
Student Academic Conference Abstract Books

2005

7th Annual Student Academic Conference: Conference Program & Abstracts Volume VII

Minnesota State University Moorhead

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2005

7TH ANNUAL

STUDENT ACADEMIC CONFERENCE

Conference Program & Abstracts

Wednesday April 13, 2005

Comstock Memorial Union

Minnesota State University Moorhead

MINNESOTA STATE UNIVERSITY
moorhead

Volume VII

The MSUM showcase of Academic Achievement



www.mnstate.edu/acacnf

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Purpose

The purpose of the Student Academic Conference is to showcase the work and talent of MSUM students through presentations, posters, and creative works at a one-day conference held annually at MSUM in April in the Comstock Memorial Union. All students are encouraged to submit presentation applications. We strive to accommodate all students who wish to be presenters. Parents, friends, prospective students, alumni, employers and the university community are welcome to attend the conference to witness the excitement of intellectual exchanges among our students.

Sponsors

This conference exists because of the work of the entire university community, both in terms of financial and moral support. Supporters include: Strategic Grant Initiatives Fund, President's Office, Academic Affairs, Student Affairs, Administrative Affairs, Alumni Foundation, Inter Faculty Organization, MSUAASF, AFSCME, Student Senate, Campus Activities Board, Student Activities Budget Committee, and Sodexo Services.

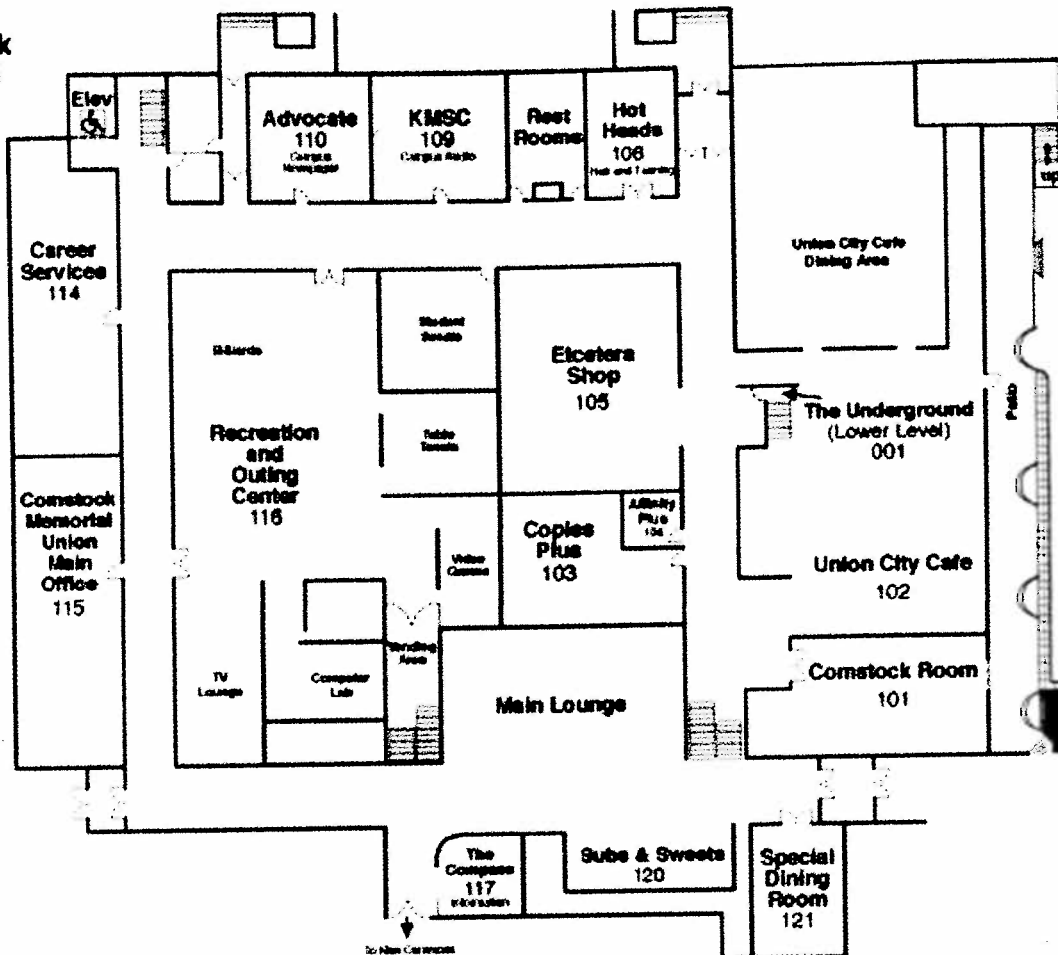
Comstock Memorial Union Map



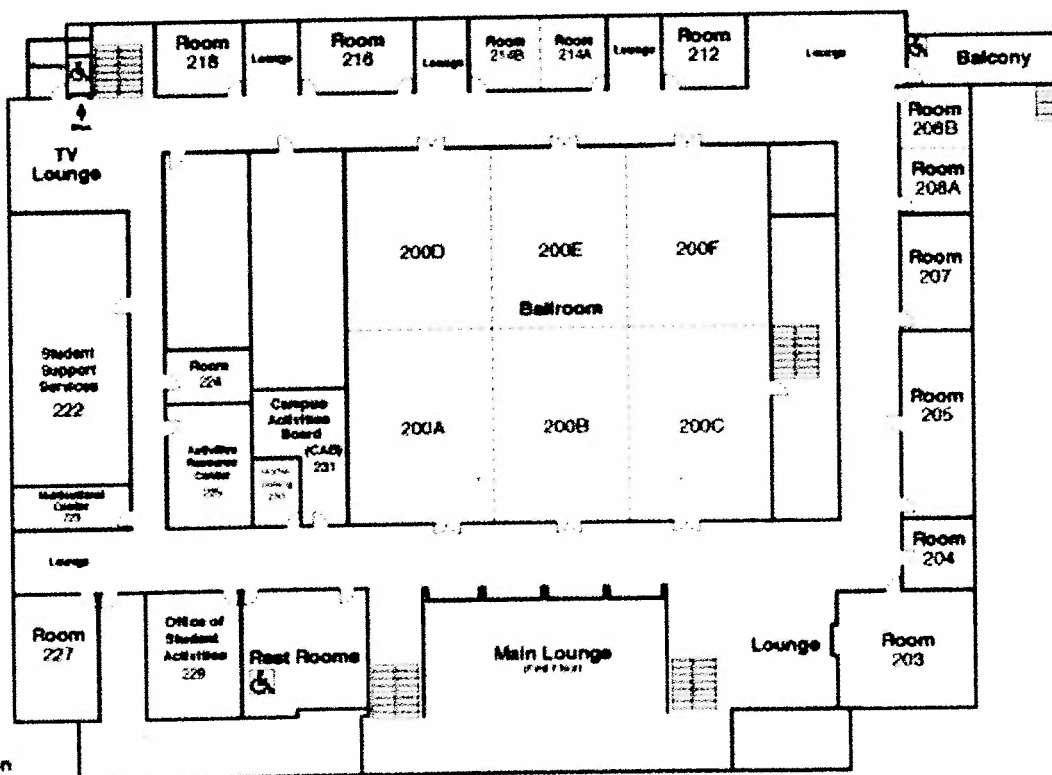
Comstock Memorial Union



First Floor



Second Floor



The Comstock Memorial Union is a smoke-free environment.

How the Conference got Started

Conference Highlights

2005	184 Presentations / 317 Presenters
2004	139 Presentations / 253 Presenters
2003	156 Presentations / 258 Presenters
2002	151 Presentations / 234 Presenters
2001	133 Presentations / 241 Presenters
2000	139 Presentations / 218 Presenters
1999	107 Presentations / 170 Presenters



Minnesota State University Moorhead has developed a program to encourage undergraduate research in all disciplines through the development of the Student Academic Conference. The idea of such a conference was suggested by Dr. Andrew Conteh, Political Science, during a class in spring semester of 1998 when he said, "few students have the opportunity to present at national or regional conferences." This got MSUM graduate student Ryan Sylvester thinking, and he went back to Dr. Conteh proposing that the Student Academic Conference be started. The two of them met frequently over the summer to plan and outline the mission and concept of the conference.

The two initiated meetings with the President, Vice Presidents, and Academic Deans to request support. The conference was well-supported financially and in spirit. With the endorsement of administration, the conference planners developed a list of faculty and staff from across campus representing every discipline and division and invited them to be part of the Student Academic Conference steering committee.

The conference format includes a luncheon for presenters featuring an MSUM alumnus keynote speaker on the topic of undergraduate research. The keynote is followed by a panel response composed of four undergraduate students who are selected by each academic Dean to represent their respective division (Arts & Humanities, Education & Human Services, Business & Industry, and Social & Natural Sciences). Following the luncheon there are two or three presentation sessions of approximately an hour and half each in length. Most presentations in a session are 17 minutes in length (12 minutes to present and 5 minutes for questions) but accommodations are made for specific time requests such as 30, 45, or even 60 minute workshops or panel discussions. There are 15 break-out rooms used for simultaneous presentations so attendees have to determine ahead of time which presentations they wish to attend. Throughout the conference, poster presentations are on display in the main lobby area where the conference is held.

Dr. Conteh remains the primary conference organizer with the assistance of students, various campus personnel and the advice of the two steering committees. Applications to present are made available during fall semester and are due in mid-February. The conference strives to feature presentations from all academic majors across campus and to allow any student to participate. Applications are screened by the Program sub-group of the steering committee. Presentations are grouped loosely by common themes, but careful attention is paid to ensure sessions are not homogenous. This is done to promote the conference theme of sharing ideas across disciplines. The way presentations are scheduled presents attendees with the opportunity to hear multiple presentations from different disciplines within a session. Every attempt is made to accommodate audio visual requests of presenters.

There is no fee for the presenters. Presenters have the opportunity to attend the conference luncheon (at no cost) featuring the keynote speaker and student panelists. Funding for the conference has come from across campus in the past (Alumni Foundation, Academic Departments, Academic Deans, Vice Presidents, President) but, recently, the conference applied for a Strategic Initiative Grant and will operate off of the grant for another year. The conference will then be added to the regular budget of the university. The major costs to the conference are the conference luncheon for presenters, printing of the conference program with presentation abstracts, and funding for travel and hosting of the keynote speaker. Additional costs include: certificates, conference posters, conference information postcards, name tags, and other printing costs. The total per year has been less than \$4,000, but with increased participation, costs have increased each year.

Conference planners are now preparing for the 8th Student Academic Conference to be held in April 2006. Each year has seen progressive positive involvement from presenters, faculty, staff, and attendance at the conference.

Letter from the Chancellor



Dear Minnesota State University Moorhead Students, Colleagues, and Friends:

Congratulations on the occasion of the 2005 Minnesota State University Moorhead Student Academic Conference. I am enormously pleased and proud to join with President Roland Barden and the entire university family in recognizing our students' achievements in the rigors of creative expression, scholarship, and research.

The public university is a special place. Here we are encouraged to challenge, to question, and to ponder. In this environment, one is urged toward vigorous inquiry. Here, it is important to ask the questions, "why" and "why not?" The Minnesota State University Moorhead annual student conference reinvigorates the academic community and renews our confidence that the power of scholarship and creativity thrive in this fine Minnesota State Colleges and University system community.

On behalf of the Board of Trustees and all of us in your Office of the Chancellor, please accept our appreciation for the commitment that the conference advisor, planners, volunteers and all students, alumni, mentors, faculty, and staff have made to make the conference a success. Best wishes on this Seventh Annual Student Academic Conference.

Sincerely,

James H. McCormick

Letter from the President



Greetings:

At Minnesota State University Moorhead, our students find the inspiration and resources to become scholars and artists. Our annual Student Academic Conference is the perfect illustration of MSUM's leadership in honing undergraduate student research and artistic expression.

This conference highlights student work inspired by the involvement and encouragement of our faculty. Faculty mentors provided personal supervision to virtually all of the research papers, creative works, group projects, and other student presentations, featured here today.

Students who participate in the Student Academic Conference experience the intellectual pleasure of presenting to a genuinely interested audience of other students, faculty, and members of the community. In addition, they are challenged to defend their ideas in a supportive community of student and faculty scholars. Such experiences strengthen the undergraduate learning experience.

Congratulations to all who contribute to the conference as student participants, faculty mentors, conference planners, and supporters. Thank you for your role in continuing Minnesota State University Moorhead's mission to foster excellence in teaching and learning.

Sincerely,

A handwritten signature in cursive script that reads "Roland Barden".

Roland E. Barden, Ph.D.
President

Letter from the Vice President of Academic Affairs



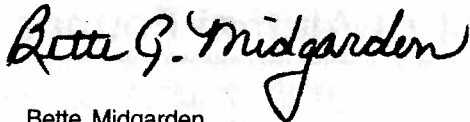
Conference Participants:

The Student Academic Conference: Bridging the Discipline became a classic event in its first year. Looking back on that initial day in April 1999, it is clear why the conference so easily became a part of MSU Moorhead's culture. Student learning is our core mission, and nothing could be more appropriate for us to do than to celebrate student achievements in scholarship, research, and creative activity.

So much attention in recent times has been focused on partnerships and collaborations. It is particularly important to keep in mind *always* that the most vital collaboration is the one between student and teacher. Today, you have the opportunity to learn from the results of so many truly special partnerships. The difficulty is the task that is ahead of you – how to choose among the many, many offerings.

As you move through the sessions, be certain to ask questions of the student presenters. Also, please take a moment or two to thank the faculty mentors, without whom the level of student accomplishment you will experience today could never have been achieved.

Yours truly,



Bette Midgarden
Vice President

Letter from the Vice President of Student Affairs



Welcome!

The Student Academic Conference provides an excellent avenue for presentation, discussion and reflection of a wide array of significant student work. It is an experience that requires engagement of many avenues of learning both in and out of the traditional classroom. The laboratories of learning are great in student employment opportunities, student organization/activities participation, student governance, residence hall living and a variety of leadership programs. MSUM has many excellent faculty and staff to foster the teaching and learning experience. Thank you for your participation, engagement and dedication to getting the most out of your total MSUM experience of developing life-long learning.



Warren Wiese

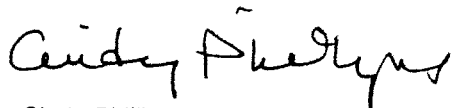
Letter from the President of IFO

The MSU Moorhead Faculty Association is pleased to once again join in sponsoring this Student Academic Conference. We are a faculty whose primary emphasis is on undergraduate teaching and learning. This conference, rooted in the idea of one of our own faculty members, Dr. Andrew Conteh, provides another rich learning opportunity for our students.

The students are challenged to master the underlying subject matter but they also learn about presentation and the art of sharing scholarship. Transmission of knowledge, so thoroughly embodied in this conference, is the very heart of the academic enterprise.

Our students rise to the challenge. They work hard and take seriously this opportunity. And each year, we the faculty, have the joy of seeing how much they have learned and how they have grown as student scholars.

We are grateful to all those who help make this opportunity possible. Most of all we salute the students on their achievement.



Cindy Phillips
Faculty Association President
Minnesota State University Moorhead

Letter from the Executive Vice President of Alumni Foundation

The future reputation of Minnesota State University Moorhead is totally in the hands of today's students, i.e. our future alumni. To involve yourselves in research and studious inquiry at this stage of your careers will mean much to you as you graduate into a complex world. Furthermore, your participation in this year's Academic Conference will only add to the quality of your overall university experience and thus will add to your preparation for success after graduation.

The Minnesota State University Moorhead Alumni Foundation is excited to be a part of the 7th Annual Academic Conference, and we know that your research efforts will be just the beginning of a lifetime of discovery and continued learning.

We are proud of the Academic Conference participants, and all of our MSUM students. We look forward to learning of your continued success as alumni.

Sincerely,

Patrick D. Hundley
Executive Vice President

Letter from the President of the Student Senate

Salutations,

Higher education provides students with countless opportunities to develop socially and intellectually, but rarely are these individuals granted the occasion to demonstrate this development prior to graduation. Committed to excellence, Minnesota State University Moorhead guarantees students the right to showcase their skills at the annual academic conference.

Students who participate in the academic conference receive due recognition for hard work, but perhaps more importantly, they learn to communicate their thoughts and ideas to peers. An individual may possess the greatest ideas in the world, but if they are unable to effectively communicate, the greatness will be lost in translation.

Each and every student participating in the academic conference is certain to learn and grow from the experience. It is precisely this above and beyond learning ethic that makes the students participating in this event some of the best on campus.

In closing, I applaud all participating students for your continued dedication to academics and taking advantage of this great opportunity to exhibit the skills you have developed at MSUM.

Sincerely,



Travis Maier

Conference Schedule

Wednesday, April 13, 2005

- 7:30 a.m. Poster Set-Up—Registration/Information Table—CMU Main Lounge**
- 10:30 a.m. Presenter Registration—Registration/Information Table—CMU Main Lounge**
- 11:15 a.m. Seating for the Luncheon—CMU Ballroom**
- 11:30 a.m. Luncheon Starts (Welcome and Introductions)—CMU Ballroom**
- 11:50 a.m. Keynote Speaker—CMU Ballroom**
Todd Marvin Koel, Ph.D.
Supervisory Fisheries Biologist • Yellowstone National Park
- 12:20 p.m. Student Panelists—CMU Ballroom**
Rebecca Louisiana, Education & Human Services
Brett Ortler, Arts & Humanities
Doug Olson, Business & Industry
Jennifer Bengtson, Social & Natural Sciences
- 1:00 p.m. Presentation Session 1 and Poster Session 1—
Various CMU Rooms and Poster Display Area**
- 2:20 p.m. Break**
- 2:30 p.m. Presentation Session 2 and Poster Session 2—
Various CMU Rooms and Poster Display Area**
- 4:00 p.m. Closing Ceremony —CA**
Refreshments sponsored by Counseling and Personal Growth Center.
Simon Rowe will be playing Jazz Piano.

Conference Organizers And Steering Committee

Conference Coordinator



Dr. Andrew Conteh
Professor of Political Science

Conference Organizers

Sayem Ahmed
Intern, Accounting and Finance



Brian M. Card
Political Science Department



PROGRAM COMMITTEE

Andrew Conteh	Political Science
Carl Oltvedt	Art and Design
Chris Malone	Psychology
Harry Weisenberger	Education Foundations
Jack Wells	History
Judy Peterson	Alumni Foundation
Carl Leonard	Anthropology and Earth Sciences
Ng Geok Lian	Mathematics
Linda Fuselier	Biology
Maureen Kelly Jonason	New Center
Nancy Paul	Speech Language and Hearing Science
Ok-hee Lee	Elementary and Early Childhood
Richard Lahti	Chemistry/Physics
Ruth Newton	Elementary and Early Childhood
Sayem Ahmed	Intern
Yahya Frederickson	New Center

LOGISTICS COMMITTEE

Andrew Conteh	Political Science
Angela Boser	Leadership and Organizations
Chris Huot	Health and Physical Education
David Olday	Sociology and Criminal Justice
Greg Stutes	Economics
Joe Provost	Biology
John Shaw	American Multicultural Studies
Kris Montis	Mathematics
Laurie Blunsom	Music
Layne Anderson	Comstock Memorial Union
Liz Rowse	New Center
Randy Cagle	Philosophy
Tom Brandau	Communication Studies, Film Studies, and Theatre Arts
Yuri Boreisha	Computer Science and Information Systems
Brian Card	Student

How to Get Involved?

If you are interested in being a part of the steering committee for the Student Academic Conference next year, a conference volunteer, or interested in being a student organizer, please send an e-mail expressing your interest to acconf@mnstate.edu

Each year an MSUM alumnus is selected to deliver the keynote address to conference attendants. This person is selected by the conference steering committee following a review of nominations received from members of the MSUM campus community. This year's keynote speaker is:



Todd Marvin Koel, Ph.D.

Supervisory Fisheries Biologist • Yellowstone National Park

Todd Marvin Koel, a 1991 MSUM alumnus, is Supervisory Fisheries Biologist for the Center for Resources, Yellowstone National Park. In this position, Koel directs all of the activities of the Fisheries and Aquatic Sciences Section, with a focus on the preservation and restoration of native species assemblages and natural ecosystem processes. Koel supervises up to 24 staff annually and serves on several interagency committees concerned with native trout conservation. In addition, he incorporates a multitude of volunteers that dedicate up to 6000 hours of time each year addressing aquatic resource issues. A strong supporter of staff advancement and student involvement, Koel recruits many undergraduates for internship positions and involves them with projects throughout Yellowstone. He holds affiliate faculty positions at Montana State University and the University of Wyoming, and co-advises two Ph.D. students and one M.S. student, while serving on the graduate committees of four others, all with research aimed at the aquatic resources of the park. The many unique environments of Yellowstone provide a wonderful outdoor laboratory for interested students and collaborating researchers to work and live.

Prior to his position with the National Park Service, Koel served as Director of the Illinois Natural History Survey, Illinois River Biological Station and worked as a Fisheries Specialist for the Long Term Resource Monitoring Program for the Upper Mississippi River System. In these positions, Koel conducted applied research aimed at naturalizing flow regimes and restoring the natural connectivity of large floodplain river systems. Koel is the author of 10 peer-reviewed publications and numerous technical reports and articles.

Koel entered MSUM within the New Center for Multidisciplinary Studies. He then earned his B.A. in Biology from MSUM in 1991 and an M.S. in Zoology from North Dakota State University in 1993. With a genuine love for the region and strong support from his family, friends, and academic mentors, Koel stayed at North Dakota State University and completed his Ph.D. in Zoology in 1997. Koel also was an instructor in the Department of Mathematics and Science, North Dakota State College of Science, 1995-1997. Originally from Rollag, Minnesota, Koel now resides with his wife, Sandie, and four young boys at Mammoth, Wyoming and within the wildest landscape on the face of the planet.

Student Panelists

Each year four student panelists are selected to respond to the keynote address. These four students represent the four academic divisions of the university: Arts & Humanities, Social & Natural Sciences, Business & Industry, and Education & Human Services. These students are selected by the Dean of each academic division following a review of nominations received from members of the MSUM campus community. This year's panelists include:



Brett Ortler is a senior and a Philosophy/English double major with a minor in German from Concordia College. An active member in several on-campus groups and organizations, Brett has been active with the Advocate, Red Weather, and New Rivers Press, among others. Brett was also a student member of the Philosophy Department meetings and a member of the recent philosophy search committee. Academically, Brett will graduate summa cum laude, has been perennially nominated to the Dean's List, and is a recipient of several MSUM scholarships, including MSUM upper-class scholarships, a scholarship from the MSUM English Department, as well as a Target Volunteer Award as an in-coming freshman. Off campus, Brett has written for the High Plains Reader, organized a get-out-the-vote drive, and has just started volunteering with the Red Cross. Regarding future plans, Brett just applied to several graduate schools and also hopes to join the Peace Corps. in the future.



Doug Olson is originally from Brainerd, MN. He is a Paralegal major. He is a senior at MSUM and expects to graduate with a Bachelor of Science in Paralegal in Summer Semester 2005. Doug is active in MSPAM (Minnesota State Paralegal Association) and Spanish Club. He is also a tutor for the MSUM Tutoring Center. Doug is a recipient of the MSPAM Scholarship and the MSUM Upperclassmen Scholarship. He graduated from St. Cloud State University with a Bachelor of Arts in History in May 2003. He transferred to MSUM in August 2003. He hopes to attend law school in the future.



