorgan

This presentation will include analysis of data regarding level of physical activity, anthropometric measurements, and The Brace Motor Ability Test. The Brace Motor Ability Test is a series of twenty tasks that test agility, strength, balance, and coordination. The purpose of the analysis as well as the presentation is to identify any relationships between the three areas. Subjects in this study include students from HNR 244 as well as other students. The testing took place in the field house on GVSU's campus. Participants were selected on a volunteer basis. They first completed a survey, then had anthropometric measurements taken (including lengths, widths, weight, and height), and finally completed The Brace Motor Ability Test. The data were then analyzed by the investigators, and conclusions were drawn regarding relationships between the three areas of study.

Sponsor(s): Edward Baum, Bradley Ambrose, Jim Scott

Henry Hall Atrium Display 37

Exercise? Watt Can It Do?

Presenter(s): Jackee Keller, Erin Raymond, Andria McCabe

The society we live in today is dependent upon an outside energy source for and to make our lives easier. Converting exercise expenditure to usable energy could be a revolutionary method for incorporating exercise for electrical purpose into the fight against American obesity. Based upon information obtained using the Sparkle Bike in the Human Movement Analysis Lab, we found that one could expend just about 7 kilocalories per minute when pedaling at 20 volts. Applying this conversion system could be beneficial for motivating people to exercise in order to power a small device, such as a cell phone or MP3 player.

Sponsor(s): Dawn Coe

Henry Hall Atrium Display 38

Health Services in Belize

Presenter(s): Colene Shackangast

While traveling to Belize, through ProWorld Service Corps, the healthcare system in Belize was examined through an Internship at San Ignacio Hospital. Daily responsibilities included patient registration, vitals, aiding nurses and doctors and running other various errands that needed to be done. The purpose of this internship was to gain experience in healthcare, learn other methods of medicine and immerse myself in a culture very different from our own.

Sponsor(s): John Capodilupo

Henry Hall Atrium Display 39

Influential Victims

Presenter(s): Jessica Fischbach

It is known that many social problems are influenced by the presence of sympathetic victims, individuals or groups of people who are considered undeserving of their circumstance. Victims that commonly have a strong influence on the portrayal of a social problem include, but are not limited to, children, the elderly, minorities, and those with mental and physical disabilities. Influential groups, such as non-profit organizations, the media and government, use the presence of these victims to help draw support for their causes and campaigns. A survey, completed by Grand Valley State University faculty and students, found that 60% of the respondents make the race or nationality of the affected individuals the biggest deciding factor when contemplating the severity of a social problem. Age was a factor for 23% of the respondents and the presence of a disability gathers sympathy from 17% of those surveyed. The strategic utilization of these sympathetic victims is essential for the awareness of social problems.

Sponsor(s): Jennifer Stewart

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 40

Periodized Strength and Conditioning Program for an Amateur Figure Skater

Presenter(s): Devin Clemence, Roger Doak

Figure skating has often been described as "ballet on ice." Skaters blend dance and their athletic ability in an effort to create routines that astonish audiences and demonstrate elegance and skill. Figure skating became a popular pastime in the 1800's, and today, figure skating is a highly competitive and popular spectator sport enjoyed worldwide. The four Olympic figure skating events include: Men's Singles, Ladies' Singles, Pairs and Ice Dancing. The purpose of this presentation is to develop the ideal training program for an amateur figure skater seeking competition at the professional level. It is imperative that figure skaters are able to meet the physical demands of their sport by being in peak physical condition. The best way to obtain this ideal state is to focus their training on sport specific movements. This strength and conditioning program will have a foundation on taking basic skating skills and elevating them as needed to compete in the sport at the professional level. The goal of this presentation is to enhance the skills required for figure skating through our year round training regimen and increase overall performance of the skater. Through completion of this program the participants will increase performance while competing at the professional level of figure skating.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 41

Female Childhood and Adolescent Bone Health and Paternal Influences.

Presenter(s): Megan Feldmeier

It is well documented that osteoporosis is a major public health concern. To reduce the burden of osteoporosis, prevention must begin in childhood and adolescence. The growth years around puberty have been shown to be a critical time for bone accretion. Therefore, maximizing bone mineral deposition in adolescence is necessary to preventing osteoporosis in later life. Adolescents, especially girls, do not consume adequate amounts of dietary calcium. Healthy People 2000 data (U.S. DHHS, 2000) indicate that only 19% of females between ages 9-19 years have adequate daily calcium intake. Adolescence is also the time when physical activity decreases among girls. Two major preventive strategies are a diet rich in calcium and weight bearing exercise. Developing healthy behaviors is a result of many factors including the social influences of norms, modeling and social support. The purpose of this study was to explore the correlation between the norms, modeling, and social support questionnaires in relationship to girls perception of father's behaviors supporting bone health. This poster will present the findings from this questionnaire with respect to what influences paternal figures had on the adolescent girls in this environment in regard to consuming calcium rich foods and participating in physical activity.

Sponsor(s): Jean Martin

Henry Hall Atrium Display 42

The Carbon Mystery: Photochemical and Biological Fate of Carbon in a Temperate Watershed

Presenter(s): Chad Meece

We studied the role of biological and photochemical degradation of dissolved organic carbon (DOC) along a stream-river-lake gradient in a large West Michigan watershed (Lower Muskegon River watershed) located within the Laurentian Great Lakes basin. In outdoor experiments, DOC, chromophoric dissolved organic matter (CDOM) absorbance at 350 nm, biological respiration in the dark, bacterial carbon production and carbon-based bacterial growth efficiencies all generally decreased along the land to lake gradient. High rates of photodegradation and dark respiration of stream water (with highest DOC-specific photooxidation and biological respiration), and low rates of photodegradation and dark respiration of lake water, attest to the enhanced photoreactivity and biological consumption of terrigenous carbon along this land to lake gradient. Photodegradation accounted for 30-49% (maximum potential; 15-25% conservatively) of the total DOC loss in these studies, and suggest that the combined photo-biological activities may be responsible for turning over the carbon pools within the different portions of this watershed in 25-50 days. Thus, coupled photochemical and biological degradation appear to be a major sink for carbon during its journey from land to receiving basins.

Sponsor(s): Bopi Biddanda

Henry Hall Atrium Display 43

Prevention and Preparedness for Potential Avian Influenza Pandemic

Presenter(s): Sarah Jaquith

Since the first epidemic of H5N1 in 1997 there have been many human occurrences and a number of casualties. It is believed that these transfers have occurred solely from avian to human hosts. In all the regions affected thus far, these epidemics have been successfully controlled by massive slaughter of the virus's natural host-poultry. Despite success there is still concern that future rearrangements of H5N1 would create a strain that moves efficiently between humans. This concern does not come without historical precedent in which millions of deaths occurred worldwide. A successful rearrangement would create an outbreak that could become a world-wide pandemic in as little as three months. Thus it is important to be prepared for the worst case scenario. Since the pandemic would be caused by a novel strain of influenza an effective vaccine is difficult to make in advance. Therefore early treatments with anti-virals would have to be used to buy time for the vaccine to be developed. Both M2 blockers and neuraminidase inhibitors work effectively against H5N1, but the latter has been found to be the most effective. Since influenza is highly contagious, strict control of personal hygiene and social distancing will be important in minimizing the rate of spread of a pandemic. Pandemic preparedness is important not only in the case of an outbreak, but in the meantime, it serves to increase public health with the yearly epidemic influenza issues.

Sponsor(s): Terry Trier

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 44

Adolescents' Value of Children and its Relation with Their Future Family Planning

Presenter(s): Carla Ingram

Studies about adolescents' future orientation showed that adolescents emphasize the importance of family to a great extent (Nurmi, Liiceanu, & Liberska, 1999). However, such research has rarely included explanatory factors for specific future plans. The main goal of this presentation is to test the value of children as an important predictor to explain individual differences in adolescents' future family planning. The term value of children refers to positive values (satisfactions) balanced against negative values (costs). Studies with young mothers have found that value of children is a fundamental factor in childbearing affecting family size preferences and fertility (e.g., Arnold et al., 1975). By applying the value of children concept to adolescents, the main question is whether the adolescents' expected satisfactions/costs of having children affect their future orientation regarding specific family planning (e.g., age of marriage, number of children).

Sponsor(s): Wolfgang Friedlmeier

Henry Hall Atrium Display 45

Drug Resistance in Parasitic Nematodes

Presenter(s): John Arnold, Ben Hake

The barber pole worm, *Haemonchus contortus*, is a gastrointestinal parasite of sheep that causes millions of dollars in economic losses (via anemia and death) to the sheep industry worldwide. Benzimidazole (BMZ), a deworming drug in widespread use by sheep farmers and veterinarians, is gradually losing its effectiveness as worm populations have increasingly evolved resistance to it. Resistance to BMZ is conferred by a point mutation in the beta-tubulin gene. We sampled worm populations from a number of sheep farms in Michigan, and performed a phylogenetic analysis of the point mutation and flanking DNA regions to determine whether BMZ resistance in Michigan evolved multiple times independently, or whether it was introduced once into the state's population and spread sequentially from there.