Jennifer Bengtson is an Anthropology major with an Archaeology emphasis and a Geosciences minor. She has been involved in geophysical research with Dr. Rinita Dalan for the past two years, studying the magnetic properties of soils from archaeological sites. Jennifer has led several labs and lectures in the introductory physical anthropology course and was a teaching assistant for Human Anatomy in Fall 2004. She is also active in the Expanding Your Horizons program, where she has organized geophysics activities for the last two years. Jennifer was the recipient of the Upperclass Minority Scholarship in 2003-2004 and 2004-2005. She will graduate Summa Cum Laude this spring and plans to study bioarchaeology and forensic anthropology in graduate school beginning this fall. Jennifer lives in Fargo with her three year old son, Gabriel.



Rebecca Louisiana graduated with High Honors from Henning, MN, and is currently a junior at MSUM. Her major is Elementary Education with a pre-primary emphasis. Rebecca has always enjoyed helping out in her mother's Kindergarten classroom in Bertha, MN, and hopes to have a Kindergarten classroom of her own one-day. Rebecca has received the University Scholarship and has been recently admitted to Phi Kappa Phi, an honor society that recognizes academic excellence in all disciplines. Rebecca has spent time working with adults in a local English as a second language program. She found the experience to be very informative and enjoyed meeting different people. Rebecca is currently working as a nanny/personal assistant for a family in Fargo. She enjoys the flexibility and ever changing aspects of this job as well as the closeness she feels with the family. Rebecca will be entering her Professional Fourth Year in Fall 2005 and will graduate in Spring 2006.

Juried Student Art Exhibition

The Juried Student Art Exhibition is an annual event open to all art students enrolled in classes at the Department of Art and Design, MSUM, during the academic year 2004-05. The 2005 exhibition is on display March 24-April 13. The juror for this year was Ben Heywood, curator of an alternative art gallery in Minneapolis called The Soap Factory. Students were allowed to submit two pieces of artwork each. The work was judged on March 22. Awards were presented at a reception on March 31. Awards were given to works designated as Juror's Choice, Honorable Mentions, and Viewers' Choice. The gallery hours are Mon.-Thurs. 10-6 and Fri. 10-4. The Academic Conference closing reception will take place at 4pm in the gallery.

2005 Awards

Juror's Three Top Choices

Yelena Vilenski • *Nostalgia*

Trevor Hirst • *It Is Part of Driving*

Sam Isham-Schopf • *Untitled (plywood city)*

Juror's Honorable Mentions

Naomi Schliesman • *Radiolarium*

Aaron Maher • *Upstream (study)*

Jonathan Rutter • *USDA Choice*

Christopher Larson • *Flowers For Algernon*

Nathan Cote • *Untitled (house)*

Minda Ringdahl • *Inside*

Viewer's Choice

Trevor Hirst • *It Is Part of Driving*

Exhibition Participants

Tracy Tanner	Bewitching Hour
Jennifer Scheuer	Kim
Trevor Hirst	It is a Part of Driving
Jonathan Rutter	USDA Choice
Steven A. Stalberger	To eat the flesh of Kings
Yelena Vilenski	Nostalgia
Sarah Christianson	On that morning, I went walking?
Morea Steinhauer	Untitled
Morea Steinhauer	Untitled
Nathan Cote	Untitled
Nathan Cote	Untitled
Erica Franklin	Divination
Jeff Tessman	Environmental Awareness
Amy Wilcox	Literary Festival Poster
Amy Wilcox	Wilcox Masonry Letterhead System
Christopher Larson	Flowers for Algernon
Falan Hehr	Back at St. Matthew's
Brooke Kranzler	FM Caf? Menu
Crystal Aakre	MSUM Artist Lecture
Erik Hougen	This is what my parking lot usually looks like
Erik Hougen	The Dirty Trilogy
Rebecca Bach	Painting Nude
David Valdez	not titled
Elizabeth Stark	Untitled
Elizabeth Stark	Untitled
Jaci McCaskell	Untitled (Edinburgh)
Jaci McCaskell	Colorful Homeless
Jessee Andersen	Untitled #4, 221 (pink door frame)
Shannon Crabtree	Untitled #1
Isaac Peloqujn	Untitled
Isacc Peloqujn	Untitled
Mary Schindler	Sea of Emotions
Josh Dahl	Hung
Bryan Thoendel	Towel Serial
Naomi Schliesman	Radiolarian
Naomi Schliesman	Microcotyle Eggs
Sam Isham-Schopf	Untitled
Sam Isham-Schopft	Untitled
Matt Isaac	Remake, Rehash, Recycle
Janelle Pochardt	Fertile, Mertile?
Josh Anderson	Still Life with vase
Aaron Maher	Upstream (study)
Gerald Nelson	You Can Change Things
Jamie Flynn	Forever Fervent
Minda Ringdahl	Stepping Stone
Minda Ringdahl	Inside

Schedule by Room

• CMU 101

Session 1

1:00 pm	339	DragonGrades - A free, on-line, campus grading distribution system
1:40 pm	270	Determinants of Selling Prices on eBay
2:00 pm	342	Parent-Child Communication Program Case Study #10

Session 2

2:30 pm	341	Racial Disproportion of Incarcerated African-Americans since 1980
2:50 pm	265	Wound Healing and ERK Activation in a Phospholipase D Mediated β 1-Adrenergic Pathway
3:10 pm	274	The Comparison between Attention-Deficit Hyperactivity Disorder and Auditory Processing Disorder in Children
3:30 pm	226	Conic Sections with Minkowski Metric

• CMU 121

Session 1

1:00 pm	306	President Franklin D. Roosevelt and the Japanese-American Internment During World War II: His level of Involvement and Responsibility
1:20 pm	307	Creative Writing in Various Styles
1:40 pm	308	The future of Computer Science and Information Systems education
2:00 pm	309	The Parent-Child Communication Program: Case Study #14

Session 2

2:30 pm	327	The Moral Gelding: Johnny Wheelwright as Invisible Man
2:50 pm	292	The Problem of the Self in Buddhism and Christianity
3:10 pm	284	A Study of High School Dropout in Fargo Public Schools
3:30 pm	302	Collusion in Agriculture

• CMU 200A

2:30 pm	179	Matter and Energy
3:30 pm	329	Evolving Science: A hands-on lesson on evolution

• CMU 200B

2:30 pm	180	How Natural Selection Acts Within an Ecosystem
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• CMU 200C

2:30 pm	181	Earth's Tug-of War: Exploring Plate Tectonics
3:30 pm	351	Shakespeare Debate

• **CMU 203**

Session 1

1:00 pm	359	Quantitative Analysis of On-line Auction of Coins
1:20 pm	261	Indigenous Knowledge and Development
1:40 pm	143	Conceptions of God
2:00 pm	225	The effects of a thermocouple in a non-inverting op-amp circuit

Session 2

2:30 pm	223	Child Prostitution
2:50 pm	222	Economic Analysis of Minnesota Lake Property Prices
3:10 pm	220	The Role of the Serpent in Modern Music
3:30 pm	229	Mary Stuart: Doomed from the beginning

• **CMU 204**

Session 1

1:00 pm	358	Starvation Amid Surplus: Third World Food Dependency
1:20 pm	357	
1:40 pm	244	Postmodernism and Cultural Anthropology
2:00 pm	174	The Effect of Equality Demand on Election 2004

Session 2

2:30 pm	264	jus ad interventionem
2:50 pm	340	"La Belle Dame sans Merci: A Force of Nature"
3:10 pm	216	Intellectual Property: Copyrights and the Internet
3:30 pm	317	Growing up female in the era of Disney: a closer look at the duality of the female heroine

• **CMU 205**

Session 1

1:00 pm	259	Sex Determination: Biological Pathways, Hormonal Control, and Political Implications
1:20 pm	257	Women in Surrealism: Their Roles and Depictions
1:40 pm	256	Reconstruction of Representation: An Analysis of Body, Space and the Erotic
2:00 pm	255	Inflation and Unemployment, Empirical Evidence on the Phillips Curve: 1950-1999

Session 2

2:30 pm	251	Sex Determination: Biological Pathways, Hormonal Control, and Political Implications
2:50 pm	227	Mysticism and the Marginalized Individual in 19th Century Literature
3:10 pm	246	The Impact of Tuition Increases on University Enrolment
3:30 pm	196	Curanderismo and Its Impact on Modern Medicine

• **CMU 207**

Session 1

1:00 pm	356	International Sex Slavery
1:20 pm	354	Evolution of Financial Statement from Simple to Complex: 1990 to Present
1:40 pm	241	Tackling the Challenges to Providing Culturally Competent Health Care
2:00 pm	232	The Tlaxcalan Legacy: An Analysis of Tlaxcalan History and Favoritism in Sixteenth Century New Spain

Session 2

2:30 pm	231	Child Soldiers in African Conflicts
2:50 pm	230	Compartment Syndrome: An overview of the condition & a look into one treatment option, the fasciotomy.
3:10 pm	247	Why Knot?
3:30 pm	151	The Origins of Redress for the Japanese American Internment During WWII, 1970-1978

• **CMU 208**

Session 1

1:00 pm	167	Adolescent Sex Offenders: A Review of Recent Literature
1:20 pm	289	Dragon's Breath Productions
1:40 pm	162	Fargo, ND vs. Moorhead, MN: Do Homebuyers Have A State Preference?
2:00 pm	156	The Influence of Japanese American Internment on the Model Minority Label

Session 2

2:30 pm	155	The Parent-Child Communication Program: Case Study #5
2:50 pm	207	Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota
3:10 pm	172	Grand Round on Kristyna Marie Walling
3:30 pm	150	Causes of academic disengagement among minority students

• **CMU 214**

Session 1

1:00 pm	148	Osteomyelitis
1:20 pm	147	Get your Organization on-line! ~Or How To Build A Web site For Your Organization!
1:40 pm	146	"Factors Influencing the Foster Care Experience of a Child"
2:00 pm	145	A psychological critique of a student named Susie Johnson

Session 2

2:30 pm	144	Sex Education in our Schools
2:50 pm	154	Taxicab Geometry
3:10 pm	245	Income Inequality
3:30 pm	228	National Healthcare in the United States

• **CMU 216**

Session 1

1:00 pm	192	Improving Student's Conceptualization of the Atom
1:20 pm	190	Building the Spanish Empire
1:40 pm	186	Bureaucracy in Developing Nations
2:00 pm	185	Measuring the Speed of Light

Session 2

2:50 pm	319	Capturing Votes: The 2004 Presidential Campaign On-line
3:10 pm	171	The "Cruel and Unusual" Death Penalty
3:30 pm	182	Gamma ray spectroscopy and its application

• **CMU 218**

Session 1

1:00 pm	177	Nuclear Magnetic Resonance On Model Compounds
1:20 pm	176	Gamma Ray Spectroscopy
1:40 pm	242	Small Arms and Ongoing Conflicts
2:00 pm	173	The Impact of USAF Colonel John Boyd on Military Theory, Doctrine, and Practice

Session 2

2:30 pm	203	Becoming the Knight of Faith
2:50 pm	324	An Observation of Disease in scleractinian corals with Emphasis on Work Done by Dr. Bruce W. Fouke Concerning Partitioning of the Bacterial Community that Constitutes Black Band Disease
3:10 pm	287	Teaching American Indian Students
3:30 pm	326	Women Composers/Pulitzer Prize Winners

• **CMU 227**

Session 1

1:00 pm	338	Through the Looking Glass: A Closer Look at Female Heroines in Disney Films
1:20 pm	277	The Creation Of the Modern Musical
1:40 pm	278	ZZZ Best Corporation and Fraud
2:00 pm	304	Devil Against Devil: A Comparative Analysis of Amiri Baraka's Poetry and the Blues to Fight Systems of Oppression

Session 2

2:30 pm	299	The Effect of Short Chain Phosphotidic Acid on the Activation of ERK
2:50 pm	263	The Middle East Agenda
3:10 pm	285	In the Name of Humanity
3:30 pm	276	Finding The Index of Refraction Using the Michelson Interferometer

• **CMU Kise Line D**

Session 1

1:00 pm	303	African Americans Welfare Recipients and Barriers to Employment
1:40 pm	184	Our Wedding Movie: A documentary of one same-sex couple's struggle for marriage equality

Session 2

2:30 pm	353	Federico Garcia Lorca and the Themes in "The House of Bernarda Alba"
2:30 pm	348	The Catholic Influence on Spanish Traditions and Cultural Values
2:30 pm	346	International Adoption: Information for U.S. Parents
2:30 pm	347	Machismo of Latin America
3:30 pm	300	"We think we are animals" The devastating story of the destruction of a continent

• **Library Instruction - Rm. 208**

Session 1

1:00 pm	334	Trapped between two racial worlds: Nella Larsen's Passing and Quicksand
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Session 2

3:00 pm	360	Should We Scale Up or Scale Down?
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• **Library Porch**

Session 1

1:00 pm	153	Should We Scale Up or Scale Down
1:30 pm	325	Quantum Physics, Inescapable Fate, and Metafiction: Delightful Intricacies in the Literature of John Barth and Vladimir Nabokov
2:00 pm	350	Are Immersion Students Progressing at the same rate as General Education Students?

Session 2

2:30 pm	352	Critical Views of Marsha Norman's "Night Mother"
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• **CMU Main Lounge**

Session 1

- 1:00 pm 253 Videoconferencing: The Wave of the Future
- 1:00 pm 191 Marital Status and Health
- 1:00 pm 188 Assessing genetic diversity of *Pimephales promelas* in Budd Lake using PCR-based microsatellite analysis of primer regions 18, 48, and 80
- 1:00 pm 298 RhoA, Rock, and Phospholipase D regulate α 1-adrenergic receptor induced stress fiber formation in Chinese hamster lung fibroblasts
- 1:00 pm Celiac Disease
- 1:00 pm 323 Designing Identities
- 1:00 pm 321 Dieting Craze
- 1:00 pm 297 Is the plant enzyme PPDK necessary for the plant to live? An evaluation of PPDK gene knockout mutants of the small mustard plant, *Arabidopsis thaliana*?
- 1:00 pm 318 Voltammetric Quantification of Metal Ions Based on their Exchange with Ferrous ion Fe(II)-EDTA Complex
- 1:00 pm 243 Stature and Status in Mississippian and Oneota Burials
- 1:00 pm 183 "Talking" Sherds: Ceramic Analysis of the Sprunk Site
- 1:00 pm 296 Protein phosphorylation and the assembly of sea urchin egg microtubules
- 1:00 pm 295 The Effect of Attack by Ciliate Protozoan Ectoparasites on the Proliferation of Epidermal Club Cells in Zebrafish
- 1:00 pm 305 Determinants of crime in Fargo Moorhead
- 1:00 pm 175 Alloparental Care and Filial Cannibalism in a Wild Population of Fathead Minnows (*Pimephales promelas*)
- 1:00 pm 240 Hypertrophic Cardiomyopathy (HCM)
- 1:00 pm 293 Creation of Chimeric NHE1 Constructs
- 1:00 pm 291 A test for olfactory recognition of parental adults by free-swimming young of a biparental cichlid fish
- 1:00 pm 168 Residential Treatment for Children and Adolescents: A Review of Research and Policy
- 1:00 pm 290 Using GIS and GPS in Archaeology
- 1:00 pm 166 How does Mycorrhizae Affect the Growth of Prairie Grass Species?
- 1:00 pm 163 Is Mitochondrial Inheritance Tissue Specific? A new look at the mtDNA Dogma from a Cell Biology Perspective.
- 1:00 pm 260 Social Aspects of Rural Health
- 1:00 pm 288 Cultural Evolution in Contemporary Society
- 1:00 pm 266 The role of the α 1- adrenergic agonist, Phenylephrine, in the Phospholipase D-dependent activation of the Sodium Hydrogen Exchanger (NHE1).
- 1:00 pm 268 Archaeological Test Excavations at the Sprunk Site.
- 1:00 pm 283 The Great Ocean Conveyor Belt: A Global Issue
- 1:00 pm 272 Top Ten Medications Administered in the Emergency Department
- 1:00 pm 250 Locating Buried Archaeological Sites Using Soil Magnetic Techniques
- 1:00 pm 202 The Effects of Privatization on Different Age Groups
- 1:00 pm 280 The Effects of Cell Cycle Inhibitors on Mitochondrial Replication.
- 1:00 pm 355 Pornography and Advertising
- 1:00 pm 197 A Comparison of Forb Diversity in 3rd Grade Prairie Restoration Plots
- 1:00 pm 199 The effect of UV-B radiation on the proliferation of epidermal club cells in zebrafish
- 1:00 pm 210 How simulated flooding can effect corn seedling energy metabolism
- 1:00 pm 214 Effect of Ultra Violet light stress on corn seedling coleoptile energy metabolism
- 1:00 pm 205 Survey of Wild Turkey (*Meleagris gallopavo*) Distribution in Cass (ND) and Clay (MN) Counties
- 1:00 pm 204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot

Session 2

- 2:30 pm 328 Transaction Processing & Concurrency Control in RDBMS
- 2:30 pm 165 A novel approach of assessing effects of cell cycle regulatory proteins Mad 2/Mad3 degradation on mitochondrial dynamics using a temperature sensitive plasmid construct Ts-Degron.
- 2:30 pm 219 Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (*Pimephales promelas*)

2:30 pm	258	Genetic Structure of Sexual and Asexual Populations of Liverworts, <i>Marchantia inflexa</i>
2:30 pm	161	Nursing Care in Nicaragua
2:30 pm	218	An Attempt to Improve Solar Cell Efficiency
2:30 pm	254	The Sodium Hydrogen Exchanger is involved in Matrix Metalloproteinase 9 activation.
2:30 pm	213	Can the herbicide Round-Up produce short term changes in growth and energy metabolism in corn seedlings?
2:30 pm	252	Small G protein regulators expression and their effect on families with autism.
2:30 pm	267	Gamma-ray Spectroscopy
2:30 pm	215	Short-term effects of root excision on growth in corn seeding coleoptiles
2:30 pm	149	Transcript quantization of <i>Arabidopsis</i> PDK mRNA
2:30 pm	271	Medication versus Therapy
2:30 pm	330	Exercise and Health
2:30 pm	273	Creation of p.bluescript plasmid containing human c-myc gene using DNA recombination and bacterial transformation in <i>E. coli</i>
2:30 pm	281	The role of the cell cycle control gene <i>CDC28</i> on mitochondrial inheritance.
2:30 pm	275	The Role of Oxidative Stress in Maternal mtDNA Inheritance
2:30 pm	212	Do elevated levels of potassium ion in the external medium of corn roots at the seedling stage stimulate respiration of seedling coleoptiles and therefore ATP synthesis?
2:30 pm	314	The Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota
2:30 pm	194	Experience the Manitoba International Marketing Competition
2:30 pm	301	Ongoing Geophysics at Hopeton
2:30 pm	198	Health and Elder Abuse
2:30 pm	233	Domestic Violence
2:30 pm	200	Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner
2:30 pm	239	Amyotrophic Lateral Sclerosis (ALS)
2:30 pm	217	Can com coleptile tissue mitochondrial respiration potential be increased by pre-treating corn roots in iron fertilizer?
2:30 pm	201	Sex and STDS in North Dakota
2:30 pm	221	Comparison of SCAN and APD Diagnosis
2:30 pm	312	Slap Lesions of the Shoulder
2:30 pm	322	
2:30 pm	224	Life on the List - A look into organ transplantation and the time spent waiting for the perfect match.
2:30 pm	209	Cold snaps in the corn field in early spring. How a temporary cold shock effects growth and development of emerging corn seedlings.
2:30 pm	211	The effect of drought on early corn seeding energy metabolism.
2:30 pm	349	Spoken Word Recognition: The Effects of Sound and Spelling Information
2:30 pm	294	A mathematical model for the co-evolution of egg size, larval antipredator competence and parental care in a biparental cichlid fish
2:30 pm	195	Dragon Tests: A dynamic prototype to present the feasibility and usability of employing proctored tests in campus classrooms.
2:30 pm	313	Alternative Photographic Processes

• Underground

Session 1

1:00 pm	343	The Importance of Utilizing Medical Interpreters with Both a Scientific and Cultural Awareness of their Clients' Health
1:00 pm	345	
1:00 pm	344	The Benefits of Spanish-Immersion Programs
2:00 pm	164	Legg Calve Perthes Disease

Session 2

2:30 pm	335	"Irish Women Writers"
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Ackerson	Anna	240 Hypertrophic Cardiomyopathy (HCM)	Main Lounge	1:00
Agyeman-Budu	David	182 Gamma ray spectroscopy and its application	216	3:30
Ahmed	Sayem	354 Evolution of Financial Statement from Simple to Complex: 1990 to Present	207	1:20
Alishouse	James	273 Creation of p.bluescript plasmid containing human c-myc gene using DNA recombination and bacterial transformation in E. coli	Main Lounge	2:30
Andersen	Amber	304 Devil Against Devil: A Comparative Analysis of Amiri Baraka's Poetry and the Blues to Fight Systems of Oppression	227	2:00
Anderson	Nathan	289 Dragon's Breath Productions	208	1:20
Anderson	Larissa	351 Shakespeare Debate	200C	3:30
Anderson	Kendra	223 Child Prostitution	203	2:30
Anderson	Jesse	313 Alternative Photographic Processes	Main Lounge	2:30
Anderson	Amber	226 Conic Sections with Minkowski Metric	101	3:30
Anfinson	Jennifer	221 Comparison of SCAN and APD Diagnosis	Main Lounge	2:30
Arnold	John	264 jus ad interventionem	204	2:30
Ascheman	Landon	203 Becoming the Knight of Faith	218	2:30
Asp	Ryan	313 Alternative Photographic Processes	Main Lounge	2:30
Axtman	Josh	289 Dragon's Breath Productions	208	1:20
Barbie	Valerie	268 Archaeological Test Excavations at the Sprunk Site	Main Lounge	1:00
Beer	OMelissa	301 Ongoing Geophysics at Hopeton	Main Lounge	2:30
Belcourt	Amanda	172 Grand Round on Kristyna Marie Walling	208	3:10
Bengtson	Jennifer	250 Locating Buried Archaeological Sites Using Soil Magnetic Techniques	Main Lounge	1:00
Bengtson	Jennifer	243 Stature and Status in Mississippian and Oneota Burials	Main Lounge	1:00
Berg	Kristina	341 Racial Disproportion of Incarcerated African-Americans since 1980	cf0101	2:30
Bergeneheier	Lindsay	355 Pornography and Advertising	Main Lounge	1:00
Bergeneheier	Lindsay	356 International Sex Slavery	207	1:00
Bierlein	Jennie	335 "Irish Women Writers"	Underground	2:30

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Bothum	Jessica	209 Cold snaps in the corn field in early spring. How a temporary cold shock effects growth and development of emerging corn seedlings.	Main Lounge	2:30
Brause	Rachel	346 International Adoption: Information for U.S. Parents	Kise Line D	2:30
Brown	Alex	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Buetow	Heidi	191 Marital Status and Health	Main Lounge	1:00
Burgad	Derick	293 Creation of Chimeric NHE1 Constructs	Main Lounge	1:00
Burns	Bradley	16149 Transcript quantization of Arabidopsis PPDK mRNA	Main Lounge	2:30
Burnside	Tabitha	298 RhoA, Rock, and Phospholipase D regulate α 1-adrenergic receptor induced stress fiber formation in Chinese hamster lung fibroblasts	Main Lounge	1:00
Butler	Shane	324 An Observation of Disease in scleractinian corals with Emphasis on Work Done by Dr. Bruce W. Fouke Concerning Partitioning of the Bacterial Community that Constitutes Black Band Disease	218	2:50
Campbell	Jessica	211 The effect of drought on early corn seeding energy metabolism.	Main Lounge	2:30
Candrian	Jeremy	215 Short-term effects of root excision on growth in corn seeding coleoptiles	Main Lounge	2:30
Carbone	Michael	358 Starvation Amid Surplus: Third World Food Dependency	204	1:00
Card	Brian	174 The Effect of Equality Demand on Election 2004	204	2:00
Card	Brian	143 16Conceptions of God	203	1:40
Carland	Stephen	270 Determinants of Selling Prices on eBay	101	1:40
Carlson	Jasmine	314 The Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	Main Lounge	2:30
Caroline	Elizabeth	166 How does Mycorrhizae Affect the Growth of Prairie Grass Species?	Main Lounge	1:00
Carvell	Kelsey	276 Finding The Index of Refraction Using the Michelson Interferometer	227	3:30
Chang	Eun Hyuk	297 Is the plant enzyme PPDK necessary for the plant to live? An evaluation of PPDK gene knockout mutants of the small mustard plant, <i>Arabidopsis thaliana</i> ?	Main Lounge	1:00
Christensen	Adam	179 Matter and Energy	200A	2:30
Chromy	Dionne	201 Sex and STDS in North Dakota	Main Lounge	2:30

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Crabtree	Shannon	256 Reconstruction of Representation: An Analysis of Body, Space and the Erotic	205	1:40
Daghmoumi	Anas	263 The Middle East Agenda	227	2:50
Davenport	Ronald	351 Shakespeare Debate	200C	3:30
Davenport	Ronald	150 Causes of academic disengagement among minority students	208	3:30
DeBoer	Tiffany	202 The Effects of Environmental Hazards on Health	cb1 Main Lounge	1:00
Decker	Kyle	278 ZZZ Best Corporation and Fraud	227	1:40
Decker	Paul	212 Do elevated levels of potassium ion in the external medium of corn roots at the seedling stage stimulate respiration of seedling coleoptiles and therefore ATP synthesis?	Main Lounge	2:30
Decker	Paul	200 Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner	Main Lounge	2:30
Dhanani	Karim	245 Income Inequality	214	3:10
Diehl	Dusty	292 The Problem of the Self in Buddhism and Christianity	121	2:50
Dobervich	Eric	192 Improving Student's Conceptualization of the Atom	216	1:00
Dobmeier	John A.	306 President Franklin D. Roosevelt and the Japanese-American Internment During World War II: His level of Involvement and Responsibility	121	1:00
Drew	Shantell	295 The Effect of Attack by Ciliate Protozoan Ectoparasites on the Proliferation of Epidermal Club Cells in Zebrafish	Main Lounge	1:00
Due	Trevor	351 Shakespeare Debate	200C	3:30
Durhman	Amanda	313 Alternative Photographic Processes	Main Lounge	2:30
Duval	Matthew	299 The Effect of Short Chain Phosphotidic Acid on the Activation of ERK	227	2:30
Dye	Tom	1 219 Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (<i>Pimephales promelas</i>)	Main Lounge	2:30
Dye	Tom	291 A test for olfactory recognition of parental adults by free-swimming young of a biparental cichlid fish	Main Lounge	1:00
Earley	April	326 Women Composers/Pulitzer Prize Winners	218	3:30

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Engen	Jackie	319 Capturing Votes: The 2004 Presidential Campaign On-line	216	2:50
Ersland	Amanda	308 The future of Computer Science and Information Systems education	121	1:40
Ertelt	Troy	167 Adolescent Sex Offenders: A Review of Recent Literature	208	1:00
Ertelt	Troy	168 Residential Treatment for Children and Adolescents: A Review of Research and Policy	Main Lounge	1:00
Flatt	Travis	204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot	Main Lounge	1:00
Fleckenstein	Heather	353 Federico Garcia Lorca and the Themes in "The House of Bernarda Alba"	Kise Line D	2:30
Foertsch	Casey	180 How Natural Selection Acts Within an Ecosystem	200B	2:30
Forde	Jill	241 Tackling the Challenges to Providing Culturally Competent Health Care	207	1:40
Gabel, Jr.	William	253 Videoconferencing: The Wave of the Future	Main Lounge	1:00
Gaines	Nickolas	303 African Americans Welfare Recipients and Barriers to Employment	Kise Line D	1:00
Gaukler	Shannon	314 The Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	Main Lounge	2:30
Geray	Katie	219 Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (<i>Pimephales promelas</i>)	Main Lounge	2:30
Geray	Katie	175 Alloparental Care and Filial Cannibalism in a Wild Population of Fathead Minnows (<i>Pimephales promelas</i>)	Main Lounge	1:00
Geray	Katie	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Geray	Katie	204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot	Main Lounge	1:00
Gersten	Lee	258 Genetic Structure of Sexual and Asexual Populations of Liverwarts, <i>Marchantia inflexa</i>	Main Lounge	2:30
Getty	Sara	218 An Attempt to Improve Solar Cell Efficiency	Main Lounge	2:30
Getty	Sara	149 Transcript quantization of Arabidopsis PDK mRNA	Main Lounge	2:30
Gierszewski	Adam	359 Quantitative Analysis of On-line Auction of Coins	203	1:00
Gilleshammer	Lindsay	155 The Parent-Child Communication Program: Case Study #5	208	2:30

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Last Name	First Name	Presentation Title	Room	Time
Giwa	Oluwaloni	300 "We think we are animals" The devastating story of the destruction of a continent	Kise Line D	3:30
Godfread	Ross	302 Collusion in Agriculture	121	3:30
Goodell	Bryce	289 Dragon's Breath Productions	208	1:20
Grosek	Madeline	287 Teaching American Indian Students	218	3:10
Gruber	Natasha	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Gruber	Natasha	207 Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	208	2:50
Gurung	Deshna	280 The Effects of Cell Cycle Inhibitors on Mitochondrial Replication.	Main Lounge	1:00
Gust	Leah	217 Can corn coleptile tissue mitochondrial respiration potential be increased by pre-treating corn roots in iron fertilizer?	Main Lounge	2:30
Gustafson	Tim	225 The effects of a thermocouple in a non-inverting op-amp circuit	203	2:00
Hacking	Sara	340 "La Belle Dame sans Merci: A Force of Nature"	204	2:50
Hada	Parish	328 Transaction Processing & Concurrency Control in RDBMS	Main Lounge	2:30
Hagen	Derek	162 Fargo, ND vs. Moorhead, MN: Do Homebuyers Have A State Preference?	208	1:40
Hagen	Andrea	351 Shakespeare Debate	200C	3:30
Hagen	Joel	325 Quantum Physics, Inescapable Fate, and Metafiction: Delightful Intricacies in the Literature of John Barth and Vladimir Nabokov	Library Porch	2:50
Hairgrove	Kenna	251 Sex Determination: Biological Pathways, Hormonal Control, and Political Implications	205	2:30
Hairgrove	Kenna	259 Sex Determination: Biological Pathways, Hormonal Control, and Political Implications	205	1:00
Hallberg	Ashley	221 Comparison of SCAN and APD Diagnosis	Main Lounge	2:30
Hammerbeck	Kelly	257 Women in Surrealism: Their Roles and Depictions	205	1:20
Hanson	Mercedes	172 Grand Round on Kristyna Marie Walling	208	3:10
Hanson	K C	327 The Moral Gelding: Johnny Wheelwright as Invisible Man	121	2:30
Hanson	Tracy	260 Social Aspects of Rural Health	Main Lounge	1:00
Harms	Shane	357 Reading Creative Writing	204	1:20
Heck	Jessica	175 Alloparental Care and Filial	Main Lounge	1:00

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		Cannibalism in a Wild Population of Fathead Minnows (<i>Pimephales promelas</i>)		
Hedtke	Angela	209 Cold snaps in the corn field in early spring. How a temporary cold shock effects growth and development of emerging corn seedlings.	Main Lounge	2:30
Hektner	Lateesha	314 The Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	Main Lounge	2:30
Hektner	Lateesha	207 Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	208	2:50
Helder	Dan	312 Slap Lesions of the Shoulder	Main Lounge	2:30
Hendrickson	Jodi	204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot	Main Lounge	1:00
Hendrickson	Jodi	199 The effect of UV-B radiation on the proliferation of epidermal club cells in zebrafish	Main Lounge	1:00
Hendrickson	Jodi	219 Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (<i>Pimephales promelas</i>)	Main Lounge	2:30
Hill	Andy	173 The Impact of USAF Colonel John Boyd on Military Theory, Doctrine, and Practice	218	2:00
Hoban	s16Jesse	186 Bureaucracy in Developing Nations	216	1:40
Hough	Jan	357 Reading Creative Writing	204	1:20
Hugh	Emily	349 Spoken Word Recognition: The Effects of Sound and Spelling Information	Main Lounge	2:30
Huseby	Alexander	305 Determinants of crime in Fargo Moorhead	Main Lounge	1:00
Irina	Claudia	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Iverson	Jenna	323 Designing Identities	Main Lounge	1:00
Jackson	Robert	267 Gamma-ray Spectroscopy	Main Lounge	2:30
Jacobson	Kristi	343 The Importance of Utilizing Medical Interpreters with Both a Scientific and Cultural Awareness of their Clients' Health	Underground	1:00
Jacobson	Kristi	196 Curanderismo and Its Impact on Modern Medicine	205	3:30
Jagol	Liz	197 A Comparison of Forb Diversity in 3rd Grade Prairie Restoration Plots	Main Lounge	1:00
Job	Jayme	183 "Talking" Sherds: Ceramic Analysis of the Sprunk Site	Main Lounge	1:00
Johnson	Beth	220 The Role of the Serpent in Modern Music	203	3:10

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Johnson	Benjamin	273 Creation of p.bluescript plasmid containing human c-myc gene using DNA recombination and bacterial transformation in E. coli	Main Lounge	2:30
Johnson	Jay	268 Archaeological Test Excavations at the Sprunk Site.	Main Lounge	1:00
Johnson	Amanda	181 Earth's Tug-of War: Exploring Plate Tectonics	200C	2:30
Johnson, Jr.	Frank	275 The Role of Oxidative Stress in Maternal mtDNA Inheritance	Main Lounge	2:30
Johnsrud	Scott	228 National Healthcare in the United States	214	3:30
Jones	Eric	335 "Irish Women Writers"	Underground	2:30
Jurgens	Ryan	351 Shakespeare Debate	200C	3:30
Kadrie	Kristal	216 Intellectual Property: Copyrights and the Internet	204	3:10
Kautzman	Kelly	334 Trapped between two racial worlds: Nella Larsen's Passing and Quicksand	101	1:20
Kellar	Josh	215 Short-term effects of root excision on growth in corn seedling coleoptiles	Main Lounge	2:30
Keller	Keziah	351 Shakespeare Debate	200C	3:30
King	Nicole	293 Creation of Chimeric NHE1 Constructs	Main Lounge	1:00
Klemmer	Krista	191 Marital Status and Health	Main Lounge	1:00
Korstad	LaDonna	217 Can com coleptile tissue mitochondrial respiration potential be increased by pre-treating corn roots in iron fertilizer?	Main Lounge	2:30
Kramer	Margo	314 The Ecology of Painted Turtles (Chrysemys picta) in Clay County, Minnesota	Main Lounge	2:30
Kroger	Leah	345 The Acquisition of Another Language and the Brain	Underground	1:00
Kuhn	William	194 Experience the Manitoba International Marketing Competition	Main Lounge	2:30
Lange	Jim	319 Capturing Votes: The 2004 Presidential Campaign On-line	216	2:50
Langford	Amber	335 "Irish Women Writers"	Underground	2:30
Larson	Ross	207 Ecology of Painted Turtles (Chrysemys picta) in Clay County, Minnesota	208	2:50
Larson	Jens	325 Quantum Physics, Inescapable Fate, and Metafiction: Delightful Intricacies in the Literature of John Barth and Vladimir Nabokov	Library Porch	2:50
Larson	Julie	335 "Irish Women Writers"	Underground	2:30

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Larson	Joe	255 Inflation and Unemployment, Empirical Evidence on the Phillips Curve: 1950-1999	205	2:00
Larson	Julie	338 Through the Looking Glass: A Closer Look at Female Heroines in Disney Films	227	1:00
Larson	Ross	314 The Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	Main Lounge	2:30
Larson	Ross	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Lass	Lindsay	349 Spoken Word Recognition: The Effects of Sound and Spelling Information	Main Lounge	2:30
Lewison	Carolyn	289 Dragon's Breath Productions	208	1:20
Liebersbach	Brent	171 The "Cruel and Unusual" Death Penalty	216	3:10
Lindquist	Crystal	342 Parent-Child Communication Program Case Study #10	101	2:00
Linstad	Jayne	185 Measuring the Speed of Light	216	2:00
Lubenow	Karen	212 Do elevated levels of potassium ion in the external medium of corn roots at the seedling stage stimulate respiration of seedling coleoptiles and therefore ATP synthesis?	Main Lounge	2:30
Lubenow	Karen	207 Ecology of Painted Turtles (<i>Chrysemys picta</i>) in Clay County, Minnesota	208	2:50
Lund	Kendra	321 Dieting Craze	Main Lounge	1:00
Lunde	Lee Ann	172 Grand Round on Kristyna Marie Walling	208	3:10
Lunski	Josh	200 Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner	Main Lounge	2:30
MacMaster	Tess	351 Shakespeare Debate	200C	3:30
Magstadt	Lisa	163 Is Mitochondrial Inheritance Tissue Specific? A new look at the mtDNA Dogma from a Cell Biology Perspective.	Main Lounge	1:00
Malone	Christine	349 Spoken Word Recognition: The Effects of Sound and Spelling Information	Main Lounge	2:30
Marthaller	Kyle	281 The role of the cell cycle control gene CDC28 on mitochondrial inheritance.	Main Lounge	2:30
Marxer	Jill	347 Machismo of Latin America	Kise Line D	2:30
Mastel	Tracy	258 Genetic Structure of Sexual and Asexual Populations of Liverworts, <i>Marchantia inflexa</i>	Main Lounge	2:30
Mastel	Tracy	200 Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner	Main Lounge	2:30

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Mastel	Tracy	212 Do elevated levels of potassium ion in the external medium of corn roots at the seedling stage stimulate respiration of seedling coleoptiles and therefore ATP synthesis?	Main Lounge	2:30
Mastel	Tracy	204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot	Main Lounge	161:00
Mastel	Tracy	205 Survey of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Matson	Brian	242 Small Arms and Ongoing Conflicts	218	1:40
Matzke	Laura	188 Assessing genetic diversity of <i>Pimephales promelas</i> in Budd Lake using PCR-based microsatellite analysis of primer regions 18, 48, and 80	Main Lounge	1:00
McCaskell	Jaci	313 Alternative Photographic Processes	Main Lounge	2:30
McCoy	Austin	298 RhoA, Rock, and Phospholipase D regulate α 1-adrenergic receptor induced stress fiber formation in Chinese hamster lung fibroblasts	Main Lounge	1:00
McCracken	Amanda	290 Using GIS and GPS in Archaeology	Main Lounge	1:00
McCracken	Amanda	301 Ongoing Geophysics at Hopeton	Main Lounge	2:30
McLain	Elizabeth	166 How does Mycorrhizae Affect the Growth of Prairie Grass Species?	Main Lounge	1:00
Medenwald	Joni	271 Medication versus Therapy	Main Lounge	2:30
Meier	Tiffany	274 The Comparison between Attention-Deficit Hyperactivity Disorder and Auditory Processing Disorder in Children	101	3:10
Meier	Tiffany	330 Exercise and Health	Main Lounge	2:30
Mejova	Yelena	308 The future of Computer Science and Information Systems education	121	f01:40
Meyer	Jill	146 "Factors Influencing the Foster Care Experience of a Child"	214	1:40
Miller	Jennifer	239 Amyotrophic Lateral Sclerosis (ALS)	Main Lounge	2:30
Miller	Lisa	295 The Effect of Attack by Ciliate Protozoan Ectoparasites on the Proliferation of Epidermal Club Cells in Zebrafish	Main Lounge	1:00
Miska	Ben	151 The Origins of Redress for the Japanese American Internment During WWII, 1970-1978	207	3:30
Mitchell	Kathleen	266 The role of the α 1- adrenergic agonist, Phenylephrine, in the Phospholipase D-dependent activation of the Sodium Hydrogen Exchanger (NHE1).	Main Lounge	1:00

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Moes	Jill	188 Assessing genetic diversity of <i>Pimephales promelas</i> in Budd Lake using PCR-based microsatellite analysis of primer regions 18, 48, and 80	Main Lounge	1:00
Mongeau	Michael	195 Dragon Tests: A dynamic prototype to present the feasibility and usability of employing proctored tests in campus classrooms.	Main Lounge	2:30
Morken	Andrea	313 Alternative Photographic Processes	Main Lounge	2:30
Morris	Jennifer	274 The Comparison between Attention-Deficit Hyperactivity Disorder and Auditory Processing Disorder in Children	101	3:10
Nandadasa	Sumeda	165 A novel approach of assessing effects of cell cycle regulatory proteins Mad 2/Mad3 degradation on mitochondrial dynamics using a temperature sensitive plasmid construct Ts-Degron.	Main Lounge	2:30
Neis	H. Jane	153 Should We Scale Up or Scale Down	Library Porch	1:00
Nelson	Adam	213 Can the herbicide Round-Up produce short term changes in growth and energy metabolism in corn seedlings?	Main Lounge	2:30
Nelson	Diane	188 Assessing genetic diversity of in <i>Pimephales promelas</i> in Budd Lake using PCR-based microsatellite analysis of primer regions 18, 48, and 80	Main Lounge	1:00
Nelson	David	308 The future of Computer Science and Information Systems education	121	1:40
Nelson	Jessica	319 Capturing Votes: The 2004 Presidential Campaign On-line	216	2:50
Neuharth	Holly	284 A Study of High School Dropout in Fargo Public Schools	121	3:10
Neuharth	Holly	356 International Sex Slavery	207	1:00
Noehre	Justin	293 Creation of Chimeric NHE1 Constructs	Main Lounge	1:00
Nordick	Tiffany	323 Designing Identities	Main Lounge	1:00
Noska	Lewis	213 Can the herbicide Round-Up produce short term changes in growth and energy metabolism in corn seedlings?	Main Lounge	2:30
Nygaard	Theresa	181 Earth's Tug-of War: Exploring Plate Tectonics	200C	2:30
Odermann	Shannon	197 A Comparison of Forb Diversity in 3rd Grade Prairie Restoration Plots	Main Lounge	1:00
Okondo	Jermaine	300 "We think we are animals" The devastating story of the destruction of a continent	Kise Line D	3:30

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Oni	Oluwakemi	300 "We think we are animals" The devastating story of the destruction of a continent	Kise Line D	3:30
Ortler	Brett	351 Shakespeare Debate	200C	3:30
Ouradnik	Luke	214 Effect of Ultra Violet light stress on corn seedling coleoptile energy metabolism	Main Lounge	1:00
Pagel	Alisha	258 Genetic Structure of Sexual and Asexual Populations of Liverwarts, <i>Marchantia inflexa</i>	Main Lounge	2:30
Palm	Stephanie	357 Reading Creative Writing	204	1:20
Palm	Erin	233 Domestic Violence	Main Lounge	2:30
Payne	Chris	307 Creative Writing in Various Styles	121	1:20
Peloquin	Isaac	313 Alternative Photographic Processes	Main Lounge	2:30
Perzeshk	Mo	308 The future of Computer Science and Information Systems education	121	1:40
Pflager	Nathan	232 The Tlaxcalan Legacy: An Analysis of Tlaxcalan History and Favoritism in Sixteenth Century New Spain	207	2:00
Pickthorn	Jay	289 Dragon's Breath Productions	208	1:20
Planteen	Chanelle	156 The Influence of Japanese American Internment on the Model Minority Label	208	2:00
Plath	Kerry	348 The Catholic Influence on Spanish Traditions and Cultural Values	Kise Line D	2:30
Plattner	Alycia	253 Videoconferencing: The Wave of the Future	Main Lounge	1:00
Powers	Gina	184 Our Wedding Movie: A documentary of one same-sex couple's struggle for marriage equality	Kise Line D	1:40
Preston	Jennifer	230 Compartment Syndrome: An overview of the condition & a look into one treatment option, the fasciotomy.	207	2:50
Qualey	Neil	229 Mary Stuart: Doomed from the beginning	203	3:30
Ray	Amanda	272 Top Ten Medications Administered in the Emergency Department	Main Lounge	1:00
Reames	Jonathan	16180 How Natural Selection Acts Within an Ecosystem	200B	2:30
Reames	Jonathan	210 How simulated flooding can effect corn seedling energy metabolism	Main Lounge	1:00
Rheault	Lindsey	351 Shakespeare Debate	200C	3:30
Risan	Jennifer	163 Is Mitochondrial Inheritance Tissue Specific? A new look at the mtDNA Dogma from a Cell Biology Perspective.	Main Lounge	1:00

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Roberson	Miranda	351 Shakespeare Debate	200C	3:30
Rock	Jessie	283 The Great Ocean Conveyor Belt: A Global Issue	Main Lounge	1:00
Rogness	Jane	351 Shakespeare Debate	200C	3:30
Ross	Katie	271 Medication versus Therapy	Main Lounge	2:30
Row	Ondrea	166 How does Mycorrhizae Affect the Growth of Prairie Grass Species?	Main Lounge	1:00
Rowley	Joseph	177 Nuclear Magnetic Resonance On Model Compounds	218	1:00
Rud	Courtney	199 The effect of UV-B radiation on the proliferation of epidermal club cells in zebrafish	Main Lounge	1:00
Rud	Courtney	219 Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (<i>Pimephales promelas</i>)	Main Lounge	2:30
Rudebusch	Rebecca	198 Health and Elder Abuse	Main Lounge	2:30
Russ	Corinne	164 Legg Calve Perthes Disease	Underground	2:00
Ryan	Anthony	323 Designing Identities	Main Lounge	1:00
Saarion	Holly	350 Are Immersion Students Progressing at the same rate as General Education Students?	Library Porch	2:00
Sang	Rachel	265 Wound Healing and ERK Activation in a Phospholipase D Mediated α 1- Adrenergic Pathway	101	2:50
Scarborough	Darryl	?51 Shakespeare Debate	200C	3:30
Scheffler	Peggy	211 The effect of drought on early corn seedling energy metabolism.	Main Lounge	2:30
Schlenner	Alicia	298 RhoA, Rock, and Phospholipase D regulate α 1-adrenergic receptor induced stress fiber formation in Chinese hamster lung fibroblasts	Main Lounge	1:00
Schmitz	Laura	277 The Creation Of the Modern Musical	227	1:20
Schroeder	Hollie	194 Experience the Manitoba International Marketing Competition	16Main Lounge	2:30
Schulz	Robin	191 Marital Status and Health	Main Lounge	1:00
Schumann	James	227 Mysticism and the Marginalized Individual in 19th Century Literature	205	2:50
Schwegel	Justin	288 Cultural Evolution in Contemporary Society	Main Lounge	1:00
Scott	Damien	246 The Impact of Tuition Increases on University Enrolment	205	3:10
Segovia	Paul	339 DragonGrades - A free, online, campus grading distribution system	101	1:00