Sponsor(s): Doug Graham

Henry Hall Atrium Display 46

The Evolution of the Female Body Form in the Media

Presenter(s): Victoria Velding

The emergence of the thin body ideal is undeniable in this country. Women in particular go to great measures to attain this so-called ideal body because they feel pressure to do so. This pressure is oftentimes enhanced by the media. Through television and advertisements, females acquire an unrealistic view of what the female form should look like. Has the media always promoted a thin ideal? Maybe there was a time when being thin was not "in." The purpose of this study will be to examine the female body form in the media throughout the past few decades. A content analysis will be done on images of beauty in popular magazines.

Sponsor(s): Don Williams

Henry Hall Atrium Display 47

Comparative Massage Techniques

Presenter(s): Cassie VanDussen

This presentation will show comparisons and contrasts of various methods of "conventional" therapeutic massage and "alternative" therapeutic massage. It will explain why they are important to the nursing profession and why it is important to have evidenced-based knowledge. It will give ideas of how the various methods could be integrated into the professional practice of nursing.

Sponsor(s): Gayla Jewell

Henry Hall Atrium Display 48

The Impact of Music Tempo On Exercise Efficiency

Presenter(s): Seth DeHaan, Miguel Iles, Adam Scott

The project was designed to examine data to discover if there was any correlation between music at a certain tempo being played and exercise efficiency. The project came about after previous research looking at the exercise efficiency of individuals and debating whether or not music would have an effect on their performance. The subjects underwent three trials on a treadmill over the course of three days, lasting roughly twelve minutes per trial. Each trial consisted of three stages of three minutes each at a 10% grade, the first being at 3 miles per hour, then 4 miles per hour, then 5 miles per hour, followed by a three minute cool-down stage at 1.7 miles per hour at a 10% grade; each trial was accompanied by music of a given tempo range or no music at all. The heart rate of each subject was continuously monitored, and their rating of perceived exertion was recorded every minute.

Sponsor(s): Bradley Ambrose, Jim Scott

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 49

Attributions Regarding Good and Bad Outcomes: The Effects of Just World Belief and Religious Fundamentalism

Presenter(s): Todd Miller, Bryan Dovichi, Ben Tolman, Kelly Branch, Bryan Dovichi, Jennifer Lord, Victoria Stanton

In the current study, we examined the effects associated with belief in a just world and religious fundamentalism (RF). All participants viewed video taped interviews of three individuals shown at two separate times (pre and post graduation from college) and these individuals varied in their stated religiosity, as well as their post graduation outcomes. One finding of the current research is that fundamentalist beliefs bias perception, especially when religious individuals are making attributions regarding nonreligious individuals who experience negative outcomes.

Sponsor(s): Luke Galen

Henry Hall Atrium Display 50

Front Page News

Presenter(s): Nicole Mayes

The mass media is a very powerful tool that can be used to legitimize public norms and a sense of common knowledge. The news, in particular, is a very powerful tool of persuasion as it is commonly viewed as factual and loyal to truth rather than being biased. In the role as gate keepers, newspapers choose topics and images that reflect their reader's ideologies in order to sell copies and keep their audience. A content analysis will be done of every Sunday front page issue of USA Today and The New York Times for the entire year of 2006 to determine how racial minorities are portrayed in the images on the front covers. I expect that there will be a misrepresentation of racial minorities that support common myths or stereotypes.

Sponsor(s): Don Williams

Henry Hall Atrium Display 51

Investigation of *Ailanthus altissima* Extracts on Microbial Species

Presenter(s): Dustin Mier

Increasing resistance to antimicrobial drugs by infectious organisms has created a growing need for the discovery of possible sources of new antimicrobial agents. *Ailanthus altissima*, commonly known as the Tree of Heaven (ToH,) is an invasive species native to Eastern Asia. Previous studies have shown that ToH root extract stimulates growth of *Azotobacter vinelandii*, a common soil bacterium. The study also indicated that a ToH leaf extract produced an antibacterial effect on *Azotobacter vinelandii*. To further study the production of antimicrobial compounds by ToH, we investigated the effect of ToH root and leaf extracts on *Azotobacter vinelandii*, as well as ten bacteria and four fungi of clinical importance. Both water and ethanol extracts were prepared by cutting the corresponding part of the tree and placing root/leaf pieces in the proper solvent. The extracts prepared did not appear to have an inhibitory effect on any of the bacteria or fungi tested. Stimulatory effects of the extracts were also investigated on all of these organisms as well as organisms isolated from soil.

Sponsor(s): Rod Morgan

Henry Hall Atrium Display 52

Reaction of Lithium Nitride with Organophosphines

Presenter(s): Ryan Ward

Sponsor(s): John Bender

Henry Hall Atrium Display 53

Sonogashira Coupling in the Synthesis of Modified 2'-Deoxyribonucleoside Derivatives

Presenter(s): Matthew VanGessel

Modified purine nucleoside derivatives have attracted wide pharmaceutical interest as a result of the vast array of biological functions of these molecules. The application of Sonogashira coupling is well documented for the synthesis of ribonucleoside derivatives, but the application of this coupling method to the synthesis of the more labile 2'-deoxy nucleoside analogs is ongoing. A systematic approach involving optimization of reaction conditions for effective coupling was the focus of this project. The effect of changing base, solvent, reaction temperature, catalyst, and substrate were investigated. The implications of the results were evaluated in terms of the impact on the synthetic versatility of the Sonogashira coupling in modified 2'-deoxyribonucleosides. Results of the optimization studies will be presented.

Sponsor(s): Felix Ngassa

Henry Hall Atrium Display 54

DEVELOPMENT OF EFFICIENT CuI-CATALYZED SYNTHESIS OF ARYL ETHERS

Presenter(s): Erick Lindsey

Much interest has been vested in the synthesis of the aryl ether linkage, which is commonly found in a large number of biologically active molecules. The traditional Ullmann coupling method for ether synthesis and palladium-catalyzed ether synthesis have limited applications. An efficient catalytic system has been developed for the synthesis of aryl ethers from various substituted phenol derivatives and aryl halides. The effect of different ligands, base, and solvent on the coupling of substituted phenol derivatives and aryl halides was investigated, as well as the effect of the amount of CuI and the ligand. The results of our optimization studies will be presented.

Sponsor(s): Felix Ngassa

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 55

Whose science is it anyway?: Models of Science According to Chemistry Students, Faculty, and Teachers

Presenter(s): Laura Kennedy

Target Inquiry (TI) at Grand Valley State University is an innovative professional development and graduate program for chemistry teachers designed to have an impact on the quality and frequency of inquiry teaching. Following a laboratory research experience, teachers in the TI program were interviewed and asked to create a model to represent scientific inquiry. Data indicated a variety of models and conceptions about the processes of science. To determine how conceptions of scientific inquiry change over time and how students, scientists, and teachers represent the process of science differently, eight chemistry majors and five chemistry faculty were interviewed. Participants were asked to create models to represent the processes of scientific inquiry and explain them. Participants also compared their models with other existing models, including Harwood's Activity Model. Findings will be presented.

Sponsor(s): Deborah Herrington, Ellen Yezierski

Henry Hall Atrium Display 56

Effects of Androgens on Porcine Coronary Artery Contraction and Dilation

Presenter(s): Jonathan McKee, Erica Bechtel

The purpose of the study was to determine if a prolonged incubation of coronary arteries with dihydrotestosterone (DHT) would alter vascular responses to potassium chloride (KCl), a vasoconstrictor, and 6-(2-hydroxy-1-methyl-2-nitrosohydrazino)-N-methyl-1-hexanamine (NOC-9), a vasodilator. Porcine coronary arteries were dissected, mounted in tissue baths, connected to force transducers, and incubated with 10^{-7} M DHT or vehicle for 4 hours. Following incubation, the arteries were exposed to increasing concentrations of KCl (5-20 mM) and NOC-9 (10^{-8} - 10^{-5} M). Responses were recorded as changes in tension.

Sponsor(s): Francis Sylvester

Henry Hall Atrium Display 57

Analysis of Spc98 Homologues in the Plant Family Brassicaceae

Presenter(s): Amanda Bliemeister

Eukaryotic cells have a cytoskeleton, composed of flexible fibers that serve as support and transportation systems. One class of fibers is microtubules, which are hollow cylinders formed by tubulin dimers. Microtubules are organized in animal cells by a structure called the centrosome, which consists of two centrioles and a cloud of pericentriolar proteins. One of these proteins is gamma-tubulin, which has been shown to nucleate microtubules. However, gamma-tubulin has recently been found to be part of a complex, called the gamma-tubulin ring complex, which is composed of several proteins, including Spc98. The centrosome is not found in plants or fungi, and microtubule organizing centers are still being defined. One approach is to identify homologs to known centrosomal proteins. While gamma-tubulin has been shown to be conserved in all eukaryotic organisms, homologs to components of the ring complex are still being delineated. The focus of this project is to identify homologs of Spc98 in plants, and to analyze their rate of evolutionary change. To this end we have begun with the plant family Brassicaceae, and are analyzing their genomes for Spc98 homologous proteins. A homolog has been identified in Arabidopsis, and is 45% similar to the human and yeast homologs in a conserved region [amino acids 319-809]. The rate of change in Spc98 homologs will be compared with that of gamma-tubulin within the Brassicaceae.

Sponsor(s): Regina McClinton

Henry Hall Atrium Display 58

Imitative Play and Free Play in Young Children with Autism

Presenter(s): Nicole Henriksen

Autism is a neurodevelopmental disability characterized by impairments in socialization and communication and repetitive, stereotyped behaviors (American Psychiatric Association, 2000). For young children with autism, it is important to target deficits in play and imitation skills. An approach involving adult imitation of the child's play has been shown to increase positive social and play behaviors of young children with autism (Dawson & Adams, 1984; Dawson & Galpert, 1990). However, no studies have compared the effects of adult versus peer play partners. This study had two major purposes: 1) to explore which play partner, adult or peer, would promote the most gains in social and play behaviors and 2) to evaluate the effects of imitative play and free play. The participants were eight preschool children with autism, two typically developing peer play partners, and three adult play partners. Each child with autism completed two five-minute baseline sessions and six nine-minute play sessions. All sessions were videotaped and involved either an adult or peer play partner with an alternating design of one of two sequences: 1) free play - imitative play - free play or 2) imitative play - free play - imitative play. Coding and data analysis indicated the children with autism varied widely in their responses. This study expands on previous research and demonstrates the usefulness of imitative play and free play as psychosocial interventions for young children with autism.

Sponsor(s): Amy Matthews

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 59

Sweeps and Sex

Presenter(s): Jenna Pagan

This study will examine sex content in programming during the television sweeps over the past 50 years. A content analysis will compare the sexual content of 2 top rated shows from 50 years ago with 2 top rated shows from 2006. Taking the episodes that aired during the weeks of April 24 through May 24 for each of the two seasons, I will tally the sexual innuendos, sexual talk, and sexual activity during each episode. I expect to find that sex has become more prevalent during sweeps week.

Sponsor(s): Don Williams

Henry Hall Atrium Display 60

The Effects of Architecture on Exact-String Searching Algorithms

Presenter(s): Jonathan Leidig

When evaluating which algorithm to use for a particular task, the computer architecture is a factor to take into account. Navarro and Raffinot have studied exact string searching algorithms and published a set of guidelines discussing algorithm selection. They identified Shift-Or, Horspool, BNDM and BOM as the four most competitive exact string-matching algorithms. The algorithm with the optimal performance can be determined by observing the length of the pattern and the size of the alphabet. Their recommendations were based solely on experiments carried out on an Ultra Sparc I workstation, which has a 32 bit architecture. These experiments were repeated in different environments and the results of these trials are reported. Using code available, experiments similar to Navarro and Raffinot's were conducted to search random texts of 10 megabytes, and the experiments were repeated to obtain a 95% confidence interval of the algorithms' competitiveness. The first set of experiments was carried out on 32 bit Intel machines using the gcc compiler on an Intel Pentium 4 (3.2 GHz with 512 MB memory) running Linux. A second set was performed on 64 bit Intel machines containing Dual Intel Xeon processors (3.0 GHz with 512 MB memory) running Linux. The main interest was in observing whether the wider word size made the Shift-Or and BNDM algorithm more competitive on longer patterns. A third set used 64 bit AMD machines containing Dual AMD Opteron 246 processors (2.0 GHz with 512 MB memory) running Linux. The interest was in examining the effects of the processor speed on algorithm competitiveness. These experiments led to a new set of guidelines for selecting an algorithm. In addition to the length of the pattern and the size of the alphabet, the architecture and processor speed should be taken into account when identifying the best algorithm.

Sponsor(s): Christian Trefftz

Henry Hall Atrium Display 61

Online Support for Grandparents Raising Grandchildren

Presenter(s): Hilary Marine, Jane Brouwer, Abi Lamar

The overall objective for this study is to pilot test an online support intervention system for grandparents who are raising grandchildren. Specific research questions related to the effect of the intervention on the grandparents' emotional health and their relationship with their grandchildren are addressed. The intervention includes two components: 12 structured educational modules and a support group. The role of three graduate nursing students for this project was to develop the educational modules. The sources used to determine parenting needs and the development of the modules included: personal interviews with grandparent caregivers, grandparent support group attendance, literature review, attendance at a grandparenting conference, previous course work, and internet resources. The prepared modules consisted of parenting issues, such as behavioral problems, discipline, communication, and school related issues. The Blackboard Academic Suite within Grand Valley State University was used for the development of the online modules. Several funding sources will be considered and a proposal will be submitted to the most appropriate source by lead researchers.

Sponsor(s): Sharon Leder

Henry Hall Atrium Display 62

Determination of Hdc Transcription Initiation in the Drosophila Genome

Presenter(s): Sara Smolinski

Histidine decarboxylase (Hdc) is an enzyme that synthesizes histamine, the neurotransmitter used by photoreceptors in *Drosophila melanogaster*. Mutations in the Hdc gene cause flies to be functionally blind and exhibit other behavioral deficits, indicating that histamine may be used by a variety of processes in the fly. While the sequence of four Hdc mutant alleles has recently been elucidated, the 5' and 3' ends of the Hdc transcript have not been conclusively identified. To complete the molecular analysis of Hdc gene structure, both the 5' and 3' ends of the transcript should be identified. To identify the 5' end of the transcript, a 5' RACE system (Rapid Amplification of cDNA Ends) was used to localize the transcription initiation site of the Hdc gene. Focusing on previously identified initiation sites reported in FLYBASE, oligonucleotide primers were developed to obtain the 5' RACE product through reverse transcription and two ensuing polymerase chain reaction (PCR) steps. Isolation of mRNA from fly heads of the Oregon-R wild-type strain was accomplished and used as the template for these 5'-RACE reactions. Several products have been identified, indicating that there may be more than one transcription initiation site in the Hdc gene. Sequence analysis of one of these fragments indicates that transcription initiation occurs in the general area that was earlier predicted in FLYBASE. Sequence analysis of additional fragments will be presented.

Sponsor(s): Martin Burg

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 63

SOC 495 Capstone: White Allies at GVSU and the Greater Multicultural Perspective

Presenter(s): Kimberley Waslawski

Sponsor(s): Don Williams

Henry Hall Atrium Display 64

A Comparative Analysis of the Physical and Functional Outcome Measures of Patients who have Received Bilateral Total Knee Arthroplasties: One Knee at a Time vs. Simultaneous Replacements

Presenter(s): Laura Hemerling

Using the Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) as an outcome measure, this study will compare the functional and physical impact of bilateral total knee replacements on patients who have had both knees replaced simultaneously versus those who had one knee replaced at a time. The reason I am completing this project is for my senior project, a requirement for the Grand Valley State University Honors College. I plan on a career in Physical Therapy and I am highly interested in this project since joint replacement patients make up a large percentage of a therapist's cases. Also, I have personal interest in the topic since several family members have a history of arthritis and knee replacement. This project is significant because many people with osteoarthritis require bilateral total knee replacements. As a volunteer in several PT clinics, I have seen a number of patients who required total knee replacements. Through those experiences, I have encountered numerous patients who wondered aloud if they should have done both knees at once and others who have wondered if they should have done a single replacement at a time. Consequently, I decided to evaluate the functional impact of these alternatives on the recipients of bilateral total knee arthroplasties. I feel that patients who are faced with bilateral knee replacement procedures would like to know what other people have experienced in electing either simultaneous versus single-knee-at-a-time options. The literature that I have found concerning bilateral knee replacements focuses very much on the medical side effects of undergoing a more serious and lengthy surgery. The articles have focused largely on the amount of blood loss and the possibility of pulmonary embolism. There is minimal published information that relate to the functional outcomes and how the patients progressed in terms of returning to their activities of daily living. Only one article addressed knee range of motion outcomes in the patient post-operatively. I would like to explore these functional measures in patients after bilateral knee replacements. Patients will be recruited via their physical therapist or orthopedic physician. In addition, project advisor, Dan Vaughn, PT, Ph.D., will recruit patients he encounters in his clinical practice (see attached flyer). I am asking patients to spend approximately 15 minutes on the telephone and participate in the Western Ontario McMaster Universities Osteoarthritis Index (survey attached). The participants will be contacted one time only and the contact information will be kept for three years locked in a file in the office of my project advisor where Dr. Vaughn and I will be the only people who have access to it. Once I have a list of 40 patients, I will call them and ask them the WOMAC questions. The differences between the true WOMAC and the version I will give is that I will be asking for an individual response on each extremity. In addition I will execute the survey over the telephone versus having the patient fill it out by hand. After I have received responses from 40 qualifying patients, I will contact the Statistics Counseling Center and have them assist me in finding significant patterns. In order to be included in the study, patients must have had bilateral total knee arthroplasties and have completed one month of physical therapy. Patients that do not qualify include those who have had additional surgery on one or both knee joints since the replacements. I will attempt to find patterns between people who have had simultaneous surgeries and those who have had staggered surgeries to determine if one method seems to give patients better functional outcomes.