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Self	Pat	294 A mathematical model for the co-evolution of egg size, larval antipredator competence and parental care in a biparental cichlid fish	Main Lounge	2:30
Shakya	Merina	280 The Effects of Cell Cycle Inhibitors on Mitochondrial Replication.	Main Lounge	1:00
Shelstad	Jill	s16161 Nursing Care in Nicaragua	Main Lounge	2:30
Shipley	John	210 How simulated flooding can effect corn seedling energy metabolism	Main Lounge	1:00
Shmyrev	Alexander	322 XML Web Services Using Microsoft .NET	Main Lounge	2:30
Simms	Ava-Gaye	165 A novel approach of assessing effects of cell cycle regulatory proteins Mad 2/Mad3 degradation on mitochondrial dynamics using a temperature sensitive plasmid construct Ts-Degron.	Main Lounge	2:30
Skolness	Sarah	204 Community Structure of Small Mammals on a Northwestern Minnesota Woodlot	Main Lounge	1:00
Skolness	Sarah	175 Alloparental Care and Filial Cannibalism in a Wild Population of Fathead Minnows (<i>Pimephales promelas</i>)	Main Lounge	1:00
Skolness	John	149 Transcript quantization of Arabidopsis PPDK mRNA	Main Lounge	2:30
Skolness	Sarah	200 Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner	Main Lounge	2:30
Skolte	Jill	252 Small G protein regulators expression and their effect on families with autism.	Main Lounge	2:30
Smith	Shea	329 Evolving Science: A hands-on lesson evolution	200A	3:30
Smith	Shea	179 Matter and Energy	200A	2:30
Smith	Lynsey	3201 Sex and STDS in North Dakota	Main Lounge	2:30
Snead	Jessica	190 Building the Spanish Empire	216	1:20
Sogoyou	Toyi	231 Child Soldiers in African Conflicts	207	2:30
Sollin	Tracy	148 Osteomyelitis	214	1:00
Stark	Lizzie	313 Alternative Photographic Processes	Main Lounge	2:30
Steinhauer	Morea	313 Alternative Photographic Processes	Main Lounge	2:30
Stenberg	Jocelyn	330 Exercise and Health	Main Lounge	2:30
Streitz	Lisa	163 Is Mitochondrial Inheritance Tissue Specific? A new look at the mtDNA Dogma from a Cell Biology Perspective.	Main Lounge	1:00
Taha	Max	147 Get your Organization on-line! ~Or How To Build A Web site For Your Organization!	214	1:20

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Takahashi	Yoko	318 Voltammetric Quantification of Metal Ions Based on their Exchange with Ferrous ion Fe(II)-EDTA Complex	Main Lounge	1:00
Taves	Jennifer	254 The Sodium Hydrogen Exchanger is involved in Matrix Metalloproteinase 9 activation.	Main Lounge	2:30
Temple	Rachel	344 The Benefits of Spanish-Immersion Programs	Underground	1:00
Teske	Richard	180 How Natural Selection Acts Within an Ecosystem	200B	2:30
Thomas	Hilary	153 Should We Scale Up or Scale Down	Library Porch	s161:00
Thome	Sarah	247 Why Knot?	207	3:10
Thorne	Jolene	285 In the Name of Humanity	227	3:10
Titus	Justin	224 Life on the List - A look into organ transplantation and the time spent waiting for the perfect match.	Main Lounge	2:30
Torpen	David	222 Economic Analysis of Minnesota Lake Property Prices	203	2:50
Trautwein	Jessica	154 Taxicab Geometry	214	2:50
Tvedt	Tina	194 Experience the Manitoba International Marketing Competition	Main Lounge	2:30
Ulschmid	Jered	261 Indigenous Knowledge and Development	203	1:20
Ulschmid	Jered	244 Postmodernism and Cultural Anthropology	204	1:40
Vadnais	Tony	291 A test for olfactory recognition of parental adults by free-swimming young of a biparental cichlid fish	Main Lounge	1:00
Vallie	Jordan	214 Effect of Ultra Violet light stress on corn seedling coleoptile energy metabolism	Main Lounge	1:00
Vig	Andy	339 DragonGrades - A free, online, campus grading distribution system	101	1:00
Villarreal	Angie	155 The Parent-Child Communication Program: Case Study #5	208	2:30
Voge	Dylan	165 A novel approach of assessing effects of cell cycle regulatory proteins Mad 2/Mad3 degradation on mitochondrial dynamics using a temperature sensitive plasmid construct Ts-Degron.	Main Lounge	2:3020
Vogel	Lindsay	342 Parent-Child Communication Program Case Study #10	101	2:00
Vogl	Lea	356 International Sex Slavery	207	1:00
Volk	Jessica	235 Celiac Disease	Main Lounge	1:00
Vukas	Betsy	194 Experience the Manitoba International Marketing Competition	Main Lounge	2:30

Numbers correspond with abstract listings beginning on page 35

Last Name	First Name	Presentation Title	Room	Time
Walker	Michael	352 Critical Views of Marsha Norman's "Night Mother"	Library Porch	2:30
Warner	Kate	356 International Sex Slavery	207	1:00
Warnsholz	Lois	170 The Satsuma-Choshu Alliance and the End of the Tokugawa Government of Japan, 1852-1867	216	2:30
Watterson	Tara	309 The Parent-Child Communication Program: Case Study #14	121	2:00
Welk	Rachel	181 Earth's Tug-of War: Exploring Plate Tectonics	200C	2:30
Wendroth	Shannon J.	318 Voltammetric Quantification of Metal Ions Based on their Exchange with Ferrous ion Fe(II)-EDTA Complex	Main Lounge	1:00
Westerfield	Eli	187 Depression, Self-Injury, Suicide Attempts, and the Psych Ward: A First Person Account	Library Porch	1:30
Westerfield	Eli	189 Being Genderqueer in a Binary Gender System: A Discussion About Gender (updated)	Kise Line D	1:20
Wheeler	Gabe	194 Experience the Manitoba International Marketing Competition	Main Lounge	2:30
Wijesinghe	Samadhi	296 Protein phosphorylation and the assembly of sea urchin egg microtubules	Main Lounge	1:00
Windschitl	Ellie	307 Creative Writing in Various Styles	121	1:20
Zetocha	Star	325 Quantum Physics, Inescapable Fate, and Metafiction: Delightful Intricacies in the Literature of John Barth and Vladimir Nabokov	Library Porch	2:50
Zielinski	Todd	205 Survey of Wild Turkey (Meleagris gallopavo) Distribution in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zitzow	Tyson	145 A psychological critique of a student named Susie Johnson	214	2:00
Zitzow	Tyson	144 Sex Education in our Schools	214	2:30

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Abstracts

143

Title: Conceptions of God
Presenter(s): Brian Card
Department: Sociology/Religious Studies
Advisor: Michael Hughey
Abstract: This presentation will compare and contrast the differences between the conceptions of god across multiple religions. Of particular importance will be the historical significance of these conceptions, what these conceptions will mean to our future, and a conclusion as to why a society needs a god.

144

Title: Sex Education in our Schools
Presenter(s): Tyson Zitzow
Department: EECE
Advisor: Ok-Hee Lee
Abstract: This presentation will discuss various aspects of sex education in public schools. Artifacts will include critiques of the two major models for presenting sex education, discussion of the major controversies surrounding sex education, implications of sex education, etc. Discussion questions will be included at the end of the presentation to promote audience participation.

145

Title: A psychological critique of a student named Susie Johnson
Presenter(s): Tyson Zitzow
Department: EECE
Advisor: Brian Smith
Abstract: This presentation will place a student named Susie Johnson into various psychological theories and frameworks from the perspective of a school psychologist. Each psychological aspect of Susie will be discussed in regard to her education. Discussion of the profile as well as recommended interventions will be made at the conclusion of the presentation.

146

Title: "Factors Influencing the Foster Care Experience of a Child"
Presenter(s): Jill Meyer
Department: Sociology
Advisor: Deborah White
Abstract: This presentation will compare and contrast previous research done on foster children. It looks at factors such as age, type of placement, number of placements, etc. and how they influence the child's stay in care, as well as adjustment out of care.

147

Title: Get your Organization on-line! -Or How To Build A Web site For Your Organization!
Presenter(s): Max Taha
Department: International Programs Office
Advisor: Kimberly Gillette
Abstract: This presentation will show how to create your first web site for your organization or club, or how to make a better one! Using International Students Club new web site as an example, you'll learn the basic steps and requirements to build and publish your web site in a week. An on-line site is a great forum that attracts new members and keeps them involved and informed at all time.

148

Title: Osteomyelitis
Presenter(s): Tracy Sollin
Department: Health and Physical Education
Advisor: Dawn Hammerschmidt
Abstract: Osteomyelitis is a bone infection caused by bacteria or fungus. Diagnosis consists of laboratory results, imaging procedures, and isolation of the offending bacteria or fungus. Treatment of osteomyelitis is directed toward resolving the infection and maximizing patient function. Although advances in treatment have occurred, osteomyelitis can still be difficult to manage and can result in high morbidity and possibly mortality.

149

Title: Transcript quantization of Arabidopsis PPDK mRNA
Presenter(s): Bradley Burns, Sara Getty, John Skolness
Department: Biology
Advisor: Chris Chastain
Abstract: Plant pyruvate, orthophosphate dikinase (PPDK) is a photosynthetic enzyme in C4 plants. The role of PPDK is largely unknown in C3 plants. Previous scientific literature has proposed that PPDK is involved in biosynthesis. PPDK mRNA will be extracted from Maize (corn), a C4 plant, and Arabidopsis, a C3 plant. C4 plants have high abundance of PPDK, and should also have a high transcript copy number. The mRNA extracted from the Maize will be used as a control. PPDK mRNA will also be extracted from Arabidopsis that have been exposed to varying types of stress. The gene for PPDK has two promoters, and localizes Arabidopsis PPDK in two different areas of the cell. The plastidic promoter produces PPDK with a transit peptide that directs the PPDK to the chloroplasts. Upon entering the chloroplast the transit peptide is removed. The plastidic promoter is located upstream of the cytosolic promoter. The cytosolic promoter for PPDK produces PPDK that is sent to the cytosol. RT PCR, and real time RT PCR will be used to generate a comparison between cytosolic and plastidic C3 PPDK mRNA.

150

Title: Causes of academic disengagement among minority students

Presenter(s): Ronald Davenport

Department: Education

Advisor: Charles Howell

Abstract: This project is based on a study done by Dr. Ogbu in Shaker Heights, Ohio. The study focused on academic disengagement in black students with the absence of socioeconomic factors. The study found that even within the well funded and highly Successful school system there was a norm of minimal effort, a defacto tracking system as well as low family involvement. My intent is to make direct comparisons between some of the findings in Dr. Ogbus study and the local Moorhead school system.

151

Title: The Origins of Redress for the Japanese American Internment During WWII, 1970-1978

Presenter(s): Ben Miska

Department: History

Advisor: Henry Chan

Abstract: When Pearl Harbor was attacked on December 7, 1941 by the Japanese Navy Americans began to fear for the worst...an attack on the mainland. This fear along with other misconceptions, long-held grudges and the signing of Executive Order 9066 by FDR helped to confine 120,000 people to concentration camps for up to four years. Of the people confined two-thirds were U.S. citizens. This was a massive violation of civil rights and it wasn't until the Civil Liberties Act of 1988 that redress was offered by the U.S Government. The most important period for the origins of redress were from 1970-1978 because the Japanese-American community answered two fundamental questions: should the Japanese-American community pursue redress and what form should it take?

153

Title: Should We Scale Up or Scale Down

Presenter(s): Hilary Thomas, H. Jane Neis

Department: Mathematics

Advisor: Geok Ng

Abstract: An interesting way to solve proportions in everyday situations by using the mental strategy of scaling up or scaling down.

154

Title: Taxicab Geometry

Presenter(s): Jessica Trautwein

Department: Mathematics

Advisor: Timothy Peil

Abstract: Taxicab Geometry is a branch of geometry that involves ideas related to routes a taxi cab takes while navigating.

155

Title: The Parent-Child Communication Program: Case Study #5

Presenter(s): Lindsay Gilleshammer, Angie Villarreal

Department: SLHS

Advisor: Louis De Maio

Abstract: The Parent-Child Communication Program was developed by Dr. Louis De Maio in 1998. This program was developed to teach parents methods that promote their child's language and communication. In our case study we looked at the use of initiations, responses, and questions before and after the parent received training.

156

Title: The Influence of Japanese American Internment on the Model Minority Label

Presenter(s): Chanelle Planteen

Department: History

Advisor: Henry Chan

Abstract: At the outbreak of World War II, President Roosevelt signed Executive Order 9066. This order allowed the internment of thousands of Japanese aliens and citizens. The camp experience and following resettlement speeded the process of assimilation. This in turn led to the stereotype of the model minority, characterized by intelligence, hard work, and economic success. A generation after the World War II internment camps closed, Japanese Americans had the highest levels of education and income of any group in the country.

161

Title: Nursing Care in Nicaragua

Presenter(s): Jill Shelstad

Department: Nursing

Advisor: Jane Bergland

Abstract: This presentation will focus on nursing care provided on a mission trip to Jalapa, Nicaragua. It will include theory on transcultural nursing and how it was used on this trip.

162

Title: Fargo, ND vs. Moorhead, MN: Do Homebuyers Have A State Preference?

Presenter(s): Derek Hagen

Department: Economics

Advisor: Oscar Flores

Abstract: This paper looks at whether or not residential home buyers in the Fargo-Moorhead area prefer one state to the other. The area is basically one city, with a state line that runs through it. The question I address is, "Do the differences in income taxes, property taxes, etc. determine which of the two cities people decide to live in?"

163

Title: Is Mitochondrial Inheritance Tissue Specific? A new look at the mtDNA Dogma from a Cell Biology Perspective.

Presenter(s): Lisa Streitz, Lisa Magstadt, Jennifer Risan

Department: Biology

Advisor: Ellen Brisch

Abstract: Mitochondria play a critical roles in the generation of metabolic energy (ATP) in eukaryotic cells. ATP is essential in driving many of the reactions that take place on the body. The role of a mitochondrion is to maximize and control the production of ATP. Futhermore, these cytoplasmic organelles make their own circular DNA, which is referred to as mitochondrial DNA (mtDNA). It is important to note that there is a distinction between nuclear DNA and mtDNA. While nuclear DNA encodes most of the proteins that drive mitochondrial processes, some critical ATP-producing enzymes are encoded in the mitochondrial genome. Mitochondria are extremely important to study because almost any mutation in mtDNA leaves an organism somewhat debilitated, by causing mitochondrial myopathy. Mitochondrial have been thought to be maternally inherited for over twenty years. Results from previous experiments show that a child's mtDNA will be identical to that of the mother. Does this mean that there is no paternally inherited DNA? Perhaps not, however researchers have mainly focused on testing mtDNA in blood samples. To examine if inheritance patterns differ between tissues, Heidi Jo Johnson, Austin McCoy, and Jen Risan began planning an experimental approach and protocol development to test our hypothesis. Our hypothesis is that blood and muscle tissue will inherit mitochondrial from different parents. The approach we are using to test our hypothesis is to sequence the mtDNA taken from two different strains of mice. Next, we plan to cross the parent mice and sequence the mtDNA of their offspring. We will be sequencing mtDNA from the blood as well as from the muscle tissue to see if mtDNA inheritance is, indeed, tissue-specific. Currently, We have completed mitochondrial isolation from different tissues and mtDNA extraction. Verifying the specificity of mitochondria is an important step for figuring out what cellular mechanisms are required to direct the mitochondria into different tissues. This may open a whole new way of looking at mitochondrial inheritance and ultimately show us how this system is regulated.

164

Title: Legg Calve Perthes Disease

Presenter(s): Corinne Russ

Department: Athletic Training

Advisor: Dawn Hammerschmidt

Abstract: Legg Calve Perthes Disease is a disease of the hip that affects mainly children. This presentation will address some of the causes, signs and symptoms, treatments and specific case studies.

165

Title: A novel approach of assessing effects of cell cycle regulatory proteins Mad 2/Mad3 degradation on mitochondrial dynamics using a temperature sensitive plasmid construct Ts-Degron.

Presenter(s): Dylan Voge, Sumeda Nandadasa, Ava-Gaye Simms

Department: Biology Department

Advisor: Dr. Ellen Brisch

Abstract: Abstract Mitochondrial morphology is a vital component for regulation and maintenance of cellular activities such as aging and apoptosis. The morphological balance is largely a compromise between opposing structural forces; fusion and fission. However other cellular events, especially cellular division, are also closely integrated with mitochondrial morphology. An otherwise, non-essential cell cycle regulatory proteins (Mad2/Mad3) will be degraded in-vivo to further examine the consequences of cell cycle arrest on the delicate balance of mitochondrial morphology. Previous studies suggest Mad2 and Mad3 to be regulating a key cell cycle checkpoint. Therefore, we hypothesize a regulatory function between these proteins and mitochondrial dynamics. Degradation of the regulatory protein will be accomplished using a temperature sensitive protein flag when subjected to 37oC. After cell cycle protein degradation, recombinant yeast cells will be stained with gradient specific dye (DIOC6) and examined to evaluate abnormal mitochondrial morphology.

166

Title: How does Mycorrhizae Affect the Growth of Prairie Grass Species?

Presenter(s): Elizabeth Caroline, Elizabeth McLain, Ondrea Row

Department: Biology

Advisor: Allison Wallace

Abstract: Mycorrhizae is a type of fungal symbiont in the roots of many plant species. It increases the surface area of the roots to allow greater uptake of water and soil nutrients, in exchange for photosynthate from the plants. However, not all plant species respond positively to this symbiont. We are interested in finding out which native prairie grass species grow better in the presence of mycorrhizae. This information will enable us to advise area third grade teachers on the most effective methods for growing seedlings in their classrooms and ultimately transplanting them in regional science center's prairie restoration plots. In our greenhouse experiment, we grew six different native prairie grass species with and without their mycorrhizal inoculant to test the effects of mycorrhizae on plant heights, tiller numbers, and biomass.

167

Title: Adolescent Sex Offenders: A Review of Recent Literature

Presenter(s): Troy Ertelt

Department: Psychology

Advisor: Gary Nickell

Abstract: Beginning in earnest in the late 1980's and continuing throughout the 1990's, adolescent sex offenders, a previously overlooked offender population, have become a group of clinical research and concern. Research in this topic area is still essentially in its earliest stages. The goal of this presentation is to review pertinent research that has been published to date. Specifically, the prevalence of sex offenses committed by adolescent sex offenders, characteristics of adolescent sex offenders, and directions for future research will be discussed.

168

Title: Residential Treatment for Children and Adolescents: A Review of Research and Policy

Presenter(s): Troy Ertelt

Department: Psychology

Advisor: Peg Racek

Abstract: Residential treatment is one of the most powerful modes of treatment available today, and it is reserved for the most disordered and ill of patients. Even though residential treatment is very powerful, there is a dearth of research regarding the models of care utilized in residential treatment and the outcomes for patients after being placed in residential treatment centers. This lack of research is compounded by confusing and arbitrary state regulations placed on residential treatment centers. The goals of the present study are two-fold: (1) to review outcome and efficacy research on residential treatment to assess what does and does not work and (2) to examine state policies relating to residential treatment centers and suggest possible changes.

171

Title: The "Cruel and Unusual" Death Penalty

Presenter(s): Brent Liebersbach

Department: Political Science

Advisor: Andrew Conteh

Abstract: My paper strives to prove the point that the death penalty violates the 8th amendment to the U.S. Constitution and therefore should be unconstitutional. My paper examines methods of execution, changes in society standards relating to capital punishment, and the unfair manner in which capital punishment is used on convicted criminals.

172

Title: Grand Round on Kristyna Marie Walling

Presenter(s): Amanda Belcourt, Lee Ann Lunde, Mercedes Hanson

Department: Foundations of Education

Advisor: Brian Smith

Abstract: This presentation will place a student named Kristyna Walling into various psychological theories and frameworks from the perspective of a school psychologist. Each psychological aspect of Kristyna will be discussed in regard to her education. Discussion of the profile as well as recommended interventions will be made at the conclusion of the presentation.

173

Title: The Impact of USAF Colonel John Boyd on Military Theory, Doctrine, and Practice

Presenter(s): Andy Hill

Department: History

Advisor: Margaret Sankey

Abstract: USAF Col. John Boyd has had an incredible, if unrecognized, effect on the warfighting of the US military and other countries' military arms. Beginning with his revision of aerial combat tactics, through his change in the methods of fighter aircraft design, and then ultimately in his understanding of conflicts and thought processes. Boyd's creation of his O O D A Loop, describing thought processes, led to the final land battle plan for the 1991 Gulf War, and a switch from the Clausewitzian set piece battle to one of a Sun Tzu style method oriented on the psychology of the enemy.

174

Title: The Effect of Equality Demand on Election 2004

Presenter(s): Brian Card

Department: Political Science

Advisor: Barbara Headrick

Abstract: This is a presentation of an analysis of the effect that the issue of same-sex marriage had on the 2004 election.

175

Title: Alloparental Care and Filial Cannibalism in a Wild Population of Fathead Minnows (*Pimephales promelas*)

Presenter(s): Sarah Skolness, Katie Geray, Jessica Heck

Department: Biology and Chemistry

Advisor: Michelle Malott

Abstract: Fathead minnows (*Pimephales promelas*) are a widely studied species of fish in a variety of fields that exhibit interesting reproductive behavior. Female fathead minnows prefer to lay eggs in nests already containing eggs (alloparental care); thus males benefit from guarding nests already containing eggs in order to attract females. To maintain reproductive fitness, males may exhibit filial cannibalism by consuming either allo-sired or self-sired eggs in their nest. Microsatellites are useful genetic markers that can be used to determine genetic diversity and parental assignment in a given species and the polymorphic nature of microsatellite markers is useful in estimating the number of parents contributing to a population of offspring. In this research proposal, we wish to determine if, and to what extent, alloparental care and filial cannibalism occur in a wild population of fathead minnows by applying microsatellite analysis using Polymerase Chain Reaction (PCR), Li-Cor DNA Analyzer, and Li-Cor GenemagIR genotyping software. We hypothesize that male fathead minnows of the Budd Lake, MN population will exhibit alloparental care and filial cannibalism, however, to what extent is unknown.

176

Title: Gamma Ray Spectroscopy

Presenter(s): Charles Conduah

Department: Physics

Advisor: Linda Winkler

Abstract: • History of gamma rays • Why the interest in gamma rays. (That is the uses of gamma rays in the nuclear and health sector as well as at NASA. • The acquisition of the UCS 20 multichannel analyzer by the physics Dept. and how it can be used to detect gamma rays.

177

Title: Nuclear Magnetic Resonance On Model Compounds

Presenter(s): Joseph Rowley

Department: Physics

Advisor: Gina Hoatson

Abstract: Nuclear Magnetic Resonance (NMR) is utilized to explore the purity, as well as understand the content and molecular or crystal structure of a substance, thus it is a commonplace technique used among chemists and physicists. The project which is the topic of this presentation is primarily concerned with correlating structural x-ray data with NMR parameters, specifically to determine relationships between bond distances and chemical shifts from experiments on scandium based model compounds. This work may then be applied to more complicated (scandium based) materials not so well characterized or understood. This approach, in use for a number of years, is applied in the study of amorphous (glassy) materials where structural and/or chemical disorder precludes easy interpretation of NMR spectra. This short presentation is intended to cover some very basic principles of NMR and inform all interested parties of progress made in the current project including the, before mentioned, final goals of the project.

179

Title: Matter and Energy

Presenter(s): Adam Christensen, Shea Smith

Department: Biology/Physics

Advisor: Alison Wallace

Abstract: This workshop will consist of a series of demonstrations and hands-on experiments to provide a framework for basic concepts of matter and energy within the subject of Physical Science. Audience participation required!

180

Title: How Natural Selection Acts Within an Ecosystem

Presenter(s): Richard Teske, Jonathan Reames,

Casey Foertsch

Department: Biology

Advisor: Alison Wallace

Abstract: National and state standards emphasize the importance of students understanding natural selection and ecosystems as well as using science inquiry as a tool. Participants will experience a 12th grade biology lesson and engage in an activity designed to show how natural selection acts on populations of organisms within an ecosystem.

181

Title: Earth's Tug-of War: Exploring Plate Tectonics

Presenter(s): Theresa Nygaard, Amanda Johnson, Rachel Welk

Department: Geosciences

Advisor: Alison Wallace

Abstract: Get your hands dirty with Earth Science! Have fun discovering the movement of Earth's plates through a series of hands-on lessons. Participate in these exciting activities and increase your knowledge about the motions of the dynamic Earth. Education majors - come see how these activities can fit into your classroom!