Sponsor(s): Dan Vaughn

Henry Hall Atrium Display 65

Changes in substrate composition (and fish assemblage) following road-stream crossing improvements on Pine Creek, Manistee County, MI.

Presenter(s): Kristofor Nault

Accumulation of sediments can degrade aquatic habitat, resulting in reduced biodiversity and fitness of aquatic organisms. Management actions have been taken on Pine Creek (2nd order) to reduce sediment loading and provide a more natural flow regime by replacing faulty road-stream crossings. Comparisons above and below restoration sites of sediment, organic matter, invertebrate and fish populations were conducted pre and post restoration. At the first reach, results indicated that downstream, gravel has increased while coarse, fine, and ultrafine sand has decreased. Fish species diversity (Shannon's index) remained stable (range 1.35-1.49). At the second reach, only pre-restoration data is available, and substrate composition is variable. Fish species diversity ranged from 0.85-1.70 and 1.04-1.92 at upstream and downstream sites, respectively, and tended to increase at upstream sites from year 1 to 3. At the third reach, sediments that were flushed downstream decreased available gravel and increased fine, coarse, and ultrafine sand at the lower sites. This may be correlated to a decrease in fish diversity at the lower-most site (1.15-0.69). At the remaining sites, fish species diversity has remained stable or has increased. Overall, significant responses in the fish community to restoration haven't been observed.

Sponsor(s): Eric Snyder

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 66

Analyzing Scat of American Martens in Michigan: Uncovering Their Diet Requirements

Presenter(s): Amanda Kulpa

American Martens are small mammals found in mature conifer forests of northern United States and southern Canada. According to the DNR they are not endangered except for in particular areas. Despite their population size, much about this mammal is still unknown. For my capstone project, I will examine and analyze the scat (feces) of this animal. I received the scat from a graduate student at Central Michigan University, with distant assistance and direction from this student; I will be able to perform my analysis of the diet of this animal in an experiment she started. This experiment will require me to identify the bone fragments and hair follicles found in the animals waste. In doing this I will hopefully determine the variety of prey this predator feeds on. I will compile the data in a spreadsheet and draw conclusions from my findings. I will then prepare a detailed presentation and a written report.

Sponsor(s): Erik Nordman

Henry Hall Atrium Display 67

cis-1,3,5-Cyclohexanetriol Interaction with Metal Catalysts in Aqueous Solutions

Presenter(s): Tadas Kasputis

The recent dawn of green chemistry has lead chemists around the world to search for new methods of acquiring commodity chemicals and alternative sources of energy at relatively low cost and harm to the planet. This research aims to explore simple models of sugars, such as cyclic triols, and their interactions with metal catalysts to better understand the direct conversion of biomass, as feed stock, into commodity chemicals. cis-1,3,5-Cyclohexanetriol's reactions with the catalysts ruthenium and palladium were conducted under different temperature conditions, then analyzed using GC-MS, FT-IR, ¹H-NMR, and ¹³C-NMR.

Sponsor(s): Dalila Kovacs

Henry Hall Atrium Display 68

Analysis of Grand Valley State University Students' Dietary Habits and How Area of Residence Effects Overall Wellness.

Presenter(s): Danielle Arndt, Katherine Key, Brittany Lemmon

The following study was conducted to determine whether a relationship exists between students' area of residence and their overall health and wellness. A survey including detailed questions regarding diet, exercise, sleeping patterns, general physical information and other health-influencing behaviors, such as the use of cigarettes and alcohol, was distributed among a diverse group of Grand Valley State University students. These students varied in gender, class standing, and location of residence (the study's primary focus). The information obtained via the survey was used to identify trends among the health habits of Grand Valley State University students living both on and off-campus. A collective group of six students residing on-campus and six students residing off-campus completed a five-day log of food intake, exercise, and sleeping patterns. The logs were analyzed using a computer program entitled Profile Plus. The data was compared cross-sectionally to establish correlations between gender, place of residence, and student eating, sleeping, and exercising habits. The results provide students with an increased knowledge of personal dietary trends. Also, the university can utilize this information to better educate the student population on healthy habits, overall wellness, and the food and exercise options offered on-campus.

Sponsor(s): Jim Scott, Bradley Ambrose, Edward Baum

Henry Hall Atrium Display 69: **CANCELLED**

Sport specialization in boys and girls basketball

Presenter(s): Gavin Reinink, Kevin Glazier, Andrew Scheid, Brian Caldwell

Sport specialization is the exclusive participation in one sport. It is a controversial topic because it is hard to determine if students are equipped for the intensity of specialization or if they will experience psychological and/or physiological burnout. To determine if specialization is an issue in high school sports today, we will examine high school girls and boys basketball teams. Specifically, we will identify the number of athletes who played multiple sports prior to high school, but ended up playing only basketball on the varsity level. Information will be collected through surveys of athletes, interviews with coaches, and roster records from both rural and urban schools to determine if athletes became specialized. The relationship between sport specialization and school size will also be explored. Our objective is to determine the percentage of student athletes that specialize in basketball. Results may have implications for further study into reasons why athletes specialize and how it impacts them psychologically and physiologically.

Sponsor(s): Dana Munk

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 70

Liberalism, Drug Use and Harshness of Prison Sentence

Presenter(s): Jason Sikkema, Jenny Harrell

A sample of 100 Grand Valley State University students will rate their level of liberalism using self-report items. They will then read a scenario about the local mayor being arrested and sentenced for possession of a large amount drugs. There are two versions of the scenario, which differ only on the type of drug in this case, marijuana or cocaine. Participants will then respond to a set of self-report items measuring their preference for a harsh or light prison sentence. The predicted results are a significant interaction between the degree of liberalism for the participant and the desired harshness of a prison sentence for the drug offender. A large difference is predicted between marijuana and cocaine for participants with a high degree of liberalism, while little difference is predicted for participants with a low degree of liberalism.

Sponsor(s): Thomas Herzog

Henry Hall Atrium Display 71

The Role of Postgraduate Residency Training on Surgical Physician Assistants' Job Responsibilities

Presenter(s): Sarah Eminger, Jaime Meyer, Theresa Conway

According to the American Academy of Physician Assistants (AAPA), a PA is a health care professional licensed to practice medicine with physician supervision (AAPA, 2006b). According to the AAPA, the basic education provided to PAs encompasses a general medical background that provides a broad basis for primary care. Currently, a PA has the authorization to practice in any medical specialty so long as it remains within the scope of practice designated by their supervising physician. However, if a specialty field is pursued; additional training may be required in order to perform duties demanded by that position (AAPA, 2002). The purpose of this study is to examine the differences in job responsibilities between PAs who have completed a postgraduate surgical residency versus PAs who have not completed a postgraduate surgical residency. A cross sectional study with a web-based survey will be conducted to analyze job responsibilities for surgical PAs in Michigan. The survey is to be distributed through the Michigan Academy of Physician Assistants (MAPA). This presentation will discuss results obtained and conclusions that may be drawn from this survey.

Sponsor(s): Wallace Boeve

Henry Hall Atrium Display 72

Progress Towards the Synthesis of Apomorphine

Presenter(s): Ondersma Jesse

Sponsor(s): Matthew Hart

Henry Hall Atrium Display 73: CANCELLED

Ways to Prevent the Negative Psychological Effects that Athletes Experience with Failure

Presenter(s): Nathan McCrory, Jessica Christopher, Ryan Svoboda, Kyle Murphy

One day you are on your way to the "game of the year" for your basketball team and everyone is excited about the game. There is a lot of pressure on everyone to win. There are 5 seconds left on the clock. Trent takes the shot and misses and you lose the game. Trent was so angry and depressed that he didn't make that last shot and thought he had failed. He committed suicide later that night. This is just one example of what has happened to many athletes after they have had some sort of failure during their season. Why do extreme cases like this have to happen? Are there ways to prevent this? Failure is something that occurs in a lot of situations, especially sports. The purpose of this study is to find ways to prevent the negative psychological effects that athletes experience with failure. We will research real-life stories and do a survey of college athletes, here at Grand Valley, asking five relevant questions relating to failure. With our results we intend to generate a checklist for coaches that they can work through to help athletes better cope with failure .

Sponsor(s): Dana Munk

Henry Hall Atrium Display 74

Determining the Environmental Factors at Several Golf Courses and Their Effects on the Leopard Frog Populations: A Student Statistical Consulting Experience

Presenter(s): David Hunter

Dr. Stephen Burton of the Biology Department conducted a study to ascertain what key environmental factors influence the leopard frog populations of several local golf courses. My role as a statistical consultant was to analyze the data and determine the relationship between those environmental factors and the leopard frog populations.

Sponsor(s): Neal Rogness, Stephen Burton

Henry Hall Atrium Display 75

A Statistical Consulting Experience: Student Knowledge in Chemistry

Presenter(s): William Witt

Dr. Ellen Yezierski from Chemistry is conducting a study to better understand the knowledge levels of students in various areas of chemistry. A sample of 500 students was given an exam to measure student knowledge in these areas. As a statistical consultant, my role was to use data reduction techniques to aid in drawing conclusions about the knowledge of students in the areas of interest and to perform other desired analyses.

Sponsor(s): Neal Rogness, Ellen Yezierski

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 76

Proximity and Mother-Infant Interaction

Presenter(s): Angela Cunningham

One factor in infant language and cognitive development is the infant's ability to comprehend absent reference speech. According to a previous study by Saylor and Baldwin (2004), there are four fundamental skills that infants must possess in order to understand references to absent objects. These skills include basic word-comprehension, capability of representing objects they are not able to touch or see, ability to regard words as symbols that represent physical objects, and understanding the intentions of the communicator. In part one of the study (Dueker, in preparation), the participants were 26 infants, 13 male, and their caregivers. The distance between the parent and the infant were recorded during conversations about objects and other topics. It was found that proximity between parents and infants varied based on the topic being talked about. In part two of this study we are measuring the distance between mothers and their infants while they speak to their babies about physically present objects, non-present objects, and abstract topics. The specific cue we will examine in part two of the study is proximity and how the mother might be using proximity to assist their infant in comprehending absent reference. This talk will present results of the study and discuss conclusion that can be drawn from them.

Sponsor(s): Gwenden Dueker

Henry Hall Atrium Display 77

A Statistical Consulting Experience: A Comparison of Student Ratings Between Credentialed and Non-credentialed Clinical Instructors

Presenter(s): Andrew Van Garderen

Karen Ozga of the Physical Therapy Program wanted to know if there is a difference in student ratings of clinical instructors based on whether or not they are credentialed. The credentials I studied were specific to the Physical Therapy Program, and the goal was to see if clinical instructors should be encouraged to obtain this credential. I was Professor Ozga's statistical consultant on this project and helped her determine if there was indeed a difference.

Sponsor(s): Karen Ozga, Neal Rogness

Henry Hall Atrium Display 78

Conceptions and Misconceptions of Negative Integers

Presenter(s): Laura Howell

The concept of negative integers is generally considered common knowledge to adults. However, when students are first introduced to the concept, misconceptions often arise. The object of my research is to examine whether or not students have any inherent knowledge of negative integers, find several common misconceptions of negative integers, and also to determine a good way to teach negative integers to beginning learners. I worked with several 6th grade students and identified their weaknesses and strengths when dealing with negative integers. I used this information to design lessons to target their misconceptions. These lessons can be applied to other beginning learners because the misconceptions are common among most students. This research is beneficial to all elementary teachers because we need to be able to identify why students make a specific mistake when working with negative integers and be able to assist them with their misconception.

Sponsor(s): Pam Wells

Henry Hall Atrium Display 79

Gender Roles Reinforced In Major Motion Pictures

Presenter(s): Abigail Blanding

Socialization is the process we undergo throughout the entirety of our lives. It is what teaches us how to act and what roles to play. My question is this: Do movies play a role in socialization by helping to maintain gender roles? A content analysis will be done of the 10 Oscar Best Picture winners from the years 2005, 2000, 1995, 1990, 1985, 1980, 1975, 1970, 1965, and 1960 to determine if the main characters in films reinforce gender roles and change over time. I expect to find that movies do in fact reinforce gender roles, and I expect to find that the intensity with which the reinforcement exists has gotten weaker over time.

Sponsor(s): Don Williams

Henry Hall Atrium Display 80

Adolescent Girls, Osteoporosis, Social Norms, and Social Support

Presenter(s): Suzanne Clyne

Numerous studies have explored the influence that adolescent's peers and parents have on their health behavior patterns and lifestyles. Many of the findings of these studies address social norms and social support for health behaviors. Objectives: To investigate adolescent daughters' perceptions of the social support provided by their mothers and the social norms they perceive their mothers expect them to adhere to, related to physical activity and nutritional behaviors that promote bone health. Methods: A sample of 136 adolescent girls completed a survey measuring age, grade in school, family structure (presence of mother or mother figure), ethnicity, and the perception of social support and social norms for promoting bone health. Results: Of the 136 adolescent girls surveyed, more than 50% of them report that their mother encourages and expects them to consume foods that support bone health and also to perform physical activity that will enhance bone density. Conclusion: Findings of this study illustrates that social influences from mothers regarding bone health promoting behaviors are perceived by adolescent daughters. These may influence the activity and nutritional choices made by an adolescent girl. Further research is needed to determine how these perceptions may promote the overall bone health of the adolescent girl.

Sponsor(s): Cynthia Coviak

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 81

Acceptance as a Function of Homosexuality Gender and Religious Devotion

Presenter(s): Erin Shreve

Sponsor(s): Thomas Herzog

Henry Hall Atrium Display 82

Target inquiry: How Does a Chemistry Research Experience Impact Teachers' Perceptions of Science Inquiry

Presenter(s): Cynthia Luxford

Teachers often have a number of concerns about implementing inquiry instruction in their classrooms. This is not surprising given that most college science programs rely primarily on lecture and "cookbook" laboratory experiences, therefore providing teachers with little inquiry experience. Target Inquiry is an innovative professional development program for high school chemistry teachers that uses an authentic chemistry research experience to help teachers better understand science inquiry so that they can create a meaningful inquiry-based science program for their students. To implement inquiry instruction aligned with the National Science Education Standards, teachers must understand that science is more complex than the 5-step process many textbooks label the "scientific-method." Data from teacher interviews and journal entries were collected to determine how teachers' perceptions of the process of science inquiry and their self-efficacy with respect to teaching using inquiry were impacted by their summer research experiences.

Sponsor(s): Deborah Herrington, Ellen Yezierski

Henry Hall Atrium Display 83

Perceptual Fading and Stereopsis

Presenter(s): Casey Fechter, Emily Cummins, Patrick Donahue

Objects in peripheral vision tend to disappear from awareness after a few seconds of steady fixation. Understanding such phenomena, known as peripheral fading, may shed light on the brain mechanisms of visual awareness. In the current study, we focus on a possible correlation between stereopsis and the perceptual fading. Stereopsis is the perception of the relative depth between objects through binocular retinal disparity-the slightly different viewpoints of the two eyes. We predict that with monocular (single-eye) viewing it takes longer for subjects with a stereo-vision deficiency to experience perceptual fading than it does for subjects with normal stereopsis. About 100 Grand Valley State University students will be tested with three separate tests. The first two tests are designed for detecting stereo-deficiency and measuring stereo-acuity, and the last one for measuring the time needed for experiencing perceptual fading with monocular and binocular (two-eye) viewing.

Sponsor(s): Liang Lou

Henry Hall Atrium Display 84

Relationships Between Attitudes About Cosmetic Surgery, Objectified Body Consciousness, and Materialism

Presenter(s): Kelly Geml, Stacey Hess

There has been very little research on attitudes about cosmetic surgery among the general public. A scale to measure such attitudes has recently been published (Henderson-King, 2005). In this study we are examining attitudes about cosmetic surgery among undergraduate students, using data from a questionnaire that included measures of these attitudes, objectified body consciousness, and materialism. We are exploring the links among these variables and expect to find that body surveillance (one aspect of objectified body consciousness) will be positively related to materialism. We also expect body surveillance and materialism to be positively related to cosmetic surgery attitudes.

Sponsor(s): Donna Henderson-King

Henry Hall Atrium Display 85

Constructing and Implementing a Periodized Strength and Conditioning Program for an Elite Level Soccer Player: Application of Advanced Techniques with Further Differentiation Based on Field Position.

Presenter(s): Christopher Safranek, Joshua Saleeby

Soccer is a fundamentally dynamic sport that requires varying levels of applied sports-specific training. This has proven to be a complicated task for any coach, trainer, or clinician. Soccer is one of a few sports that require the entire aerobic and anaerobic energy system spectra, all types of muscle fibers dictated by playing position, as well as developed proprioceptive and kinesthetic ability. This program will be constructed using a periodized training regimen in addition to the application of recent research and development. The purpose for developing this strength and conditioning program is to distinguish advanced techniques of training dependent on field playing position, either the goalkeeper, defensive-minded, midfielder-minded, or strikers. We stress that field playing position requires different applications of training; thus, position influences many different factors of implementing a training regimen. Factors that this program will address include intensity of exercise bouts, strength and endurance development, and increasing balance, speed, agility, and flexibility through plyometrics. Other aspects such as sports nutrition and hydration, injury prevention, soccer fitness assessment modalities, movement, as well as physiological analysis will also be discussed. In developing this program, we hope to be a viable reference in regards to advanced strength and conditioning techniques for elite soccer players in order to help them attain a high quality level of performance.

Sponsor(s): Shari Bartz

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 86

Mechanisms Underlying Hormone-Induced Changes in the Moss *Physcomitrella patens*: A Genetic Approach.