182

Title: Gamma ray spectroscopy and its application

Presenter(s): David Agyeman-Budu

Department: Physics

Advisor: Linda Winkler

Abstract: Gamma rays play an important role in explaining various phenomena in modern physics. Gamma ray spectroscopy, the method used to study these rays will be discussed as well as the importance of these rays have in our lives today in agriculture, medicine and our culture.

183

Title: "Talking" Sherds: Ceramic Analysis of the Sprunk Site

Presenter(s): Jayme Job

Department: Anthropology-Archaeology

Advisor: Michael Michlovic

Abstract: During the summer of 2004, the MSUM Archaeology Field School conducted test excavations at the Sprunk site (32CS4478), located along the Maple River in southeast North Dakota. By analyzing the ceramics recovered from the site and comparing the data to a nearby site, inferences may be made as to the occupational type and cultural characteristics of the prehistoric peoples that inhabited the site. With a calibrated date of 1450 AD, the site offers a new perspective on the marginal areas of the northeastern plains. Subjected to archaeological methods, the ceramic sherds recovered from the Sprunk site "tell" the story of this prehistoric settlement.

184

Title: Our Wedding Movie: A documentary of one same-sex couple's struggle for marriage equality

Presenter(s): Gina Powers

Department: Sociology

Advisor: Michael Hughey

Abstract: A committed lesbian couple their daughter, and two friends travel to San Francisco in February of 2004 to take advantage of the city's issuance of marriage licenses to same-sex couples.

185

Title: Measuring the Speed of Light

Presenter(s): Jayne Linstad

Department: Physics

Advisor: Linda Winkler

Abstract: The speed of light is an accurately measured fundamental constant. One can measure the speed of light using a pulsed laser source. Fast pulses of light can be detected electronically and analyzed with an oscilloscope. When the path length of the beam is varied, a time shift results in the pulse signal. From this, time of flight and distance traveled can be measured, and the speed of light can be evaluated. The resulting value is $3.03 \times 10^8 \pm 0.03 \times 10^8$ m/s.

186

Title: Bureaucracy in Developing Nations

Presenter(s): Jesse Hoban

Department: Economics

Advisor: Oscar Flores

Abstract: Do bureaucratic controls have a negative impact on growth? In this presentation I use quantitative methods to measure the impact that bureaucratic controls have on GDP per capita and also on percentage GDP per capita growth.

188

Title: Assessing genetic diversity of *Pimephales promelas* in Budd Lake using PCR-based microsatellite analysis of primer regions 18, 48, and 80

Presenter(s): Diane Nelson, Jill Moes, Laura Matzke

Department: Biology

Advisor: Michelle Malott

Abstract: Fathead minnows (*Pimephales promelas*) are a freshwater fish with a wide geographic distribution. We are specifically interested in the fish population found in Budd Lake in Itasca, MN. By using a molecular approach to study genetic variation in the population, we are able to further investigate the reproductive behavior seen in fathead minnows. We are using Polymerase Chain Reaction (PCR) to examine specific regions of the DNA called microsatellites. This is allowing us to develop genetic "fingerprints" for these minnows and this information is being used in concurrent studies in our lab examining the reproductive behavior of these fish. We will show our DNA fingerprinting data and provide a preliminary conclusion about overall levels of genetic variation in this population of fathead minnows from Budd Lake, MN.

190

Title: Building the Spanish Empire

Presenter(s): Jessica Snead

Department: Languages

Advisor: Benjamin Smith

Abstract: Academic Conference Application: One of the greatest cyclical events of society is the rise and fall of empires. There is a great mystery behind what it is about places and people that leads to empires eventually crashing to a state of irrelevancy. Numerous historians have pointed out patterns to this rising and falling that Spain shares with other great empires throughout history, in particular with regard to the colonization of the Americas. Yet to be investigated, however, is the nature of the political leadership (especially of Ferdinand and Isabella) in the preparation of Spain to succeed in establishing an empire during the reign of Carlos V, their successor. Spain, through the strategic genius of the Catholic Kings positioned itself at the global forefront of the 16th Century to take advantage of its expansion opportunities and create the largest western empire since Rome.

191

Title: Marital Status and Health

Presenter(s): Robin Schulz, Heidi Buetow, Krista Klemmer

Department: Sociology of Health and Medicine

Advisor: Sue Humphers-Ginthers

Abstract: This project has two variable which are marriage and health. Health is impacted by marriage; in turn this is our dependent variable. The independent variable is marriage, since marriage is our variable that does not change. In this project we will try to determine if there are negative and positive consequences or effects on health when one is married versus if they are single. We will look to see if there are significant differences between Caucasians and African Americans health in their marriage.

192

Title: Improving Student's Conceptualization of the Atom

Presenter(s): Eric Dobervich

Department: Chemistry Department

Advisor: Richard Lahti

Abstract: Most chemistry students come to class with models of the atom learned in middle and high-school science classes. While these models are useful in finding the answers to simple problems, like all models, their generalizations and approximations fail at one point or another. Existing research suggests that some of the most common atomic models (Bohr Model, Lewis Dot Structure among them) are not ideal for use in chemistry classrooms. Although these models allow students to quickly and accurately determine valence, they can create many obstacles to understanding the actual structure of the atom and more importantly "how" and "why" atoms behave in a certain manner. This study will attempt to learn what models Chemistry 102 students use, and how these models can be improved through instruction, hopefully resulting in chemistry students more capable of explaining real world phenomenon in terms of atomic interactions.

194

Title: Experience the Manitoba International Marketing Competition

Presenter(s): William Kuhn, Hollie Schroeder, Tina Tvedt, Betsy Vukas, Gabe Wheeler

Department: School of Business

Advisor: Ruth Lumb

Abstract: Students that participated in the Manitoba International Marketing Competition (MIMC) completed a semester-long marketing simulation. The preparation for the competition consisted of weekly decisions regarding the business that they took over. The students competed against thirty schools globally. The final aspect of the competition was a presentation based on the company's strategy statement that took place at the ASPER School of Business at the University of Manitoba in Canada. The competition is held annually and offers undergraduate students the opportunity to enhance their group working skills as well as meet students and business officials from around the globe.

195

Title: Dragon Tests: A dynamic prototype to present the feasibility and usability of employing proctored tests in campus classrooms.

Presenter(s): Michael Mongeau

Department: Student Tech Team

Advisor: Rhonda Ficek

Abstract: This presentation will display a 'working' DHTML web site. The site is a dynamic prototype to present the feasibility and usability of employing proctored tests in campus classrooms. The project will showcase both the student-UI and teacher-UI of the web site; and how these two interfaces mesh together to create a simple intuitive web form.

196

Title: Curanderismo and Its Impact on Modern Medicine

Presenter(s): Kristi Jacobson

Department: American Multicultural Studies

Advisor: Yolanda Arauza

Abstract: Curanderismo is a form of folk healing commonly practiced amongst Hispanics around the world, including those in Mexico and the American Southwest. The growing Latino population in the US has fueled interest in curanderismo, but because of cultural barriers many medical professionals are unaware of the scope and role of curanderismo in the Hispanic community. This presentation aims to address the cultural implications of curanderismo in Western medicine.

197

Title: A Comparison of Forb Diversity in 3rd Grade Prairie Restoration Plots

Presenter(s): Liz Jagol, Shannon Odermann

Department: Biology

Advisor: Alison Wallace

Abstract: Every year, third graders in the area have been growing prairie seedlings inside their classrooms to restore sections of the prairie at the MSUM Regional Science Center. Our goal is to compare the diversity of prairie forbs in restoration plots established in 2001, 2002, 2003, and 2004. For each plot, we determined the species richness, a species area curve, and a Simpson's Species Diversity Index. This information will help us to inform the teachers of how effective their student's restoration efforts are over the long term.

198

Title: Health and Elder Abuse

Presenter(s): Rebecca Rudebusch

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: I would like to present a poster presentation showing the correlations between the health of elderlies who have been abused in some form or another compared to the health of elderlies who have never been abused. I want to include different ethnic cultures and how they relate to other cultures.

199

Title: The effect of UV-B radiation on the proliferation of epidermal club cells in zebrafish

Presenter(s): Courtney Rud, Jodi Hendrickson

Department: Biology

Advisor: Brian Wisenden

Abstract: Predator attacks release an alarm from ruptured club cells in the epidermis of minnows. This alarm cue warns members from the same species of the presence of a predator. The reason for possessing club cells is not clear because no benefit is directly given to the fish being preyed upon. We tested an alternate hypothesis, that epidermal club cells protect minnows against ultraviolet radiation, and their function as an alarm cue is secondary. We studied club cell response to UV-B radiation by exposing zebrafish (in the minnow family) to 330 microwatts per cm² for one hour each day over five days. We will count club cell density from histological preparations of epidermal tissue and compare it against control fish that were not exposed to UV-B. We predict that if club cells serve an anti-UV function, then zebrafish exposed to UV-B will have greater club cell density than zebrafish that were not exposed to UV. Our data will help resolve a long-standing conundrum in evolutionary ecology by providing a mechanism by which individuals benefit directly from their own club cells.

200

Title: Sexual dimorphism i life history traits of a migratory dragonfly, the common green darner

Presenter(s): Paul Decker, Josh Lunski, Sarah Skolness, Tracy Mastel

Department: Biology

Advisor: Linda Fuselier

Abstract: Common green darners are dragonflies that exhibit cohort splitting; one cohort matures quickly and migrates in the same season (migrants) while the a second cohort overwinters and has a longer maturation time (residents).

Differences in life history traits between the sexes may influence the probability of an individual following either of the two developmental pathways. We investigated sex differences in mass gain and individual activity for female and male common green darners. An estimate of resident larvae sex ratios was made by sampling larvae from two shallow water habitats in Clay County. We used larvae collected from these habitats in a mass gain experiment and we quantified activity differences between the sexes of final instar larvae.

Preliminary estimates of sex ratio from two habitats indicated a trend toward female-bias in resident larvae. Of the residents that we collected, females exhibited a wider range of instars than males. In the mass gain experiment, males gained more mass over one month than females. We are still analyzing results from behavior trials to determine if the sexes differ in activity levels. We predict that males will show higher levels of activity because they tend to gain mass faster than females. As part of this ongoing project, we will collect migrant larvae in the spring, and compare life history characteristics between a larger group of migrant and resident larvae from more locations to better explore sexual dimorphism in suites of life history traits of common green darners.

201

Title: Sex and STDS in North Dakota

Presenter(s): Lynsey Smith, Dionne Chromy

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: We will make up two different surveys and have college age students fill them out. The two different surveys will be on sexual activity in North Dakota and risks of getting a sexually transmitted disease in North Dakota.

202

Title: The Effects of Privatization on Different Age Groups

Presenter(s): Tiffany DeBoer

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: We will look at how changes in our current social security program would effect those born before 1959 and those born after 1959. We will also look at how certain age demographics could possibly be affected by the changes towards privatization.

203

Title: Becoming the Knight of Faith

Presenter(s): Landon Ascheman

Department: Philosophy

Advisor: Randy Cagle

Abstract: An examination of Soren Kierkegaard's parable of the Knight of Faith taken from his essay Fear and Trembling. In this presentation we shall discuss the environmental setting required for the initial movement, and the process, challenges, and repercussions an individual encounters in both becoming the Knight of Infinite Resignation and thus making the final movement to the Knight of Faith.

204

Title: Community Structure of Small Mammals on a Northwestern Minnesota Woodlot

Presenter(s): Katie Geray, Jodi Hendrickson, Tracy Mastel, Sarah Skolness, Travis Flatt

Department: Biology

Advisor: Donna Stockrahm

Abstract: Small mammal abundance, species diversity, distribution, and habitat use were studied in a woodlot in Clay County, MN, in September 2004 and data were compared with findings from 1995 and 1996. The woodlot had been intensively grazed prior to 1990, but it has not been grazed since then and succession is rapidly taking place. Small mammals were live-trapped, identified to species, weighed, sexed, aged, marked, and released. At trap stations where a small mammal was live-trapped, vegetation cover, litter depth and type, and light intensity, tree DBH, and shrub cover were measured. In 2004, 66 small mammals were captured: deer mice (*Peromyscus maniculatus*), meadow voles (*Microtus pennsylvanicus*), boreal redback voles (*Clethrionomys gapperi*), eastern chipmunks (*Tamias striatus*), shorttail shrews (*Blarina brevicauda*), masked shrews (*Sorex cinereus*), and 1 meadow jumping mouse (*Zapus hudsonius*). Meadow voles showed a clear association with open, grassy areas along the edge of the woodlot, while redback voles were associated more with the interior of the woodlot with less light and more shrub/tree cover. The biggest differences noted between the 1995-1996 and 2004 trapping seasons were a great increase in shrub cover in former grassy areas and a corresponding decrease in meadow voles, and an increase in deer mice and shrews.

205

Title: Survey of Wild Turkey (*Meleagris gallopavo*) Distribution in Cass (ND) and Clay (MN) Counties

Presenter(s): Natasha Gruber, Katie Geray, Tracy Mastel, Todd Zielinski, Claudia Irina, Alex Brown, Ross Larson

Department: Biology

Advisor: Dr. Donna Stockrahm

Abstract: The Minnesota Department of Natural Resources (DNR) is currently working on a wild turkey (*Meleagris gallopavo*) reintroduction program in northwestern Minnesota. To determine the current populations of wild turkeys in Cass County, North Dakota, and Clay County, Minnesota, we distributed surveys along the Red River in the Georgetown, Kragnes, Oakport, Kurtz, and Holy Cross Townships of Clay County, and along the Sheyenne River in the Harwood and Reed Townships of Cass County. Information about the survey was also placed in the Barnesville Recorder and in The Fargo Forum, and those interested contacted us. Surveys were also filled out at the annual meeting of the local chapter of the National Wild Turkey Federation. We received a total of 104 usable surveys and 23 usable emails in 2003 and 2004. A total of 537 birds were reported sighted, with 59 identified as toms (male) and 94 identified as hens (female) in 2003. A total of 368 birds were reported in 2004, with 20 identified as toms and 60 identified as hens. However, because we have no way of knowing if some of the turkeys were sighted more than once, the actual number reported is probably inflated. Through this survey, we have discovered a thriving population of wild turkeys in Cass and Clay Counties, and a hunting season may be opened in the area. In the future, we plan to continue surveying residents as well as using GIS techniques to predict if human interactions with wild turkeys are increasing.

207

Title: Ecology of Painted Turtles (*Chrysemys picta*) in Clay County, Minnesota

Presenter(s): Karen Lubenow, Natasha Gruber, Lateesha Hektner, Ross Larson

Department: Biology

Advisor: Dr. Donna and Dr. Jerome Stockrahm

Abstract: Painted turtles (*Chrysemys picta*) were live-trapped during the summer and early fall of 2001, 2002, 2003, and 2004 in Clay County, Minnesota, to study growth rates, recapture rates between years, population characteristics, and movements. For all years, 2 sloughs (< 2 km apart) were trapped, 2.7 ha and 6.2 ha, respectively. For 2002 only, a third slough (<1 ha) that was positioned between the first 2 sloughs was added to the study. For each captured turtle, outer scutes were notched for individual identification. Turtles were weighed, sexed and measured for length and width of carapace, then released. For 2001, data for 250 turtles were analyzed. In 2002, a total of 118 turtles were trapped where 75 were new animals (37 males, 30 females, 8 juveniles) and 43 (34 males, 9 females) were recaptured turtles from 2001. In 2003, a total of 190 turtles were trapped where 42 were new animals (20 males, 18 females, 4 juveniles) and 147 (107 males, 35 females, 1 juvenile, plus 4 females observed away from the sloughs) were recaptured turtles. In 2004, a total of 175 turtles were trapped where 50 were new animals (18 males, 29 females, 3 unknown) and 125 (74 males, 50 females, 1 unknown) were recaptured turtles. Three turtles were fitted with radio-telemetry units on an experimental basis in September 2004 to observe movements and hibernation sites. In spite of intense trapping effort, trapping success between the years varied greatly. Possible reasons for these differences, including mortality factors will be investigated. Growth rates and survival rates will be discussed.

209

Title: Cold snaps in the corn field in early spring. How a temporary cold shock effects growth and development of emerging corn seedlings.

Presenter(s): Angela Hedtke, Jessica Bothum

Department: Biology

Advisor: Chris Chastain

Abstract: Field crops are subject to a wide array of environmental stresses during the span of the growing season. A critical period in the growth of the a field crop is at the seedling stage. At northern latitudes, very cold temperatures can occur during seedling emergence which may inhibit growth or cause short term damage to the plant. In this study, we sought to investigate how a short term cold shock effects the energy metabolism of the emerging seedling by measuring respiration rates and associated biochemical factors that are critical for seedling growth and development. The results will be discussed in context with respect to potential problems farmers face with grain crops in early spring.

210

Title: How simulated flooding can effect corn seedling energy metabolism

Presenter(s): Jonathan Reames, John Shipley

Department: Biology

Advisor: Chris Chastain

Abstract: Field crops, such as corn, are subject to a wide array of environmental stresses such as drought, salinity, flooding. In this study, we sought to determine how short term flooding may effect the health and vigor of an emerging seedling. One consequence of water logged or flooded soil is that they are depleted of O₂ need by the plant for energy metabolism. One key process in energy metabolism is mitochondrial cell respiration. Thus, in order to assess of how flooding stress can effect the health and function of the seedling as a whole we measured respiration rates of coleoptiles tissue (the first emerging leaf from the grain) obtained from 3 day old corn seedlings that have been subjected to simulated flooding. These measurements and measurements of associated biochemical parameters will be present.

211

Title: The effect of drought on early corn seedling energy metabolism.

Presenter(s): Jessica Campbell, Peggy Scheffler

Department: Biology

Advisor: Chris Chastain

Abstract: Plants are subject to a wide array of environmental stresses. A particularly potent environmental stress is drought or water stress. In this study, we sought to determine how water stress can effect the energy metabolism of emerging corn seedlings. To do this, we selected tissue respiration rate as a comparative measure of how water stress can effect the growth and development of the emerging seedling as a whole, since respiration is a processes directly tied to the central process of energy (ATP) production in the cell. Presented will be measurements of corn coleoptile respiration rates (the first emerging leaf from the grain) from 3 day old corn root seedlings that have been subjected to simulated drought.

212

Title: Do elevated levels of potassium ion in the external medium of corn roots at the seedling stage stimulate respiration of seedling coleoptiles and therefore ATP synthesis?

Presenter(s): Paul Decker, Karen Lubenow, Tracy Mastel

Department: Biology

Advisor: Chris Chastain

Abstract: Coleoptiles are the first leaf shoot to emerge from a germinating grain seed. Potassium (K⁺) is a major plant mineral nutrient that drives plant growth. We sought to test the concept that as roots are exposed to higher amounts of K⁺ in the soil, and more K⁺ is taken up into the plant, growth and development in the seedling coleoptile will be accelerated. This in turn should necessitate a higher respiration activity in order for the mitochondria to meet the demand for more ATP synthesis utilized for growth. In order to investigate this proposed link between high K⁺ and respiration rate, and growth, we utilized corn coleoptile tissue from three day old corn seedlings germinated and grown in the presence of high or low amounts of KCl. Respiration rates were measured using an O₂ electrode. Other biochemical assessments of the putative effects of high levels of K⁺ on corn coleoptile growth and development will be presented.

213

Title: Can the herbicide Round-Up produce short term changes in growth and energy metabolism in corn seedlings?

Presenter(s): Adam Nelson, Lewis Noska

Department: Biology

Advisor: Chris Chastain

Abstract: The herbicide Round-Up inhibits plant growth through a very specific plant hormone synthesis pathway. What is not clear is if the herbicide can also have deleterious secondary effects on energy metabolism, particularly in the short time period after application in the field. We have investigated the possibility that Round-Up may have an effect on short term energy metabolism using 3 day old corn seedlings. Specifically, we have assessed the effect of the herbicide on cellular respiration rates of coleoptiles tissue (the first emerging leaf from the grain) as well as on key energy associated parameters in the plant. The data will be presented in context of how emerging seedlings in the field may be impacted by Round-Up in the early stages after its application.

214

Title: Effect of Ultra Violet light stress on corn seedling coleoptile energy metabolism

Presenter(s): Luke Ouradnik, Jordan Vallie

Department: Biology

Advisor: Chris Chastain

Abstract: Plants are subject to a wide array of environmental stresses such as drought, salinity, flooding, and extremes of temperature, and increasingly, UV light from our ozone depleted stratosphere. In this study, we sought to determine how emerging corn seedlings are effected by the damaging rays of UV light. We selected tissue respiration rate as a comparative measure of how UV light can effect the health and function of the emerging seedling as a whole, since respiration is a processes directly tied to the central process of energy (ATP) production in the corn cells. Presented will be comparative measurements of coleoptile (the first emerging leaf from the grain) respiration rates obtained from 3 day old corn seedlings that have been exposed to UV radiation.

215

Title: Short-term effects of root excision on growth in corn seedling coleoptiles

Presenter(s): Josh Kellar, Jeremy Candrian

Department: Biology

Advisor: Chris Chastain

Abstract: Coleoptiles are the first leaf shoot to emerge from a germinating grain seed. They must obtain their water and mineral nutrients from the roots of the seedling. In certain cases, such as severe short term water stress seedling coleoptiles can be cut off from water and mineral nutrients due to root malfunctions and essentially have to scale back on energy requiring process such as growth and development. In order to investigate the rapidity of how terminating water and mineral nutrients supply to growing corn coleoptile can effect production of cellular energy in this tissue, we measured respiration rates in 3-day old coleoptiles obtained from corn seedling roots that had their roots excised. The data gained from this study will be used to predict the interdependence of water and mineral nutrients supply to the coleoptile with the respect to the coleoptiles capacity to sustain respiration for cellular energy (ATP) synthesis needed for fueling growth of the seedling.

216

Title: Intellectual Property: Copyrights and the Internet

Presenter(s): Kristal Kadrie

Department: Political Science

Advisor: Andrew Conteh

Abstract: ABSTRACT This paper discusses Intellectual Property in a quick overview. With a basic definition following the main types of intellectual property: copyrights, trademarks, patents and designs. Then the paper gives a brief history of Intellectual Property with a brief discussion on the Conventions that lead to treaties and agreements on this subject. Then the paper goes into more depth with the discussion of copyrights. First we take a brief overview looking at the history by looking at the various agreements and how important IP has gotten lately with all the new inventions and then go into more detail of the latest Acts: the WCT and the WPPT. After that is a discussion on "Cyberspace" law and how they affect copyrights.

217

Title: Can corn coleoptile tissue mitochondrial respiration potential be increased by pre-treating corn roots in iron fertilizer?

Presenter(s): LaDonna Korstad, Leah Gust

Department: biology

Advisor: Chris Chastain

Abstract: Coleoptiles are the first leaf shoot to emerge from a germinating grain seed. We are interested in how plant germination, such as iron, influences respiration rate in corn coleoptile tissue. Respiration is defined as the uptake of O₂ by cellular mitochondria. The respiration process in turn leads to synthesis of ATP by the mitochondria in the corn coleoptile that is required for the growth and development of the corn seedling. This study was conducted to see if supplementing corn roots at the seedling stage with large doses of iron fertilizer can stimulate the rate of respiration in coleoptiles via increasing the iron containing enzymes of the mitochondria. Respiration measurements will be performed on coleoptiles obtained from 3-day old germinated corn seedlings using an oxygen electrode. Data from these measurements, along with other indirect biochemical measurements of factors influencing coleoptile growth and development, will be presented.