Presenter(s): Ilea Swinehart

Hormones are known to act as messengers between cells causing critical changes during the development of both animals and plants. However, there is much that is still unknown about how cells perceive and respond to a hormonal signal. The moss, *Physcomitrella patens*, is well-suited for the observation of hormone-induced development because the developmental process is extremely predictable, the cell which is affected by the hormone is easily accessible, the moss is easy to grow in culture, and the genome is being sequenced. When exposed to the plant hormone cytokinin, *P. patens* shifts from filamentous growth to the formation of a leafy plant—a key event in moss development. Mutants have been generated in order to identify components of the cytokinin signaling pathway. One mutant, created by the random insertion of a fragment of foreign DNA into the moss genome, has been identified which is capable of producing initial cells (the target of the hormone cytokinin). However, these cells are unable to respond to cytokinin and the moss cannot complete its life cycle. Thermal asymmetric interlaced (TAIL) PCR has been used to amplify the sequence disrupted by the insertion. Once the sequence is obtained, it will be used to create a targeted mutation to confirm its role in cytokinin signaling. In situ hybridization and/or immunolocalization experiments will also be performed to determine where the mRNA and protein is localized. Determination of the function of this sequence will further clarify the cytokinin signaling process.

Sponsor(s): Margaret Dietrich

Henry Hall Atrium Display 87

Retrograde Amnesic Effects of Nitric Oxide Scavenger Carboxy-PTIO in Goldfish

Presenter(s): Katherine Zmolek

This experiment used avoidance learning to investigate whether carboxy-PTIO produced retrograde amnesia. In this study, goldfish were trained to avoid an electrical shock. Immediately following training, the fish were injected with 1.0 microliters of varying concentrations of PTIO to their telencephalon. The fish receiving these injections were significantly less likely to repeatedly avoid the electrical shock than a control group that completed the trainings but did not receive injections. These data suggest that carboxy-PTIO caused retrograde amnesia.

Sponsor(s): Xandra Xu

Henry Hall Atrium Display 88

Relationships Between Gender, Parental Factors, Self Concept, and Autobiographical Memories

Presenter(s): April Irwin

Autobiographical memory (often defined as memory of personal experiences) can help us understand how memory functions in the real world and what factors may alter our memories of the past. This study measured autobiographical memories and self concept from a sample of college students. Participants were asked to recall common childhood events (e.g., books, moving, or hospitalizations), their earliest memory, and their three most vivid childhood experiences. They also described themselves by completing 10 sentences beginning with I am _____. Various aspects of these memories (e.g., volume, content, and emotionality) and self-descriptions (e.g., organization and evaluation) were then coded by two independent raters. Relationships among gender, parental educational level and occupation, self concept, and autobiographical memories were then examined. This was a pilot study for a larger project in which autobiographical memories and self concepts of people with different cultural backgrounds will be compared in order to investigate the impact of experience on our recollections of the past.

Sponsor(s): Jing Chen

Henry Hall Atrium Display 89

Strength and Conditioning Program for the Advanced NCAA Track & Field Thrower

Presenter(s): Jeff Warber, Morgan Acre

Once thought of as fat and lazy, throwers in the sport of track and field are now considered some of the most highly trained athletes in the world. At the NCAA level, throwers endure a long pre-season and two competition phases, indoor and outdoor, with the athlete competing nationally at the end of both seasons. When developing a strength and conditioning program for these athletes, this schedule certainly has to be considered. Another important factor is there are different types of throws (discus, shot put, javelin, hammer and weight throw) all relying on different execution and types of training. For the athlete to reach top physical condition, a periodized program consisting not only of strength training, but also plyometrics, sport-specific conditioning, nutritional, and psychological factors must be utilized. By combining all these aspects, the athlete will be better prepared for the highest levels of competition.

Sponsor(s): Shari Bartz

Henry Hall Atrium Display 90

Identification of Development-Specific mRNA Splice Variants from the *rosA* Gene of *Drosophila melanogaster*

Presenter(s): Jesse Veenstra

The *rosA* (receptor oscillation A) gene has been shown to encode a membrane protein that serves various physiological functions in the fruit fly *Drosophila melanogaster*. While *rosA* has been shown to be expressed in many different types of cells in adults and in various developmental stages, it is not known whether the same protein product functions in all cells through the lifespan of the fly. Previous work has suggested that this gene generates multiple mRNAs that differ in size, some of which are expressed at different developmental stages. Therefore, it is important to determine whether the different mRNAs generated by *rosA* encodes the same or different functioning proteins. To identify the different mRNA products generated at each lifestage, RT-PCR was performed using *rosA*-specific primers to synthesize cDNA. mRNA was isolated from specific developmental stages of *Drosophila*. DNA primers were designed to detect specific mRNA species as well as unknown mRNA types transcribed

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from the *rosA* gene using a single-step RT-PCR technique. Thus far, several different pairs of primers have produced a single RT-PCR product, while other primer combinations appear to produce a wider range of RT-PCR generated products, suggesting that there may be additional mRNA types identified in these experiments. These RT-PCR products are being subcloned and analyzed using restriction enzyme digestion as well as DNA sequencing to identify the product's primary protein sequence. Once completed, it is expected that new and novel forms of the *rosA* protein will be identified at various developmental stages.

Sponsor(s): Martin Burg

Henry Hall Atrium Display 91

A Statistical Consulting Experience: Reviewing Research Concerning Reading Specialists and Literacy Coaches

Presenter(s): Jason Olsen

Dr. Barbara Reinken of the College of Education surveyed various universities to research the role of reading specialists and literacy coaches. Items of interest included content knowledge included in the education program for literacy coaches, skills included in the aforementioned education program, personality traits most beneficial to literacy coach candidates, and experiences provided to each candidate by his or her institution. My responsibility as a statistical consultant was to analyze the data and to provide answers to the research questions posed by Dr. Reinken.

Sponsor(s): Barbara Reinken, Neal Rogness

Henry Hall Atrium Display 92

Proposed Management Solutions for Controlling Purple Loosestrife (*Lythrum salicaria*) and Sedimentation along a Portion of the Muskegon River

Presenter(s): Tania Howard

In the vicinity of Big Rapids, MI, the Muskegon River has been noticeably impacted by sedimentation and the proliferation of the invasive weed, purple loosestrife (*Lythrum salicaria*). A contributing factor to these problems is thought to be the removal of Big Rapids Dam in 2000/2001. Dams are known to block the flow of suspended sediments, which otherwise would have been carried by the flowing river in smaller amounts over a long period of time. Since the time of the removal, which has released these accumulated sediments, sandbars in the river have increased rapidly in size, converged with one another, and new ones have formed. This increased surface area of sediment has provided a reliable and growing substrate on which purple loosestrife has become established. In turn, the aggressive reproduction of this invasive weed on and along the sandbars and riverbank has provided an increased opportunity for sediment to accumulate, thus exacerbating the problem further. In this project, I will develop a management plan for the control of purple loosestrife along a portion of the Muskegon River. The management plan can then be added to the toolbox of potential solutions in controlling the spread of purple loosestrife and sedimentation in the area of interest, thereby benefiting both area residents and native wildlife species.

Sponsor(s): Erik Nordman

Henry Hall Atrium Display 93

Teaching Social and Play Skills to Young Children with Autism

Presenter(s): Nicole Henriksen

Autism is a neurodevelopmental disability characterized by impairments in socialization and communication as well as repetitive, stereotyped behaviors (American Psychiatric Association, 2000). Extensive research has found interventions based on the principles of applied behavior analysis to be effective for teaching children with autism. This study was designed to compare the efficacy of two behavioral interventions: discrete trial training (DTT) and video modeling (VM). The participants were two boys with autism who attended self-contained preschool classrooms. For both children, two equivalent play targets were selected from three different domains (play interactions, play sequences, and play statements). Baseline data were collected and the targets for each domain were randomly assigned to either the DTT or VM condition. Rates of skill acquisition for these targets were then compared. After an adequate trial period, if the child did not acquire the skill or showed inconsistent performance, the target was assigned to the other condition. Results indicated that the effectiveness of DTT and VM varied depending on the child's unique interests, strengths, weaknesses, and other potential mediating factors. The study is being extended to include other children with the intent of gathering information about individual child characteristics that can be used to help determine the relative effectiveness of these interventions for teaching different skills.

Sponsor(s): Jamie Owen-DeSchryver

Henry Hall Atrium Display 94

Magnetoresistance and Hall Effect in Electrochemically Doped b-Ag₂-dTe

Presenter(s): Paige Lampen

The magnetoresistance (MR) and Hall effect of b-Ag₂-dTe are measured over a range of precise, electrochemically-established silver concentrations. In the low temperature extrinsic regime, positive MR is seen at all studied values of silver deficiency. However, it is largest and most linear within the narrow range of d where the Hall coefficient abruptly changes sign.

Sponsor(s): harold schnyders

POSTER PRESENTATION ABSTRACTS

Henry Hall Atrium Display 95

The Non-profit Structure, Programs, Mission, and Goals of the Grand Rapids Life Skills Development Centre

Presenter(s): Jason Muller, Danielle Kerr, Matt Russo, Sara Adkins, Matthew Batchelder

We are introducing our team-developed non-profit organization, the Grand Rapids Life Skills Development Centre, as the fulfillment of a semester long project in our Volunteerism and Non-profit class. Our mission is to help men and women make the transition from a correctional facility back into the greater community by providing the skills and resources necessary for the individuals to obtain a brighter future.

Sponsor(s): Ramya Ramanath

Henry Hall Atrium Display 96

HABLA - a nonprofit organization benefiting immigrant youth in Grand Rapids

Presenter(s): Kaitlin Gerardy, Laura Muniz, Kaylee Milahowski, Amanda Wheeler, Mickey Humpala

As a group we will present our nonprofit organization to our audience. This is our nonprofit's mission statement: "HABLA's mission is to provide safe outlets for Hispanic youth in the greater Grand Rapids area by developing interpersonal relationships through mentoring, tutoring, language skills, and community development."

Sponsor(s): Ramya Ramanath

Henry Hall Atrium Display 97

Center for International Health and Education Advancement

Presenter(s): Erin Tincknell, Tim Byerly, Jacob Gai, Evan Kobes, Keri Jaynes, Brooke Schweikert

The Center for International Health and Education Advancement works to empower underserved communities worldwide to enhance their access to and quality of existing health care by providing health professionals to work with communities, education, facilities, and secure monetary resources.

Sponsor(s): Ramya Ramanath

Henry Hall Atrium Display 98

Hear Me Roar

Presenter(s): Caprice Wagner, Alyson Davis, Ama Koenigshof, Dawn Stoike

Hear Me Roar is committed to combating the issue of domestic abuse. Our goal is to prevent, eradicate, and heal the affects of domestic abuse through seminars, classes, and counseling for all people. Our philosophy is to instill strength, safety, self-esteem, empowerment, and education in the greater Grand Rapids area.

Sponsor(s): Ramya Ramanath

Henry Hall Atrium Display 99

Developing a Unified Society through Trust (D.U.S.T)

Presenter(s): Tashia Marshall, Kelli Scharphorn, Jenna Gray-Shomler

D.U.S.T Developing a Unified Society through Trust MISSION STATEMENT: D.U.S.T is committed to working with all ranges of diverse people, both young and old, from the West Michigan community. The vision of D.U.S.T is to promote a better understanding of one another's culture and heritage through a wide variety of programs, including cultural awareness classes and cultural events. We are dedicated to the promotion of unity within our society, by offering a way for community members to gain a better understanding of who people are within their community and around the world. Our goal is to help bring trusting relationships between people within the places that they live. This relationship will enable them to have a better understanding of those in their community, as well as the world around them. Leading to a healthier and more open community, willing to grow and adjust more easily with one another.

Sponsor(s): Ramya Ramanath

INTERDISCIPLINARY PERFORMANCE

Beginning at 10:00 AM

Kirkhof Center 204

!ExcÃosame! What was that you just said?: A Look at the Constricting Nature of Language in American Culture

Presenter(s): Linda Sullivan, Paula Rubingh

This interdisciplinary performance that incorporates the fine arts of drawing, painting, the spoken, and the visual word explores the communication barriers presented by language in American culture. Its ability to manifest the feeling of these barriers within the audience will, in effect, achieve our efforts to recognize and break down the barriers of language that inhibit communication in our culture. Our focus begins in non-fiction experience with the Spanish language and Latino culture and expands to include numerous other languages of verbal and written origin that present similar barriers or raise questions of a comparable nature.

Sponsor(s): Gwen Pott, Ander Monson

EXHIBITION OF ART

Beginning at 10:00 AM

Kirkhof Center Lobby

Kwiatkoski: A darker look at family photos

Presenter(s): Joshua Brown

Ben Kwiatkoski opened his photo album yesterday and found his family had gone, leaving dark traces of their presence. The book, Kwiatkowski: From the place of little flowers, asks, does the subject of family photographs matter? Can terse captions and the form of the book itself invoke enough similar memory to suffice? The book was created and published by Joshua Brown. It accompanies a photography installation which will be part of the School of Communication Photography Senior Thesis gallery exhibit, Hide and Seek.

Sponsor(s): David Rathbun

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Harrell, Jenny	8:00 a.m.	Atrium Display 70
Hartman, Joshua	11:00 a.m.	PAD 168
Hecksel, Bethany	8:00 a.m.	Atrium Display 9
Hegedus, Elizabeth	10:40 a.m.	PAD 210
Hehl, Brent	2:20 p.m.	PAD 207
Heintz, Brooke	9:00 a.m.	PAD 211
Helmstetter, Sarah	11:00 a.m.	PAD 168
Henriksen, Nicole	1:00 p.m.	Atrium Display 58
Herban, Angela	3:20 p.m.	PAD 262
Hess, Stacey	1:00 p.m.	Atrium Display 84
Hinman, Adam	10:40 a.m.	PAD 168
Hoebeke, Erin	4:00 p.m.	PAD 262
Hoff, Erin	11:00 a.m.	PAD 108
Hofmeister, Nancee	9:00 a.m.	PAD 261
Hofmeister, Nancee	10:00 a.m.	PAD 207
Hojnacki, Eric	8:00 a.m.	Atrium Display 20
Hojnacki, Eric	2:20 p.m.	PAD 209
Holst, Robert	8:00 a.m.	PAD 262
Holzhausen, Sarah	1:00 p.m.	PAD 107
Hoover, Andrew	10:20 a.m.	PAD 211
Hop, Leah	11:20 a.m.	PAD 108
Houseman, Thomas	1:40 p.m.	PAD 168
Howard, Tania	1:00 p.m.	Atrium Display 92
Hudson, Lauren	9:00 a.m.	PAD 109
Hull, Rebecca	10:40 a.m.	PAD 261
Hunter, David	8:00 a.m.	Atrium Display 74
Hunting, Eric	10:00 a.m.	PAD 209
Iles, Miguel	1:00 p.m.	Atrium Display 48
Ingram, Carla	8:00 a.m.	Atrium Display 44
Ioff, Ryan	1:00 p.m.	Atrium Display 11
Jackson, Christina	9:40 a.m.	PAD 207
James, David	3:40 p.m.	PAD 107
Jaquith, Sarah	8:00 a.m.	Atrium Display 43
Jelsetma, Casey	2:00 p.m.	PAD 109
Jesse, Ondersma	1:00 p.m.	Atrium Display 72
Johnson, Greg	10:20 a.m.	PAD 209
Johnson, Rob	11:20 a.m.	PAD 108
Kasputis, Tadas	1:00 p.m.	Atrium Display 67
Keller, Jackee	8:00 a.m.	Atrium Display 37
Kendra, Lexi	11:00 a.m.	PAD 108
Kennedy, Laura	1:00 p.m.	Atrium Display 55

Kincaid, Alana	10:00 a.m.	PAD 168
Kinstner, Zach	1:00 p.m.	Atrium Display 14
Klemp, Carson	8:00 a.m.	Atrium Display 20
Koens, David	9:00 a.m.	PAD 168
Koens, David	4:00 p.m.	PAD 262
Kolmodin, Timothy	1:20 p.m.	PAD 262
Kopacki, Nick	10:40 a.m.	PAD 209
Kosheba, Danielle	1:00 p.m.	Atrium Display 5
Krausz, Thomas	9:00 a.m.	PAD 209
Kretschmer, Eric	10:20 a.m.	PAD 262
Kroodsmma, Derrick	8:00 a.m.	Atrium Display 33
Kujala, Katie	8:40 a.m.	PAD 209
Kukulski, Julia	2:20 p.m.	PAD 262
Kulon, Amy	8:00 a.m.	Atrium Display 28
Kwiatkowski, Gerard	2:00 p.m.	PAD 210
LaCrosse, Stacy	8:20 a.m.	PAD 168
LaPorte, Kait	11:20 a.m.	PAD 261
Lamar, Abi	8:00 a.m.	Atrium Display 61
Lanning, Loretta	10:40 a.m.	PAD 207
Lattimore, Jr., Horace	4:20 p.m.	PAD 108
Leidig, Jonathan	8:00 a.m.	Atrium Display 60
Leister, Kenneth	9:40 a.m.	PAD 262
Lemmon, Brittany	1:00 p.m.	Atrium Display 68
Leonard, Elizabeth	2:40 p.m.	PAD 210
Lewis, Shannon	2:20 p.m.	PAD 107
Lewis, Shannon	2:40 p.m.	PAD 207
Lindsey, Erick	1:00 p.m.	Atrium Display 54
Lindy, Nathan	1:20 p.m.	PAD 210
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Loges, Steve	9:00 a.m.	PAD 168
Lord, Jennifer	8:00 a.m.	Atrium Display 49
Lounsberry, Trisha	9:00 a.m.	PAD 168
Luxford, Cynthia	1:00 p.m.	Atrium Display 82
Lyster, Ryan	8:00 a.m.	Atrium Display 9
Major, Tim	2:20 p.m.	PAD 211
Manderscheid, Amy	9:20 a.m.	PAD 211
Marine, Hilary	8:00 a.m.	Atrium Display 61
Markiewicz, Julian	9:00 a.m.	PAD 207
Massau, Amanda	8:00 a.m.	Atrium Display 22
McCarthy, Patrick	1:20 p.m.	PAD 210
McCormick, Sarah	10:00 a.m.	PAD 107
McCrory, Nathan	8:00 a.m.	Atrium Display 73
McKee, Jonathan	1:00 p.m.	Atrium Display 56
McManaman, David	4:00 p.m.	PAD 262
McWain, Christine	3:00 p.m.	PAD 209
Meece, Chad	1:00 p.m.	Atrium Display 2
Meyer, Jaime	8:00 a.m.	Atrium Display 71
Moore, Jodi	1:00 p.m.	PAD 261
Moore, Scott	10:40 a.m.	PAD 168
Mundt, Kelly	1:00 p.m.	PAD 207
Murphy, Kyle	8:00 a.m.	Atrium Display 73
Nagorsen, Sarah	2:00 p.m.	PAD 209