218

Title: An Attempt to Improve Solar Cell Efficiency

Presenter(s): Sara Getty

Department: Chemistry

Advisor: Asoka Marasinghe

Abstract: Techniques for capturing sunlight and converting it into a renewable, nature friendly energy source are constantly being developed and improved. This work utilizes the Gratzel cell concept. Components that make up a Gratzel cell include a transparent substrate, a sensitizer, an electrode coating, a liquid electrolyte and metal contacts. The ultimate goal is to create a commercial Gratzel cell that is greater in its efficiency of energy conversion. The main thrust of this work is to investigate alternative counter electrodes based on organic conductors and dyes for the aforementioned purpose.

219

Title: Abiotic differences in nest substrate that may determine reproductive success and patterns of care in the fathead minnow (*Pimephales promelas*)

Presenter(s): Katie Geray, Tom Dye, Jodi Hendrickson, Courtney Rud

Department: Biology

Advisor: Brian Wisenden

Abstract: Reproductive success ultimately shapes the way animals adapt to their environment. The environment comprises biotic (biological) and abiotic (non-biological) factors. Abiotic factors are measures such as temperature and dissolved oxygen that affect an animal's ability to survive and reproduce. Fathead minnows are common fish in small lakes in Minnesota exhibiting male uniparental care. We studied their reproductive ecology in Itasca State Park and recorded the abiotic characteristics of two types of nests; those on the underside of lily pads and those on the underside of submerged sticks. We found that lily pad nests contained more eggs and with eggs distributed over a larger area. Lily pad nests were warmer, at least during the day, than nests under sticks. Dissolved oxygen levels were slightly higher under lily pads. Cooler temperatures and lower levels of dissolved oxygen could cause slower rates of egg development and higher rates of egg fanning for parental males. Taken together, the abiotic environment associated with these two nest types could determine patterns of reproductive behavior by male and female minnows.

220

Title: The Role of the Serpent in Modern Music

Presenter(s): Beth Johnson

Department: Music

Advisor: Laurie Blunsom

Abstract: I assume you are all aware of the Bible story where in the Garden of Eden Adam and Eve are tricked into sin by the Devil, who was in the form of a serpent. Well, you won't find a serpent only in the Bible. This unusual instrument will be looked at in terms of what it is, where it came from, what it sounds like and how it has impacted music after its inception.

221

Title: Comparison of SCAN and APD Diagnosis

Presenter(s): Jennifer Anfinson, Ashley Hallberg

Department: Speech Language Hearing Sciences

Advisor: Louis DeMaio

Abstract: The purpose of our study was to determine if the SCAN-C Test for Auditory Disorders in Children-Revised identifies Auditory Processing Disorders (APD). Our study compared the composite SCAN scores of 20 children with APD to the composite SCAN scores of 20 children without APD. After analyzing the data, we found no significant difference between the SCAN scores of these two groups. Various other research findings support our conclusion that SCAN is not able to independently identify children with APD.

222

Title: Economic Analysis of Minnesota Lake Property Prices

Presenter(s): David Torpen

Department: Economics

Advisor: Oscar Flores

Abstract: We know Minnesota as the Land of Ten Thousand Lakes. Every year thousands of citizens flock to the lakes' country to enjoy fishing, water skiing, swimming, boat rides, and fresh air. But what will people sacrifice to buy lake property? And what do they look for when searching for a lake home? I researched 2004 Minnesota lake property prices in three counties (Mahnomen, Otter Tail, and Becker) to determine the value of lakeshore frontage on the cost of property.

223

Title: Child Prostitution

Presenter(s): Kendra Anderson

Department: Political Science

Advisor: Andrew Conteh

Abstract: The institution of child prostitution is going on all over the world. Children are being used for sexual purposes whether it is voluntary or involuntary, this should stop happening. There are many causes for this problem, one of them being money, which is because of poverty. People that are subject to prostitution do not have the jobs available to support themselves. Many have to do what they can to stay alive. Another cause for the increasing demand of child prostitution is the endless cycle of sexually abused pedophiles that are doing what was done to them. In many of the countries in the world, governments are trying to find solutions to this on going problem. These countries have made laws against child prostitution and child trafficking, which has decreased because of the laws. They have also made laws that increase the rights and protection for children.

224

Title: Life on the List - A look into organ transplantation and the time spent waiting for the perfect match.

Presenter(s): Justin Titus

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: This presentation describes the life of a person waiting for an organ transplant. This paper looks at all aspects of the individuals life including the changes in: Family life, work life, emotional and spiritual life. Also, a look into the shortage of organ donation in America today.

225

Title: The effects of a thermocouple in a non-inverting op-amp circuit

Presenter(s): Tim Gustafson

Department: Physics

Advisor: Linda Winkler

Abstract: An operational amplifier in a non-inverting circuit can be used to amplify the input voltage. In the experiment conducted, the input was connected to a thermocouple which provided a voltage that varied when heated or cooled. For simplification of the calculations, the resistors chosen produced an output voltage equivalent to the input. The results of the experiment agreed with the theory of the circuit and the thermocouple's input.

226

Title: Conic Sections with Minkowski Metric

Presenter(s): Amber Anderson

Department: Mathematics

Advisor: Timothy Peil

Abstract: We will be deriving a general equation for both the circle and parabola using Minkowski's equation for metric enabling us to see what the graphs will look like in Geometer's Sketchpad when the value of the parameter changes.

227

Title: Mysticism and the Marginalized Individual in 19th Century Literature

Presenter(s): James Schumann

Department: English

Advisor: Hazel Retzlaff

Abstract: The ability to receive extrasensory knowledge through sacramental experiences with nature is a critical tool for the oppressed individual in society. I will examine literature that defines the mystic experience and shows how mysticism is utilized for individual empowerment and social subversion.

228

Title: National Healthcare in the United States

Presenter(s): Scott Johnsrud

Department: Economics

Advisor: Oscar Flores

Abstract: How will the United States deal with the exploding healthcare expenses it is currently facing? My presentation will look at the current healthcare crisis and analyze some of the possible solutions from an economic perspective.

229

Title: Mary Stuart: Doomed from the beginning

Presenter(s): Neil Qualey

Department: History

Advisor: Margaret Sankey

Abstract: I will be presenting on the life of Mary Stuart, Queen of Scots, and how through various circumstances her reign was doomed. I will begin in her infancy when she inherited a country in disarray, and will then proceed into her adulthood, when she returned to Scotland in the midst of the reformation and became involved with men who would eventually have blood on their hands. Finally, I will discuss her execution, which in large part was a result of tampered evidence.

230

Title: Compartment Syndrome: An overview of the condition & a look into one treatment option, the fasciotomy.

Presenter(s): Jennifer Preston

Department: Health & Physical Education

Advisor: Dawn Hammerschmidt

Abstract: Compartment syndrome is a rare, but serious medical condition. This presentation will cover the two different types of compartment syndrome, their symptoms, diagnosis, and a popular treatment option; the fasciotomy. Graphic pictures of the surgical procedure will be included.

231

Title: Child Soldiers in African Conflicts

Presenter(s): Toyi Sogoyou

Department: Political Science

Advisor: Andrew Conteh

Abstract: Abstract: Children involvement in armed conflicts is a global phenomenon. In my presentation, I will focus on how Children are involved in some African conflicts, the different ways of recruitment and why the armed groups recruit children. I will also bring up the effort made by the international community so as to come to terms with this global issue; by this, I mean the different conventions and protocols initiated by the international community to stop the use of children in wars.

232

Title: The Tlaxcalan Legacy: An Analysis of Tlaxcalan History and Favoritism in Sixteenth Century New Spain

Presenter(s): Nathan Pflager

Department: History

Advisor: Dieter Berninger

Abstract: An overview of Tlaxcalan history, focusing on the age of Spanish contact, with an emphasis on their treatment under Spanish dominance.

233

Title: Domestic Violence

Presenter(s): Erin Palm

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: This research studies the different variables that can lead to domestic violence. There are several variables such as gender of the victims, age, the income level and education level. These variables are also looked at in correlation with one another. All of these things will be explored.

235

Title: Celiac Disease

Presenter(s): Jessica Volk

Department: Health/Phys. Ed

Advisor: Dawn Hammerschmidt

Abstract: An overview of the causes, signs and symptoms, treatment, prevention, diagnosis and how maintain a healthy life with the disease.

239

Title: Amyotrophic Lateral Sclerosis (ALS)

Presenter(s): Jennifer Miller

Department: Health & Physical Education

Advisor: Chris Huot

Abstract: Amyotrophic Lateral Sclerosis (ALS), most commonly known as Lou Gehrig's Disease, is devastating disease where the body attacks it's own nervous system. The disease progresses rapidly and always ends in death. This presentation will cover a brief summary of the signs and symptoms, diagnosis, treatment, prevention of ALS.

240

Title: Hypertrophic Cardiomyopathy (HCM)

Presenter(s): Anna Ackerson

Department: Health and Physical Education

Advisor: Chris Huot

Abstract: Hypertrophic Cardiomyopathy is a potentially life-threatening heart condition that affect 1 in 500 Americans. This presentation will include a brief summary of the signs and symptoms, treatment and diagnosis of hypertrophic cardiomyopathy

241

Title: Tackling the Challenges to Providing Culturally Competent Health Care

Presenter(s): Jill Forde

Department: American Multicultural Studies

Advisor: Phyllis May-Machunda

Abstract: Addressing the health care needs of diverse populations is one issue that is not often talked about in today's society. However, the increasing diversity of the American population, including the Fargo-Moorhead area, makes this a critical issue. To provide the utmost in quality care societies need to be culturally aware and competent. Cultural competence is obtaining cultural information and then applying that knowledge. This cultural awareness allows one to see the entire picture and improves the quality of care and health outcomes (www.culturediversity.org, 2005). In Medicines Melting Pot by CR Meyer, four major challenges for providers and cultural competency in healthcare care described. The first is recognizing environmental and biological differences among people of different ethnic and racial backgrounds. The other three challenges are communication, ethics, and trust. Healthcare systems everywhere must be aware of this these challenges. They must assess themselves and continually look to improve their cultural competence in order to overcome these challenges to provide quality healthcare for all people. For my presentation I will be investigating answers to the following two questions: 1. What are the challenges to providing culturally competent health care? 2. How is diversity accommodated in the health care system of the FM area?

242

Title: Small Arms and Ongoing Conflicts

Presenter(s): Brian Matson

Department: Political Science

Advisor: Andrew Conteh

Abstract: The small arms trade is a major global issue that fuels economies and spreads instability. Small arms are responsible for countless deaths around the world annually, yet they continue to remain a major money maker for the economies of the industrialized world. There have been calls within the global community to set new policy standards for the trade and production of small arms, but due to their high profitability, change is slow in coming.

243

Title: Stature and Status in Mississippian and Oneota Burials

Presenter(s): Jennifer Bengtson

Department: Anthropology/Earth Science

Advisor: George Holley

Abstract: When investigating the general health of a prehistoric population, the archaeologist can examine several lines of skeletal evidence. Morbidity, mortality, and nutritional information can be ascertained by studying dental and osteological injury, pathology, and chemistry. Stature is another skeletal feature that has traditionally been linked to health and social status based upon the assumption that higher ranking individuals will tend to have access to a more nutritionally complete diet and be more likely to achieve their highest growth potential as determined by genetic predisposition. This project investigates the methodology associated with prehistoric stature and status determination and applies it to skeletal series from an Oneota site, a non-ranked tribal level society, and a Dallas phase Mississippian site, an example of a ranked chiefdom level society. By investigating these contemporaneous but fundamentally different cultures, I made speculations about the role of social status in the attainment of adult stature. Comparison of the Oneota and Mississippian populations showed that there was no statistical disparity in the distribution of stature or significance of stature differences between the two populations even though there exists demonstrable social differentiation in the latter. However, the Oneota population was, on average, taller than the Mississippian population. Interesting patterns also emerged when comparing the significance of sexually dimorphic stature discrepancies within and between each group. These observations may have biological or cultural explanations that warrant further investigation into the significance of human stature in prehistoric contexts.

244

Title: Postmodernism and Cultural Anthropology

Presenter(s): Jered Ulschmid

Department: Anthropology

Advisor: Bruce Roberts

Abstract: Postmodern ideology questions the most fundamental intellectual pillars of modern Western thought, Anthropology is no exception. In an academic setting, anything labeled as being postmodern tends not to be taken seriously. Some of the basic postmodern ideologies shouldn't be discredited. By taking them into consideration in Cultural Anthropology they can help create a stronger and more diverse discipline.

245

Title: Income Inequality

Presenter(s): Karim Dhanani

Department: Economics

Advisor: Oscar Flores

Abstract: This presentation will discuss income distribution. Through literature reviews and regression analysis, this presentation seeks to determine the causes of income inequality.

246

Title: The Impact of Tuition Increases on University Enrolment

Presenter(s): Damien Scott

Department: Economics

Advisor: Oscar Flores

Abstract: The presentation will discuss how tuition prices effects the number of students attending Minnesota Public Universities. It will involve regression analyzes that will show the number of students that decide not to attend Minnesota Universities for every dollar amount of an increases

247

Title: Why Knot?

Presenter(s): Sarah Thome

Department: Mathematics

Advisor: Kristine Montis

Abstract: Knots have been around and have played a significant role in human's lives for thousands of years. So, why now in the 21st century would an elementary teacher want to bring knots into his or her classroom as an educational tool? Knots and the knot theory are tied to an array of subject areas. This tool could be used to introduce topics in math, science, and even history. Knot theory could also be used as an interdisciplinary tool. In this session we will discuss ways to implement knots into the classroom and also the students it will benefit.

250

Title: Locating Buried Archaeological Sites Using Soil Magnetic Techniques

Presenter(s): Jennifer Bengtson

Department: Anthropology/Earth Science

Advisor: Rinita Dalan

Abstract: Human activities modify soils by enhancing their magnetic susceptibility in comparison to those that are unaltered by cultural processes. This is the basic principle behind Dr. Rinita Dalan's research and development of a downhole magnetic susceptibility meter for the non-invasive detection of buried archaeological sites. My presentation will highlight the work that I did to isolate the fraction of these cultural soils responsible for the distinctive magnetic signatures. I will describe the process we developed for shaking and sieving the soil in order to divide it into a fine and coarse fraction as well as the visual and geophysical investigations that went into determining the nature of the magnetic components. This work will broadly contribute to future investigations by increasing the potential for the location of undiscovered archaeological sites.

251

Title: Sex Determination: Biological Pathways, Hormonal Control, and Political Implications

Presenter(s): Kenna Hairgrove

Department: Women Studies

Advisor: Ellen Brisch

Abstract: Sex Determination: Biological Pathways, Hormonal Control, and Political Implications Gonad differentiation in humans begins at the sixth week of fetal development. In the first five weeks the fetus is in a bipotential state, which means it can develop into either a female or a male. What determines the sex of the fetus depends on hormonal control. If problems in hormone levels occur then sex determination can be altered, which is referred to as a sex reversal. This presentation will discuss several situations in which sex reversals occur. How then does our society determine who is male and who is female? Is it based on chromosomes or appearance? How we define sex has social and political ramifications. This presentation will conclude by raising questions and possible implications of writing gender into legislation.

252

Title: Small G protein regulators expression and their effect on families with autism.

Presenter(s): Jill Skolte

Department: Biology

Advisor: Joseph Provost

Abstract: Autism is a pervasive developmental disorder with a collection of behavioral symptoms including, but not limited to dysfunction in social interaction, communication, sensory and motor disturbances and lack of bonding to caregivers. One phenomenon of this disorder is the formation and development of neural synapses. A significant percentage of people with autism display alterations in chromosomes 9 or 15. The genes associated with these abnormalities code for TSC1 and TSC2. These genes code for the proteins hamartin and tuberlin, respectively, and function as a complex which regulates growth, proliferation, migration, and differentiation of many cell types. TSC1 activates RhoA, a small G protein that regulates cytoskeletal structure, important for cell growth and development. Immortalized lymphocytes were obtained from autistic and non-autistic family members to assess the expression of TSC1/2 and several putative downstream signaling partners. Several autistic patients displayed a low TSC2 level, while others had notably higher levels of TSC2 expression compared to the non-autistic cell lines. In autistic patients that have almost no TSC2 expression, RhoA expression is diminished. Patients displaying little or no TSC1, however, did not correlate with the expression of RhoA. Growth factor pathways can be regulated by small G proteins.

Therefore, we also checked the level of an important growth factor pathway component, ERK. Although RhoA seems to be linked to TSC2 expression, total ERK in the cell was virtually at the same expression level in the autistic and non-autistic patients. We intend to measure potential changes in activation by determining the state of phosphorylation in these cells.

Overall, these results show a possible connection between the level of TSC2 produced in a cell and the expression of RhoA in autistic patients which, if mirrored in neural tissue, could possibly lead to a cascade of events that turn on or off a mechanism in the brain which causes autism. With this research we hope to gain an understanding of one potential biochemical mechanism involved in autism.

253

Title: Videoconferencing: The Wave of the Future

Presenter(s): Atycia Plattner, William Gabel, Jr.

Department: Computer Science & Information Systems

Advisor: Rick Walker

Abstract: Our poster will cover what videoconferencing is, how videoconferencing works, and why it will be used at increasing rates in the future. We will also feature highlights from Megaconference VI, including MSUM's participation in the world's largest videoconference.

254

Title: The Sodium Hydrogen Exchanger is involved in Matrix Metalloproteinase 9 activation.

Presenter(s): Jennifer Taves

Department: Biology

Advisor: Joe Provost & Mark Wallert

Abstract: Matrix metalloproteinases (MMPs) make up a group of enzymes that play a critical role in digesting the extracellular matrix in tissues. This is a critical function for tumor metastasis and angiogenesis. The relationship between the production of MMPs and the sodium hydrogen exchanger (NHE) has been suggested by several publications but not yet identified. The decrease in extracellular pH is presumed to be responsible for activation of the MMPs or the activation of NHE can induce secretion of the protein through an unknown mechanism. We investigated the relationship between NHE and MMP activity in CCL39 fibroblasts containing NHE1 and in PS120 cells (NHE1 null cells derived from CCL39 cells). We found the production of MMP-9 to be dependent upon the presence of NHE. In CCL39 cells, MMP-9 was produced in the presence of the agonists phenylephrine (PE) and lysophosphatidic acid (LPA). In PS120 cells, no MMPs were produced in the presence of either agonist. This indicates for the first time an agonist-induced relationship between NHE1 and MMPs and describes a new potential role for NHE1 in tumor formation.

255

Title: Inflation and Unemployment, Empirical Evidence on the Phillips Curve: 1950-1999

Presenter(s): Joe Larson

Department: Economics

Advisor: Oscar Flores

Abstract: This presentation will address the supposed relationship between inflation and unemployment, better known as the Phillips Curve. The presentation will address past work on the issue, as well as a summary of the empirical results concerning the validity of the theory over the last half of the 20th century.

256

Title: Reconstruction of Representation: An Analysis of Body, Space and the Erotic

Presenter(s): Shannon Crabtree

Department: Sociology

Advisor: Lee Vigilant

Abstract: A sociological inquiry into the function and needs of specific types of space in relation to body representation, sexuality, eroticism, and community.

257

Title: Women in Surrealism: Their Roles and Depictions

Presenter(s): Kelly Hammerbeck

Department: Art and Design

Advisor: Anna Amar

Abstract: The word Surrealism will typically bring to mind melting clocks. Salvador Dali, Man Ray, and Andre Breton may be the most prominent figures in Surrealism and this male dominated art movement employed women in a particular way to achieve their creative genius. This presentation is designed to explore those methods in which women were used within the Surrealist movement, in image and in literature.

258

Title: Genetic Structure of Sexual and Asexual Populations of Liverworts, *Marchantia inflexa*

Presenter(s): Lee Gersten, Alisha Pagel, Tracy Mastel

Department: Biology

Advisor: Michelle Malott

Abstract: Dioecious liverworts live in isolated populations among which there is little gene flow. Low levels of successful sexual reproduction and the existence of single-sex populations of dioecious liverworts suggest that these plants may have low genetic variation and thus low "evolutionary potential". However, because liverworts have haploid-dominant life cycles, there is a potential for somatic mutations to be expressed in populations and this, combined with genetic drift or non-random evolutionary processes, may result in significant population substructuring. We examined genetic variation in sexual and asexual populations of *Marchantia inflexa* using inter-sequence simple repeat (ISSR) markers to quantify levels of variation. Preliminary data indicate that ISSR are appropriate markers for distinguishing genotypes of *M. inflexa* and that populations that differ phenotypically in a common garden also differ genetically.

259

Title: Sex Determination: Biological Pathways, Hormonal Control, and Political Implications

Presenter(s): Kenna Hairgrove

Department: Women Studies

Advisor: Ellen Brisch

Abstract: Gonad differentiation begins at the sixth week of fetal development. In the first five weeks the fetus is in a bipotential state, which means it can develop into either a male or a female. What determines the sex of the fetus depends on hormonal control. If problems in hormone levels occur then sex determination can be altered, which is referred to as sex reversals. This presentation will discuss several situations in which sex reversals occur. How does our society determine who is male and who is female? Is it based on chromosomes or appearance? How we define sex has social and political ramifications. This presentation will conclude by raising questions and possible implications of writing gender into legislation.

260

Title: Social Aspects of Rural Health

Presenter(s): Tracy Hanson

Department: Sociology

Advisor: Susan Humphers-Ginther

Abstract: This presentations involves the exploration of the social aspects of rural health. More specifically, how do communities get primary and emergency care and what barriers come into play when accessing healthcare?

261

Title: Indigenous Knowledge and Development

Presenter(s): Jered Ulschmid

Department: Anthropology

Advisor: Bruce Roberts

Abstract: Indigenous knowledge is the fundamental component to any bottom up or grassroots approach to participatory research and development. Ideally, the goal of any participatory development program is to generate sustainability and promote biodiversity. This goal can often be biased and unsuited, or even unpractical, for those who the development project is trying to help. The Anthropologist job in any participatory development project should be to promote the necessity of indigenous knowledge. They must promote local issues and are the most qualified to be the negotiators between all parties. Even though an Anthropologist is the most qualified for this role this responsibility can cause the Anthropologist to promote their own biases, even when the Anthropologist has no intention to do so.

263

Title: The Middle East Agenda

Presenter(s): Anas Daghmoumi

Department: International Studies

Advisor: Andrew Conteh

Abstract: For years and because of many reasons, the Middle East has been an important area of interest to the United States foreign policy makers. Historically, the U.S. relations with the countries of that region deferred with respect to certain goals that the white house wants to achieve. We shall examine those goals, not only from the United States prospective, but from a Middle Eastern view as well.

264

Title: jus ad interventionem

Presenter(s): John Arnold

Department: Political Science

Advisor: Andrew Conteh

Abstract: The presentation explores the history of humanitarian intervention, the need for international legitimization of intervention, as well as practical, political, and philosophical problems associated with both the legitimization on intervention and failing to stop gross violations of human rights.

265

Title: Wound Healing and ERK Activation in a Phospholipase D Mediated α 1-Adrenergic Pathway

Presenter(s): Rachel Sang

Department: Biology

Advisor: Joseph Provost

Abstract: Phospholipase D (PLD) is believed to play a role in tumor formation in several cell lines, and the inhibition of PLD has been associated with a decrease in changes in cell growth, cell invasion, cytoskeletal rearrangements, and cell migration. We report here that the specific α 1 adrenergic agonist, phenylephrine (PE), signals to a growth factor pathway through PLD. Also, PLD has a role in the regulation of wound healing. Addition of 1-butanol inhibited ERK activation by PE, presumably by blocking the formation of phosphatidic acid. Furthermore, we show that primary but not secondary alcohol also blocks the ability of PE to stimulate wound healing. Expression level of PLD isozymes and expression of dominant negative PLD 1 and 2 will aid in identifying the role of the enzyme in adrenergic mediated cell migration, cell proliferation, and cell growth. All of these results together point to a PLD mediated, PE induced ERK growth factor pathway

266

Title: The role of the α 1- adrenergic agonist, Phenylephrine, in the Phospholipase D-dependent activation of the Sodium Hydrogen Exchanger (NHE1).