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Nault, Kristofor	8:00 a.m.	Atrium Display 65
Nelson, Kristin	11:20 a.m.	PAD 211
Neustifter, Evan	3:40 p.m.	PAD 107
Newton, Jeremy	11:20 a.m.	PAD 262
Nicholson, Rebekah	11:00 a.m.	PAD 210
Noordhoek, Justin	8:40 a.m.	PAD 210
Nowak, Chris	1:00 p.m.	Atrium Display 13
Nugteren, Kellie	11:00 a.m.	PAD 108
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O'Neill, Devin	9:00 a.m.	PAD 209
Ochoa, Isabella	10:00 a.m.	PAD 210
Olsen, Jason	1:00 p.m.	Atrium Display 91
Pagan, Jenna	8:00 a.m.	Atrium Display 59
Painter, Diane	10:00 a.m.	PAD 109
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Parent, Shannon	10:40 a.m.	PAD 209
Paszek, Carly	3:40 p.m.	PAD 210
Payne, Stephanie	1:20 p.m.	PAD 207
Pearson, Emily	1:00 p.m.	Atrium Display 12
Peck, Nate	8:00 a.m.	PAD 261
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Petzke, Nils	9:00 a.m.	PAD 168
Pierce, Kristen	11:20 a.m.	PAD 108
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Placencia, John	11:00 a.m.	PAD 168
Plante, Kaytie	11:20 a.m.	PAD 108
Polkowski, Steve	1:20 p.m.	PAD 209
Rabbitt, Arianne	9:40 a.m.	PAD 210
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Rawson, Jonathan	2:40 p.m.	PAD 211
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Rector, Ashley	4:20 p.m.	PAD 211
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Rhoda, Rebecca	1:40 p.m.	PAD 211
Rice, Kathleen	1:00 p.m.	PAD 168
Rohloff, Harley	8:00 a.m.	Atrium Display 31
Roof, Joseph	11:00 a.m.	PAD 209
Roof, Joseph	1:40 p.m.	PAD 209
Rozga, Kasey	8:00 a.m.	Atrium Display 1
Rubingh, Paula	10:00 a.m.	Kirkhof Center 204
Rutgers, Benjamin	8:20 a.m.	PAD 168
Safranek, Christopher	8:00 a.m.	Atrium Display 85
Sagolla, Alyssa	8:20 a.m.	PAD 168
Sailer, Ken	3:40 p.m.	PAD 107
Salas, Andria	10:40 a.m.	PAD 107
Salata, Rachel	2:40 p.m.	PAD 261
Saleeby, Joshua	8:00 a.m.	Atrium Display 85
Sander, Stephanie	1:20 p.m.	PAD 108
Scheid, Andrew	1:00 p.m.	Atrium Display 69
Schenk, Samantha	8:00 a.m.	Atrium Display 15

Schlosser, Ami	9:40 a.m.	PAD 209
Schraft, Jamie	10:40 a.m.	PAD 210
Schultz, Erica	11:20 a.m.	PAD 109
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Shafer, Betsy	9:00 a.m.	PAD 210
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Sheehan, Sara	3:00 p.m.	PAD 210
Shoop, Jessica	11:00 a.m.	PAD 168
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Simon, Sarah	3:40 p.m.	PAD 108
Simoni, Brittni	1:40 p.m.	PAD 261
Sinning, Amanda	1:00 p.m.	PAD 210
Skelton, Tara	4:00 p.m.	PAD 262
Slaughter, Daniel	8:00 a.m.	PAD 211
Slyter, Dawn	11:20 a.m.	PAD 168
Smith, Cassie	10:20 a.m.	PAD 107
Smith, Greg	3:00 p.m.	PAD 261
Smith, John	8:00 a.m.	Atrium Display 17
Smolinski, Sara	1:00 p.m.	Atrium Display 62
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Snider, Alex	3:20 p.m.	PAD 209
Somers, Nick	10:20 a.m.	PAD 210
Sprague, Aaron	3:00 p.m.	PAD 109
Strackangast, Colene	1:00 p.m.	Atrium Display 38
Stanton, Victoria	8:00 a.m.	Atrium Display 49
Sterenber, Amanda	1:00 p.m.	Atrium Display 26
Stevens, Veronika	4:00 p.m.	PAD 107
Stewart, Jason	8:00 a.m.	Atrium Display 21
Stewart, Sara	9:00 a.m.	PAD 209
Streu, Marta	1:00 p.m.	Atrium Display 8
Strickler, Eric	8:00 a.m.	Atrium Display 19
Struyk, Tina	4:40 p.m.	PAD 107
Sullivan, Linda	10:00 a.m.	Kirkhof Center 204
Svoboda, Ryan	8:00 a.m.	Atrium Display 73
Swinehart, Ilea	1:00 p.m.	Atrium Display 86
Szura, Angela	8:00 a.m.	PAD 108
Talbot, Samantha	1:00 p.m.	Atrium Display 3
Tarmnel, Sallyann	11:00 a.m.	PAD 262
Temple, Emily	9:40 a.m.	PAD 168
TenBrink, Lisa	8:00 a.m.	Atrium Display 4
Theuerkauf, Paul	1:00 p.m.	Atrium Display 30
Tillman, Anne	10:20 a.m.	PAD 107
Tolman, Ben	8:00 a.m.	Atrium Display 49
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Urban, Nicole	10:40 a.m.	PAD 168
Valdivia, Kelly	8:00 a.m.	Atrium Display 15
Van Garderen, Andrew	1:00 p.m.	Atrium Display 77
VanDort, Ashley	2:00 p.m.	PAD 261
VanDussen, Cassie	8:00 a.m.	Atrium Display 47
VanDyke, Terry	8:20 a.m.	PAD 168

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Vance, Matthew	8:00 a.m.	PAD 109
VandenBerg, Rachel	10:00 a.m.	PAD 262
Vanderstelt, Leslie	11:00 a.m.	PAD 262
Vangyseghem, Gaetan	10:40 a.m.	PAD 109
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Waslawski, Kimberley	1:00 p.m.	Atrium Display 63
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Weidenmiller, Kelly	1:40 p.m.	PAD 107
Wilkins, Don	10:00 a.m.	PAD 109
Williams, Joshua	11:20 a.m.	PAD 168
Willis, Catherine	10:20 a.m.	PAD 109
Wilson, Andrew	8:00 a.m.	Atrium Display 16
Wilson, Matt	10:40 a.m.	PAD 209
Witt, William	1:00 p.m.	Atrium Display 75
Womble, Patrick	2:00 p.m.	PAD 107
Wood, James	8:00 a.m.	Atrium Display 17
Wright, Jenifer	11:00 a.m.	PAD 207
Yost, Dan	8:40 a.m.	PAD 262
Zemba, Mandi	1:00 p.m.	Atrium Display 5
Zmolek, Katherine	8:00 a.m.	Atrium Display 87
Zych, Anna	1:20 p.m.	Padnos Hall 211

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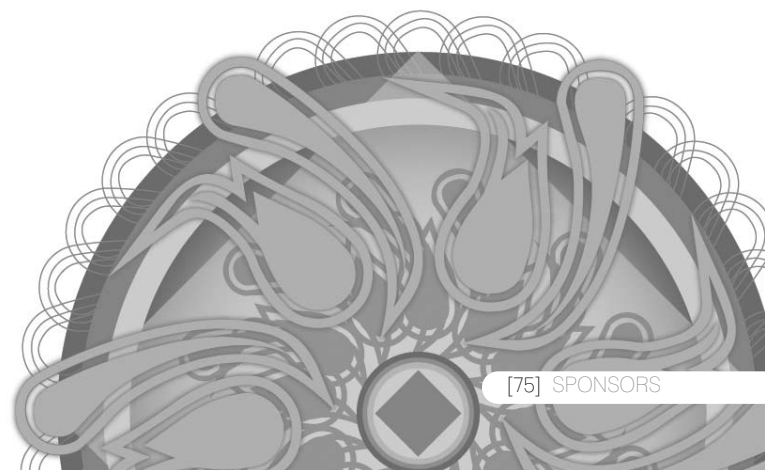


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