Presenter(s): Kathleen Mitchell

Department: Biology

Advisor: Joseph Provost

Abstract: The sodium hydrogen exchanger isoform 1 (NHE1) is widely expressed in mammalian cells and is regulated by a variety of signaling mechanisms. The exchanger aids in the regulation of many normal processes such as maintenance of cell volume, growth control, and intracellular pH homeostasis. NHE1 also contributes to abnormal cellular events including cell invasion and tumorigenesis. Phospholipase D (PLD) catalyzes the hydrolysis of phosphatidylcholine to phosphatidic acid (PA) and free choline in mammalian cells. PA can, in turn, activate a wide range of physiological or biochemical responses. One potential target for PA is the Ras/ERK signaling pathway that is typically activated by growth factors. We investigated the role of the α 1-adrenergic agonist, phenylephrine (PE), in the activation of NHE1. We hypothesize that PLD is activated by PE, lies upstream of ERK, and can lead to the stimulation of NHE1. We found that PE induces alkalization of intracellular pH through NHE1 in Chinese hamster lung fibroblasts in an ERK dependent fashion. To measure changes in intracellular pH we employed the pH-sensitive fluorescent dye, 2',7'-bis-(carboxyethyl)-5-(and -6)-carboxyfluorescein (BCECF). We are currently investigating whether PE mediated alkalization also requires PLD activity. Previous work in our laboratory indicated that NHE1 activation was essential for cell migration. To assess the requirement for ERK in cell migration we performed a wound healing assay. In this study, cells were pre-treated with a MEK inhibitor, PD98059, to prevent ERK activation upon PE addition. Cells that were treated with inhibitor showed a significant decrease in cell migration into the wound as compared to PE stimulated controls. These data show that the activation of ERK is necessary for the α 1-adrenergic regulation of cell movement. Further studies will be conducted to establish if PLD activity is crucial for the activation of ERK, stress fiber formation and wound healing.

267

Title: Gamma-ray Spectroscopy

Presenter(s): Robert Jackson

Department: physics

Advisor: Linda Winkler

Abstract: My report will focus on gamma-ray spectroscopy, in particular the analysis of data collected by the UCS 20. I will touch upon what gamma-ray spectroscopy is as well as how the detector works. With that bit of history I will then move on to discussing how gamma rays are released and the decay series of radioactive materials. I will be focusing a majority of the report on the charts the UCS has created. The main focus will be on the peaks and what each means; both in terms of analysis, and the decay of the element. I will then present the comparison of our results to commonly accepted values, and talk about the tables used to make the comparisons.

268

Title: Archaeological Test Excavations at the Sprunk Site.

Presenter(s): Jay Johnson, Valerie Barbie

Department: Anthropology/Archaeology

Advisor: Mike Michlovic

Abstract: Abstract: Archaeological Test of The Sprunk Site. The Sprunk site is a late prehistoric site located in South West Cass County, North Dakota. This site is on a bluff overlooking the Maple River. A Moorhead State University field school excavated this site in the summer of 2004. The MSUM field school spent two weeks excavating ten 1x1 meter units. A large sample of artifacts was recovered from this dig, including: bison bone, stone tools, ceramics, and shell. This site is important because it has many of the same artifacts as the Shea site, which is 3 miles down stream from the Sprunk site on the Maple River. However, the Sprunk site differs from the Shea site. At Sprunk far more Mollusk shells were recovered, which shows that people here made significant use of the Maple River itself.

270

Title: Determinants of Selling Prices on eBay

Presenter(s): Stephen Carland

Department: Economics

Advisor: Oscar Flores

Abstract: My presentation will discuss some of the determinants of the selling price of an item on eBay. The specific item that I will look at is a Nintendo 64 game known as Super Mario 64, however this is subject to change. A portion of this presentation will look at the impact of seller reputation on the selling price of the item. A quantitative economic approach will be used in this presentation to expand on a previous ECON 370 paper while fulfilling an ECON 398 Senior Seminar requirement.

271

Title: Medication versus Therapy

Presenter(s): Katie Ross, Joni Medenwald

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: A comparison of the effectiveness of medication or therapy alone versus combination of the two.

272

Title: Top Ten Medications Administered in the Emergency Department

Presenter(s): Amanda Ray

Department: Nursing

Advisor: Jane Bergland

Abstract: I will present a poster board of the top 10 medications administered in the Emergency Department. This will include generic and trade names, actions, uses and side effects, routes of administration and nursing implications including patient assessment and patient education.

273

Title: Creation of p.bluescript plasmid containing human c-myc gene using DNA recombination and bacterial transformation in *E. coli*

Presenter(s): James Alishouse, Benjamin Johnson

Department: Biology

Advisor: Michelle Malott

Abstract: The purpose of this experiment was to synthesize a plasmid containing the human c-myc gene that would be taken into a bacterial cell allowing it to be replicated along with the bacterial DNA. To achieve this purpose, an insert c-myc gene was isolated, as well as a p.bluescript vector used for insertion of the c-myc gene. Not I and Hind III were used as restriction enzymes. Gel Electrophoresis allowed isolation and a Fermentas purification kit was used to purify the collected DNA. Once pure, the gene was inserted into the p.bluescript vector by ligation. The final step was transformation of the recombinant plasmid into accepting bacteria. Confirmation of bacteria reception was done through growth on an AMP agar using a negative control for vector.

274

Title: The Comparison between Attention-Deficit Hyperactivity Disorder and Auditory Processing Disorder in Children

Presenter(s): Jennifer Morris, Tiffany Meier

Department: Speech, Language, Hearing, Sciences

Advisor: Louis De Maio

Abstract: This presentation is on the comparison between attention-deficit hyperactivity disorder (ADHD) and auditory processing disorder (APD) in children. It will discuss the process of diagnosing both ADHD and APD, the characteristics of both, the calculations for the comparison, and the conclusion of the study.

275

Title: The Role of Oxidative Stress in Maternal mtDNA Inheritance

Presenter(s): Frank Johnson, Jr.

Department: Biology

Advisor: Ellen Brisch

Abstract: Nearly all animals only inherit mitochondrial DNA (mtDNA) from their mother. During fertilization, the paternal mtDNA is not incorporated into the egg. The theory behind this is that the paternal mtDNA is damaged by oxidative stress due to high ATP production required for flagellar motion. Recent research suggests that because of this damage, the paternal mtDNA is not incorporated into the egg. The purpose of this investigation is to examine the role of oxidative stress on paternal mtDNA using *Xenopus* or Sea Urchin sperm.

276

Title: Finding The Index of Refraction Using the Michelson Interferometer

Presenter(s): Kelsey Carvell

Department: Physics

Advisor: Linda Winkler

Abstract: The Michelson Interferometer is an experiment that produces interference fringes that can be seen on a screen at some distance away from the apparatus. The Interferometer was used, in this particular experiment, to measure the index of refraction in air. In the presentation, the history behind the experiment's original use will briefly be explained; the set-up and procedure of what the interferometer was used for, and the results will be discussed using error analysis.

277

Title: The Creation Of the Modern Musical

Presenter(s): Laura Schmitz

Department: Music

Advisor: Laurie Blunsom

Abstract: How music and theatre intertwined throughout history to become what today is called the modern musical.

278

Title: ZZZ Best Corporation and Fraud

Presenter(s): Kyle Decker

Department: Accounting

Advisor: James Hansen

Abstract: Barry Minkow was a young entrepreneur, with a company named ZZZ Best, who scammed investors out of millions of dollars by the age of 26. He was caught and sent to jail. He now works with the FBI to catch others who commit fraud. I will discuss the types of fraud he committed and how he was caught.

280

Title: The Effects of Cell Cycle Inhibitors on Mitochondrial Replication.

Presenter(s): Merina Shakya, Deshna Gurung

Department: Biology

Advisor: Ellen Brisch

Abstract: Mitochondria provide most of the ATP that cells use and are critical for a cell's survival. A newly fertilized egg divides millions of times in order to become a new human individual. Some of the key processes required for successful cell division is the replication and correct segregation of DNA and numerous organelles, especially mitochondria. Cell division is coordinated by key protein regulators that precisely guide all the steps required for a cell to grow, replicate DNA and organelles and finally split up the cellular "goods" and divide. Our lab is interested in understanding how mitochondria are regulated during this process. Observations of yeast mitochondria show that these cells generate approximately two times more mitochondria just prior to division. We plan to use cell cycle inhibitors to block yeast cells in specific stages of the cell cycle. We will then examine these cells to determine if the mitochondria have doubled or paused with the cell. Our studies will help to show if mitochondrial division is coordinated with the cell cycle or is independent.

281

Title: The role of the cell cycle control gene CDC28 on mitochondrial inheritance.

Presenter(s): Kyle Marthaller

Department: Biology

Advisor: Ellen Brisch

Abstract: Mitochondria function to provide cells with energy for all metabolic processes. Throughout the cell cycle, mitochondria are highly dynamic. They continuously move about and change shape depending on which stage of the cell cycle they are in. This process is termed mitochondrial dynamics. In *Saccharomyces cerevisiae*, the inheritance of mitochondria from mother cell to daughter bud during cell division is an essential feature of yeast cell growth. The analysis of mutants defective in mitochondrial morphology and inheritance has led to the identification of some of the proteins that control mitochondrial dynamics. We are interested in understanding how mitochondrial inheritance is coordinated with the cell cycle. We plan to generate specific mutations in genes that regulate the cell cycle in yeast. We will be focusing on the CDC28 gene that encodes a protein that drives a cell through mitosis. Our strategy is to use a variety of molecular techniques including PCR in order to generate a "knockout" construct. We will then observe these yeast cells by staining mitochondria and scoring their morphology. Any cells with defects in morphology will give us clues as to how this cell cycle regulator controls mitochondrial inheritance.

283

Title: The Great Ocean Conveyor Belt: A Global Issue

Presenter(s): Jessie Rock

Department: Geosciences

Advisor: Karl Leonard

Abstract: The intentions of the presentation, "Great Ocean Conveyor Belt : A Global Issue" are: To introduce the basic ocean conveyor belt model, which describes how ocean circulation moderates the climate on Planet Earth; To identify the mechanism which propels this model, as well as the potential impacts that global warming has upon it; To inform about existing theories on climatic impacts caused by the absence of the Great Ocean Conveyor Belt.

284

Title: A Study of High School Dropout in Fargo Public Schools

Presenter(s): Holly Neuharth

Department: Sociology

Advisor: Dr. Deborah White

Abstract: I plan to present an in-depth sociological research paper, under the supervision of Dr. Deborah White, on the causes of high school dropout in Fargo, North Dakota, Public School District. The purpose of this semester-long study was to reveal specific factors that may help or hinder students' progress in school and, ultimately, determine graduation or dropout. Following approval from the Institutional Review Board, a list of names, phone numbers, and identification numbers (specifying dropout or graduation) of 534 former students was obtained from Deb Dillon, coordinator of Alternative Programs for Fargo Public Schools. Those who graduated in the last five years (267 individuals) were selected through random sampling, while those who dropped out in the last three to five years (also 267 individuals) were selected with no sampling. Next, a fifteen-minute survey was composed, which was then carried out through phone usage in the SOC/CJ department. The answers of 95 voluntary participants (51 graduates and 44 dropouts) were manually recorded on scantron sheets, then scanned electronically, converted into a data file, and analyzed using SPSS (Statistical Package for Social Sciences). Among several other correlations indicated in the results, I discovered the following findings: extracurricular activity involvement affected dropout, as did number of deviant behaviors in which a student engaged, amount of parental involvement in a student's academic and personal life, and amount of mentally stressful occurrences experienced by a student.

285

Title: In the Name of Humanity

Presenter(s): Jolene Thorne

Department: Political Science

Advisor: Andrew Conteh

Abstract: This presentation will discuss the different types of humanitarian aid, who gives aid, who receives aid, and whether or not politics plays a role in deciding this.

287

Title: Teaching American Indian Students

Presenter(s): Madeline Grosek

Department: American Multicultural Studies/ Special Education

Advisor: Steve Street

Abstract: A current issue in education is providing an appropriate education for American Indian students. This presentation focuses on how teachers can educate American Indian students by 1) understanding American Indian cultures 2) ways of learning and 3) incorporating these factors in an active learning environment.

288

Title: Cultural Evolution in Contemporary Society

Presenter(s): Justin Schwegel

Department: Anthropology

Advisor: Donna Rosh

Abstract: This presentation will be an exploration of the impetus behind cultural change while upholding the evolutionary paradigm as the most useful in examining the patterns that are evident in said change. While attacking earlier models of cultural evolution for their ethnocentric biases I attempt to construct a more useful model still based on the biological paradigm.

289

Title: Dragon's Breath Productions

Presenter(s): Jay Pickthorn, Josh Axtman, Carolyn Lewison, Bryce Goodell, Nathan Anderson

Department: Mass Communications and Sociology

Advisor: Dan Johnson

Abstract: This video project is a collaboration of MSUMs Departments of Sociology and Mass Communication. It is anticipated to "set the stage" at the fifth annual Northern Plains Conference on Aging and Disability (NPCAD). The video conveys a message that aging and disability is a life-long process. The project consists of five MSUM students showcasing their talent of visual storytelling.

290

Title: Using GIS and GPS in Archaeology

Presenter(s): Amanda McCracken

Department: Anthropology and Earth Sciences

Advisor: Dr. Rinita Dalan

Abstract: Geographic Information Systems (GIS) and Global Positioning Systems (GPS) can be an invaluable tool for archaeologists in mapping sites and their data. I have used GIS and GPS technology as part of the Buried Site Project directed by Dr. Rinita Dalan. The purpose of this project is to develop a relatively noninvasive and inexpensive means of identifying archaeological sites. As part of this project down-hole geophysical tests have been accomplished and soil cores have been collected from five sites in the Red River Valley region. My project has involved producing regional maps of the test sites as well as maps of sampling locations at each of the individual sites. By using GPS coordinates and digitizing equipment, I was able to use GIS to supply critical maps for this archaeological project.

291

Title: A test for olfactory recognition of parental adults by free-swimming young of a biparental cichlid fish

Presenter(s): Tom Dye, Tony Vadnais

Department: Biology

Advisor: Brian Wisenden

Abstract: Convict cichlids are small freshwater fish native to Central American lakes and streams. They form monogamous pair bonds and jointly prepare and defend a nest. When the eggs hatch, the female and male protect the young from predators for 4 to 6 weeks, until the young are able to live independently. Interestingly, parents often adopt young from other families into their own family. Parents benefit from adoption two ways. First, extra young dilute predator attacks on their own (genetically-related) young. Second, parents selectively adopt only those young that are the same size or smaller than their own. Because the ability to escape predator attack improves as the young grow, and by selectively adopting small young, parents exploit adopted young as preferred targets for predators. How young become separated from their parents and become adopted by another family is not well understood. Here, we test if larval convict cichlids can distinguish their own mother from an unrelated mother (foster parent) or a non-parental female (predator) on the basis of chemosensory cues released by females.

292

Title: The Problem of the Self in Buddhism and Christianity

Presenter(s): Dusty Diehl

Department: Psychology

Advisor: Willie Hallford

Abstract: In seeming opposition Buddhism denies the existence of a self while Christianity affirms one. This presentation argues that this opposition is not complete and can actually bring about mutual illumination.

293

Title: Creation of Chimeric NHE1 Constructs

Presenter(s): Derick Burgad, Nicole King, Justin Noehre

Department: Biology

Advisor: Joseph Provost

Abstract: The NHE family of antiport proteins shuttle H⁺ out of the cell in exchange for extracellular Na⁺. The NHE1 isoform regulates intercellular pH as well as acting as a cytoskeletal anchor influencing cell movement. NHE1 activation is controlled by intracellular pH and specific peptide phosphorylation on the carboxy terminal tail. This phosphorylation is mediated through ROCK and p90RSK. The control of NHE1 is necessary for cellular motility, regulating intracellular pH, and control of cellular growth. To better understand the mechanisms by which NHE1 influences cell motility we are creating three chimeric-epitope tagged NHE1 constructs. The first two are NHE1-Enhanced Cyan Fluorescent Protein (ECFP) constructs. ECFP selection was based upon an excitation and emission spectra, which does not overlap BCECF. A pH sensitive dye, BCECF, will be used to test construct transport functionality. These new fusion proteins will allow monitoring of NHE1's intracellular location in real time. Initially ECFP will be fused to the NHE1 carboxyl terminus to determine whether the size and location of the fluorescent tag will inhibit carboxy terminus phosphorylation. A second NHE1 construct will fuse ECFP to the amino terminus. We will also produce a third construct, a carboxy terminus (amino acids 503-815) NHE1-6xHIS fusion protein. The 6xHIS epitope tag is a series of six histidines added to the carboxy end of NHE1. The 6xHIS tag allows protein purification by affinity chromatography. The use of 6xHIS prevents interfering phosphorylation, often seen with glutathione S-transferase (GST) constructs. The NHE1-6xHIS fusion protein will be tested to determine the specific sequence phosphorylated by ROCK. We hypothesize that ROCK phosphorylates NHE1 at COOH-terminal residues not phosphorylated by p90RSK and that this distinction will manifest itself in differences in the localization of NHE1, regulation of ERM binding, formation of stress fibers, and focal adhesion complexes. Our new constructs will allow future experiments to pinpoint the sites of kinase interaction on NHE1 and identify the results of the phosphorylation in vivo.

294

Title: A mathematical model for the co-evolution of egg size, larval antipredator competence and parental care in a biparental cichlid fish

Presenter(s): Pat Self

Department: Biology

Advisors: Brian Wisenden, Alison Wallace, Ellen Brisch

Abstract: Evolution by natural selection promotes the genes of individuals that produce the most offspring that live long enough to reproduce. In other words, evolution promotes the genes of individuals with the most grandchildren. In a fish, the size of each egg bears directly on this question. Large eggs hatch into large offspring and large offspring have a better chance of survival than small offspring. Thus, maximum survival would occur if a fish laid one very large egg, but this reproductive strategy would not produce the most offspring. Two eggs of half the size might be twice as good. Fifty eggs, each one fiftieth of the theoretical "one large egg" might be better still. What about 100 or 1000 very tiny eggs? For a given amount of food energy available to allocate to reproduction, what is the optimal combination of egg size and egg number that results in the greatest number of grandchildren? In this study we use existing field and laboratory data to develop a mathematical model for an optimal strategy reproductive allocation in a fish species with prolonged biparental care of their young.

295

Title: The Effect of Attack by Ciliate Protozoan Ectoparasites on the Proliferation of Epidermal Club Cells in Zebrafish

Presenter(s): Shantell Drew, Lisa Miller

Department: Biology

Advisor: Brian Wisenden

Abstract: Zebrafish invest energy in producing epidermal club cells. These skin cells alert nearby zebrafish of the presence of predation risk, but how does the sender benefit? We tested the hypothesis that the sender fish benefits directly these cells because they provide protection against injury to the skin. The fish were infected with a common ciliate ectoparasite, *Ichthyophthirius multifiliis*, and skin samples were collected of infected and non-infected fish. If our hypothesis is correct, then we predict that the number of skin club cells found in infected fish will be greater than the number of club cells found in non-infected fish. If the results support our hypothesis, then the role of epidermal club cells in warning of predator risk will be secondary to the primary benefit of parasite protection.

296

Title: Protein phosphorylation and the assembly of sea urchin egg microtubules

Presenter(s): Samadhi Wijesinghe

Department: Biology

Advisor: Ellen Brisch

Abstract: Microtubules (MTs) are an important cytoskeletal element found in most eukaryotic cells. MTs form the mitotic spindle that rapidly and accurately segregates the replicated chromosomes to the opposite sides of the dividing cell. Biologists are intrigued as to how this process works. The study of this process is a critical area of cancer research. Cells that fail to segregate DNA into new cells will not divide. The identification of the mechanisms and targets that regulate microtubule assembly may provide us with new strategies for halting division in cancerous cells. Sea urchin eggs are an excellent model system in which to study spindle assembly. The regulation of microtubule assembly is controlled by the protein phosphorylation/dephosphorylation of Microtubule Associated Proteins (MAPs). These proteins bind to, copurify with and stabilize MTs. When MAPs become phosphorylated they lose their affinity for MTs, causing the MTs to shrink. Thus MAPs can modulate the assembly/disassembly of MTs. Previous work has identified 44kD and 48 kD microtubule copurifying proteins as potential phosphorylation targets. The molecular weights of these proteins are suggestive of MAP Kinase (Mitogen Activated Protein) members. These family members play important roles in growth and mitogenic (potential cancer causing) pathways. Our goal is to determine how MAP Kinase regulates cell division and spindle assembly by monitoring MT assembly in the presence and absence of Okadaic Acid, a known phosphatase inhibitor. Okadaic Acid has previously been demonstrated to alter MT assembly. We are interested in identifying the MAPs that this phosphatase inhibitor may protect from dephosphorylation. Using this approach we hope to identify a cell signaling regulator of MT assembly.

297

Title: Is the plant enzyme PPDK necessary for the plant to live? An evaluation of PPDK gene knockout mutants of the small mustard plant, *Arabidopsis thaliana*?

Presenter(s): Eun Hyuk Chang

Department: Biology

Advisor: Chris Chastain

Abstract: The plant enzyme pyruvate, orthophosphate dikinase (PPDK) is poorly understood in terms of its function in plants, although its most likely function is some aspect of metabolism. The reason why its role is unknown is that it cannot be researched in plants using conventional research tools. In order to circumvent these limitations, we are using a molecular genetic approach that will allow us to obtain a plant for which the PPDK gene has been inactivated. Studies are underway to identify a plant from a segregating population that lacks PPDK altogether. Failure to find a "PPDK-less" plant from this study will indicate that this enzyme plays a life-giving role to the plant and hence will serve as a starting point to elucidate its exact role in plants.

298

Title: RhoA, Rock, and Phospholipase D regulate α 1-adrenergic receptor induced stress fiber formation in Chinese hamster lung fibroblasts

Presenter(s): Alicia Schlenner, Tabitha Burnside, Austin McCoy

Department: Biology

Advisor: Mark Wallert

Abstract: The sodium/hydrogen exchanger (NHE) is critical in cells because it regulates many functions including intracellular pH, cell volume, cell cycle progression, and cytoskeletal anchoring. These cellular processes, when under aberrant regulation, can contribute to malignant transformation and tumor progression. Previous studies have indicated that PLD and RhoA are involved in ERK activation in Chinese hamster lung fibroblasts (CCL39). These experiments were performed using the μ 1-adrenergic agonist phenylephrine (PE) to initiate the phospholipase-D (PLD) response. Our goal is to determine the roles of PLD and RhoA in the activation of NHE and the regulation of stress fiber formation. To investigate the regulation of stress fiber formation, CCL39 cells were treated with PE in the presence and absence of three different inhibitors: PD-98059, Y-27632, and butanol. PD-98059 binds to the inactivated form of MEK preventing ERK phosphorylation. Y-27632 is a very potent selective inhibitor of the RhoA associated kinase, ROCK. Butanol blocks signaling pathways that require PLD. The level of stress fiber formation was 30% in untreated cells, 55.3% in PE treated cells, 5.0% in PD-98059 treated cells, 4.0% in Y-27632 treated cells, and 4.7% in butanol treated cells. These data show that the PE stimulation of stress fiber formation requires PLD, RhoA, and ERK. To measure the ability of PE to activate RhoA, EGFP-tagged RhoA was used to observe translocation. Unstimulated control cells display RhoA dispersed throughout the cytoplasm, while PE stimulated cells show RhoA predominantly associated with the plasma membrane. In future experiments, we plan to measure the role of PKC in RhoA stimulation. PE treatment will be done in the presence and the absence of PKC inhibitors. Once RhoA translocation is characterized, we will then investigate the role of PKC in stress fiber formation. We hypothesize that PKC is required for the activation of both RhoA and ERK and ultimately the formation of stress fibers.

299

Title: The Effect of Short Chain Phosphatidic Acid on the Activation of ERK

Presenter(s): Matthew Duval

Department: Biology

Advisors: Mark A. Wallert, Joseph J. Provost

Abstract: When the α 1-adrenergic receptor is activated, phospholipase D (PLD) is stimulated and ERK phosphorylation occurs. PLD converts phosphatidylcholine to choline and phosphatidic acid, PA. Previous experiments have shown that the addition of primary butanol blocks the formation of PA, and ERK phosphorylation. This suggests that PA is involved in the activation of the Ras/ERK signaling pathway. To investigate the role of PA in ERK phosphorylation, two short-chain phosphatidic acids were used, 1,2-Dihexanoyl-sn-Glycero-3-phosphate and 1,2-Dilauroyl-sn-Glycero-3-Phosphate in order to study ERK phosphorylation. Both types of PA stimulated ERK phosphorylation with 1,2-Dihexanoyl-sn-Glycero-3-phosphate causing a greater response. Additional experiments will be done with a caged short chain PA that will release under treatment by light to demonstrate that the short-chain PA permeates inside the cell and does not simply activate the pathway through a cell membrane receptor. These experiments provide clear evidence that PA activates the Ras/ERK signaling pathway, validating the previous inhibitor experiments. Future experiments will be performed to determine the exact location where the PA signal enters the Ras/ERK pathway.

300

Title: "We think we are animals" The devastating story of the destruction of a continent

Presenter(s): Oluwaloni Giwa, Oluwakemi Oni, Jermaine Okondo

Department: Political Science

Advisor: Andrew Conteh

Abstract: This presentation will bring you into the world of the African HIV/AIDS crisis. We will discuss the impact of this epidemic on the children of Africa, the continents economy and also the cultural impact on our motherland.

301

Title: Ongoing Geophysics at Hopeton

Presenter(s): Amanda McCracken, Melissa Beer

Department: Anthropology and Earth Sciences

Advisor: Dr. Rinita Dalan

Abstract: Ongoing research has been directed toward uncovering secrets that the Hopewell Culture (200 BC-AD 300) of the Midwest have left behind. The Hopewell Culture created hundreds of mounds and earthworks throughout the Ohio and Mississippi River valleys: Our focus is on the Hopeton Earthworks located in Ross County, Ohio. Traditional archaeological methods are not sufficient to answer questions about the nature of the earthworks at this site and methods used to construct them. By means of geophysical methods, we are able to "see" what cannot be seen with the naked eye on the surface or in archaeological excavations. This presentation will focus on new data collected from the 2004 field season at Hopeton. We compare this data to knowledge gained from previous field seasons and draw conclusions about earthen construction patterns at this site.

302

Title: Collusion in Agriculture

Presenter(s): Ross Godfread

Department: Economics

Advisor: Oscar Flores

Abstract: The purpose of this paper is to explore the possibility of collusion and price fixing in the market for agricultural commodities. The social impact of collusion and price fixing will also be explored, at least with respect to consumers, farmers and possibly international trade.

303

Title: African Americans Welfare Recipients and Barriers to Employment

Presenter(s): Nickolas Gaines

Department: Economics

Advisor: Steven Bolduc

Abstract: This presentation will dispel myths regarding America's welfare system in regards to cultural biases. The presentation will first examine the economic conditions within the African American community. Secondly, it will evaluate efforts enforced by the Federal government to end the cycle of disparity within the community and encourage economic security and self sufficiency.

304

Title: Devil Against Devil: A Comparative Analysis of Amiri Baraka's Poetry and the Blues to Fight Systems of Oppression

Presenter(s): Amber Andersen

Department: English

Advisor: Hazel Retlaff

Abstract: By comparing how Amiri Baraka's poetry and the blues use similar tools and forms to address injustices, how Baraka's references to the blues functions in his poetry, and how Baraka's poetry and the blues relies on an auditory element, the experiences of blacks in America are honored through their traditions, and are given a voice against the systems that still oppress them.

305

Title: Determinants of crime in Fargo Moorhead

Presenter(s): Alexander Huseby

Department: Economics

Advisor: Oscar Flores

Abstract: A monthly time series regression to analyze determinates of crime in the FM area over the last ten years.

306

Title: President Franklin D. Roosevelt and the Japanese-American Internment During World War II: His level of Involvement and Responsibility

Presenter(s): John A. Dobmeier

Department: History

Advisor: Henry Chan

Abstract: "December 7, 1941, a date that will live in infamy." These were the words spoken by President Franklin Delano Roosevelt to the joint houses of congress on Monday, December 8, 1941. Seventy-three days later President Roosevelt signed Executive Order 9066, the instrument that allowed the incarceration of 110,000 resident Japanese aliens and Americans of Japanese ancestry. This work investigates the level of responsibility President Roosevelt bears for the incarceration. It also measures the impact President Roosevelt had on the global events between December 7, 1941 and February 19, 1942. President Franklin D. Roosevelt was one of the great leaders of his time. How and why did such a gross violation of human and civil rights occur? Good or bad, this is one of the legacies of the 32nd President of the United States.

307

Title: Creative Writing in Various Styles

Presenter(s): Chris Payne, Ellie Windschitl

Department: New Center for Multidisciplinary Studies

Advisor: Maureen Kelly Jonason

Abstract: Ellie Windschitl and Chris Payne will be presenting various pieces of creative writings. Ellie specializes in poetry, while Chris's main focus is prose.

308

Title: The future of Computer Science and Information Systems education

Presenter(s): David Nelson, Yelena Mejova, Amanda Ersland, Mo Perzeshk

Department: Computer Science and Information Systems

Advisor: Yuri Boreisha

Abstract: Our presentation will consist of the history of CSIS education, its progress, and the issues the CSIS educational institutions face today. MSUM CSIS department's history and current condition will be talked about, and the current situation evaluated. The birth and development of Computer Science will be discussed. Also, we'll talk about the development of personal computers and the Internet and their affect on education. We'll show how .COM crash and other events changed the CSIS education. We'll explain how different schools are dealing with the changes in the field and what innovations are being presented. Also, the employers' demands towards CSIS graduates will be recounted. Finally, we'll talk about the MSUM CSIS department and how it's faring with the changes in the educational environment.

309

Title: The Parent-Child Communication Program: Case Study #14

Presenter(s): Tara Watterson

Department: Speech Language and Hearing Sciences

Advisor: Louis DeMaio

Abstract: We will be discussing the effects of the Parent-Child Communication Program on parents of individuals with a language delay. We will compare the results of our research to other similar research that has been conducted.

312

Title: Slap Lesions of the Shoulder

Presenter(s): Dan Helder

Department: Health and Physical Education

Advisor: Chris Huot

Abstract: SLAP lesion is a orthopoedic injury of the shoulder. The presentation will cover the injury mechanisms, diagnosis, treatment, surgical procedures, and rehabilitation of the injury.

313

Title: Alternative Photographic Processes

Presenter(s): Amanda Durhman, Jesse Anderson, Jaci McCaskell, Isaac Peloquin, Ryan Asp, Andrea Morken, Lizzie Stark, Morea Steinhauer

Department: Department of Art and Design

Advisor: Lana Leishman

Abstract: We will be displaying alternative fine art photographic processes, including; polaroid transfers, polaroid SX-70 manipulations, and ink jet oil transfers. We will demo these processes at our display throughout the day and answer questions. This will be an interactive display, feel free to stop by and make art. Materials will be provided.

314

Title: The Ecology of Painted Turtles (*Chrysemys picta*) in Clay County, Minnesota

Presenter(s): Ross Larson, Lateesha Hektner, Shannon Gaukler, Margo Kramer, Jasmine Carlson

Department: Biology

Advisor: Dr. Donna and Dr. Jerome Stockrahm

Abstract: Painted turtles (*Chrysemys picta*) were live-trapped during the summer and early fall of 2001, 2002, 2003, and 2004 in Clay County, Minnesota, to study growth rates, recapture rates between years, population characteristics, and movements. For all years, 2 sloughs (< 2 km apart) were trapped, 2.7 ha and 6.2 ha, respectively. For 2002 only, a third slough (<1 ha) that was positioned between the first 2 sloughs was added to the study. For each captured turtle, outer scutes were notched for individual identification. Turtles were weighed, sexed and measured for length and width of carapace, then released. For 2001, data for 250 turtles were analyzed. In 2002, a total of 118 turtles were trapped where 75 were new animals (37 males, 30 females, 8 juveniles) and 43 (34 males, 9 females) were recaptured turtles from 2001. In 2003, a total of 190 turtles were trapped where 42 were new animals (20 males, 18 females, 4 juveniles) and 147 (107 males, 35 females, 1 juvenile, plus 4 females observed away from the sloughs) were recaptured turtles. In 2004, a total of 175 turtles were trapped where 50 were new animals (18 males, 29 females, 3 unknown) and 125 (74 males, 50 females, 1 unknown) were recaptured turtles. Three turtles were fitted with radio-telemetry units on an experimental basis in September 2004 to observe movements and hibernation sites. In spite of intense trapping effort, trapping success between the years varied greatly. Possible reasons for these differences, including mortality factors will be investigated. Growth rates and survival rates will be discussed.

317

Title: Growing up female in the era of Disney: a closer look at the duality of the female heroine

Presenter(s):

Department: Mass Communications

Advisor: Jody Mattern

Abstract: Presentation based on the study and critique of three popular Disney films: *Beauty and the Beast*, *The Little Mermaid* and *The Incredibles*. The presentation will take a feminist look at how the storyline leaves little option for the female heroine (and therefore also the female audience) to have a life outside of binary, heterosexual cultural norms.

318

Title: Voltammetric Quantification of Metal Ions Based on their Exchange with Ferrous ion Fe(II)-EDTA Complex

Presenter(s): Yoko Takahashi, Shannon J. Wendroth

Department: Chemistry

Advisor: P. A. B. Marasinghe

Abstract: An inexpensive and disposable three-electrode cell is developed for detecting metal ions by voltammetry. The electrodes were made of ITO glass material and the cell that could hold volumes of analyte solutions in the order of a milliliter. In this investigation the feasibility of estimating concentrations of Lead ion in the 10-3M or less was carried out. The oxidative current of the Fe(II), produced by the 1:1 reaction of Lead ions with Fe(II)-EDTA by the exchange reaction was related to the Lead ion concentration of samples. Our main goal is to utilize this environment-friendly ITO glass as the base material for the construction of disposable electrochemical cells for screening Lead contamination in the environment.

319

Title: Capturing Votes: The 2004 Presidential Campaign Online

Presenter(s): Jackie Engen, Jessica Nelson, Jim Lange

Department: Mass Communications

Advisor: Regene Radniecki

Abstract: The Internet played a crucial role in the 2004 presidential campaign. From fund raising to getting out the vote to providing a forum for discussion, the Web was a hotbed of activity. In no previous election had candidates, political parties, bloggers, celebrities, advocacy and other special interest groups rushed to cyberspace to try and influence the voting of its citizens.

321

Title: Dieting Craze

Presenter(s): Kendra Lund

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: The new trends in the low-carb, low calorie, and weight-loss are becoming ever more popular. Americans are changing the rules on dieting, but at what cost? Are the new methods as safe as traditional methods or are people just looking for a quick fix while ignoring the long-term damage they may be causing?

322

Title: XML Web Services Using Microsoft .NET

Presenter(s): Alexander Shmyrev

Department: CSIS

Advisor: Yuri Boreisha

Abstract: This is an age in which data is readily available but is often in different formats, so computers need to be able to share and use data from many different sources. In the simplest case, Web services enable you to exchange data from one computer to another over the Internet or an intranet. The .NET platform is one that provides significant enhancements to earlier developer platforms. .NET offers a new software-development model that allows applications created in disparate programming languages to communicate with each other. The platform also allows developers to create Web-based applications that can be distributed to a great variety of devices and to desktop computers. A key component of the .NET architecture is Web services, which are applications that expose functionality to clients via the Internet. Clients and other applications can use these Web services as reusable building blocks. The infrastructure for XML Web services is built to conform to industry standards such as SOAP, XML, and WSDL, and this allows clients from other platforms to interoperate with XML Web services. As long as a client can send standards-compliant SOAP messages, formatted according to a service description, that client can call an XML Web service created using .NET (regardless of the platform on which the client resides). In this presentation we demonstrate how to create and consume Web services using the Microsoft .NET platform.

323

Title: Designing Identities

Presenter(s): Jenna Iverson, Tiffany Nordick, Anthony Ryan

Department: Art & Design

Advisor: Allen Sheets

Abstract: We will be presenting the creative process a graphic designer goes through to design a logo for a company from the beginning brainstorming to the finalized logo.

324

Title: An Observation of Disease in scleractinian corals with Emphasis on Work Done by Dr. Bruce W. Fouke Concerning Partitioning of the Bacterial Community that Constitutes Black Band Disease

Presenter(s): Shane Butler

Department: Geoscience

Advisor: Karl Leonard

Abstract: Coral reefs provide food and shelter for countless organisms forming a unique biological community. To thrive they need clear water, warm temperatures, constant salinities and adequate light levels. Diseases that affect coral reefs also thrive in these conditions. Coral are highly susceptible to damage and subsequently affliction from these diseases if environmental conditions are altered even a slight amount. Current environmental stress is disrupting reef lifestyle leading to a number of problems, most noticeably a rise in coral disease. In a recent course, Geosciences 390: Field Geology of the Bahamas, I had the opportunity to observe first hand the condition of various coral reefs. Damage is extensive as it afflicts many different species of coral. In some coral communities it appears diseased specimens are more common than healthy ones. A number of scholars at the University of Illinois are presently studying coral reef disease. Dr. Bruce Fouke from the University of Illinois, concentrates on learning about one disease in particular; Black Band Disease (BBD). Through study of coral near the South Caribbean Island of Curacao, Dr. Fouke and his colleagues have made strides in determining how this disease operates. Microbial Partitioning experiments and RNA analysis determined how bacteria separate between the coral, the infectious disease, and the water. Results show that the make up of the BBD bacterial mat consists of a complex community of bacteria that differs greatly from the bacteria community that is present in healthy coral specimens. A number of different bacteria have been isolated, yet it is uncertain what the role of each is in the onset and advance of the disease. Dr. Fouke and his group hope future work determines bacterial pathogen mechanisms and the role of the bacterial group that cause BBD.

325

Title: Quantum Physics, Inescapable Fate, and Metafiction: Delightful Intricacies in the Literature of John Barth and Vladimir Nabokov

Presenter(s): Star Zetocha, Jens Larson, Joel Hagen

Department: English

Advisor: Sandra Pearce

Abstract: Students will present papers written in Sandra Pearce's Fall 2004 class on metafiction, focusing on John Barth and Vladimir Nabokov. Papers address topics ranging from quantum physics in Nabokov's *„Lolita_*, to metafictional devices and the futility of attempting to escape fate in John Barth's *„The End of the Road_*.

326

Title: Women Composers/Pulitzer Prize Winners

Presenter(s): April Earley

Department: Music

Advisor: Ruth Dahlke

Abstract: The Pulitzer Prize has been in existence since 1917 however; it has only been awarded to musicians since 1943. There are only 3 women who have ever received this award. Women were not even nominated for this prestigious award until 1983. In this presentation I will discuss these 3 women who have won the Pulitzer Prize for their compositions. Their compositions will also be discussed briefly. I will also share a listing of CD's available by these women.

327

Title: The Moral Gelding: Johnny Wheelwright as Invisible Man

Presenter(s): K C Hanson

Department: English

Advisor: Sheila Coghill

Abstract: In "The Moral Gelding: Johnny Wheelwright as Invisible Man," I, after establishing the predominance of invisibility as a theme in postmodern literature, establish that invisibility in literature has, since its inception, been linked to morality; that Ralph Ellison's use of invisibility in his novel, *Invisible Man*, and the ensuing linguistic use of its title in psychoanalysis, have altered that link; and that the narrator of *A Prayer for Owen Meany* more clearly exemplifies this new, black, use of invisibility than the original, still valid, moral question. The argument is largely inductive and gathers itself from divergent sources from Aristotle to Carl Sagan, Louise Erdrich to Wile E. Coyote, as well as the texts in question, and ends with an extrapolation toward the aloneness of invisibility as a unifying, instead of a dividing, factor.

328

Title: Transaction Processing & Concurrency Control in RDBMS

Presenter(s): Parish Hada

Department: Computer Science and Information Systems

Advisor: Dr. Yuri Boreisha

Abstract: A database is updated by processing transactions that result in changes to one or more database records.

Transaction is a discrete unit of work that must be completely processed or not processed at all within a computer system. Database transactions reflect real-world transactions that are triggered by events such as buying a product, registering for a course, or making a deposit in your checking account. A business transaction is a sequence of steps that constitute some well-defined business activity. For examples, a sales transaction may require updating the customer's account, adjusting the product inventory, updating the seller's accounts receivable, and so on. All parts of transaction must be successfully completed to prevent data integrity problems. Therefore, executing and managing transactions are important database system activities. Most DBMS run in a multiuser environment, with the expectation that users will be able to share the data contained in the database. When more than one transaction is being processed against a database at the same time, the transactions are considered to be concurrent. The actions that must be taken to ensure that data integrity is maintained are called concurrency control actions. In this presentation we demonstrate how transaction processing and concurrency control are supported by the MS Access RDBMS.

329

Title: Evolving Science: A hands-on lesson on evolution

Presenter(s): Shea Smith

Department: Biology

Advisor: Alison Wallace

Abstract: Participate in a standards-based science lesson on evolution designed for high school biology and earth science students.

330

Title: Exercise and Health

Presenter(s): Jocelyn Stenberg, Tiffany Meier

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: The purpose of our paper is to look at the relationship between exercise and health. Our hypothesis is that regular exercise will improve the health status of most people. We plan to look at both topics separately and then correlate them to information found on the general social survey.

334

Title: Trapped between two racial worlds: Nella Larsen's *Passing* and *Quicksand*

Presenter(s): Eric Jones, Kelly Kautzman, Natalie Smith, Amber Anderson

Department: English

Advisor: Hazel Retzlaff

Abstract: Nella Larsen a mulatta—Danish and African-American. She suffered identity questions throughout her life. Similarly, her protagonists in *Passing* and *Quicksand* suffer from the same identity crisis that comes from not fitting into either the white or black worlds. Larsen's fiction is not optimistic in these 1920's novels.

335

Title: "Irish Women Writers"

Presenter(s): Jennie Bierlein, Eric Jones, Julie Larson, Amber Langford

Department: English

Advisor: Sandy Pearce

Abstract: A group of three panelists will discuss the relevance of Irish Women's Literature, that includes fiction, poetry and drama, to American society and a feminist consciousness. My part of the discussion will focus on how several Irish female authors use the craft of writing to define and redefine the female experience through literature, thus, empowering themselves and changing the meaning of these words in the collective consciousness.

338

Title: *Through the Looking Glass: A Closer Look at Female Heroines in Disney Films*

Presenter(s): Julie Larson

Department: mass com/ women's studies

Advisor: Jody Mattern

Abstract:

339

Title: *DragonGrades - A free, online, campus grading distribution system*

Presenter(s): Andy Vig, Paul Segovia

Department: CSIS

Advisor: Rick Walker

Abstract: The *DragonGrades* application provides a convenient way for teachers to post class grades online and for students to check those grades. Students may view all class grades in a single location and teachers may post grades with a minimum effort.

340

Title: "La Belle Dame sans Merci: A Force of Nature"

Presenter(s): Sara Hacking

Department: English

Advisor: Laura Fasick

Abstract: An Explication of John Keat's "La Belle Dame sans Merci: A Ballad." The explication focusus on Keat's use of images of nature to tell the story of a beautiful femme fatale and her doomed lover. The lady is portrayed through images of wild, untamed nature and she defeats the knight by draining his strength and leaving him in the barrenness of winter.

341

Title: Racial Disproportion of Incarcerated African-Americans since 1980

Presenter(s): Kristina Berg

Department: American Multicultural Studies

Advisor: Zachary Machunda

Abstract: This presentation will outline racial disparities in arrests, convictions, and sentencing for African American offenders since 1980. Several explanations for the disproportion of incarceration rates for African Americans, with particular focus on drug-related crimes, will be examined. Finally, current research will be used to determine racial discrimination as a significant contributing factor to African American incarceration rates.

342

Title: Parent-Child Communication Program Case Study #10

Presenter(s): Crystal Lindquist, Lindsay Vogel

Department: Speech/Language/Hearing Sciences

Advisor: Louis DeMaio

Abstract: Our research project investigated one of twelve mother-child pairs from a larger study. The child was diagnosed with a language delay and was receiving therapy at the MSUM Speech and Hearing Clinic at the time of the study. In our presentation, we will address the subject information, procedures, variables, scoring methods, and results from our investigation. We will expand on the specific Parent-Child Communication Program components, provide operational definitions for the variables, and display our findings through the use of graphs. We will compare these aspects to various other studies conducted involving mother-child interactions. We will then discuss the similarities found between previous studies and our own in order to evaluate the benefit of implementing a parent training program.

343

Title: The Importance of Utilizing Medical Interpreters with Both a Scientific and Cultural Awareness of their Clients' Health

Presenter(s): Kristi Jacobson

Department: Languages & Cultures

Advisor: Cecilia Mafla-Bustamante

Abstract: Individuals who are of limited English proficiency require medical attention just as the general population does. Therefore, it is crucial that healthcare professionals acquaint themselves with the culture and language of their patients. It is also important to utilize interpreters that are not only bilingual, but who are also familiar with medical jargon and are comfortable using the terminology in conversation. This presentation will focus on comparisons of using trained professional interpreters and informal, or ad hoc, interpreters. This work will be presented entirely in Spanish.

344

Title: The Benefits of Spanish-Immersion Programs

Presenter(s): Rachel Temple

Department: Spanish

Advisor: Cecilia Mafla-Bustamante

Abstract: With a rapidly increasing Hispanic population here in the United States, the existence of the Spanish language is becoming more and more evident. Studies have proven that children under the age of thirteen have the capacity to acquire a second language at a quicker, more accurate pace. Spanish immersion programs immerse the students from day one. The entire school day is taught entirely in Spanish. Implementing this type of programs in the school systems in the United States should be mandatory to help shift our society towards a more accepting, culturally aware nation. This presentation will be in Spanish.

345

Title: The Acquisition of Another Language and the Brain

Presenter(s): Leah Kroger

Department: Languages

Advisor: Cecilia Mafla-Bustamante

Abstract: This project explores the varying theories, which attempt to explain what happens in the brain when an individual acquires a second language. Conflicting views regarding heightened intelligence in bilinguals will be presented and discussed. In addition, evidence of specific abilities of the brain and the changes that seem to occur with these abilities when a second language is acquired have been researched and will be presented. Also, research regarding social and creative abilities and the changes that seem to occur within the social and creative aspects of the lives of bilinguals will be discussed. This project will be presented completely in Spanish.

346

Title: International Adoption: Information for U.S. Parents

Presenter(s): Rachel Brause

Department: Language

Advisor: Cecilia Mafla-Bustamante

Abstract: International adoption is a rapidly increasing option for growing families. It is a long process involving different people, agencies, and governments. When considering international adoption, it is beneficial to recognize different viewpoints involving social injustice and the opportunity international adoption offers. International adoption has many rules and processes along with agency services available to anyone interested in international adoption. This presentation will be in Spanish.

347

Title: Machismo of Latin America

Presenter(s): Jill Marxer

Department: Spanish

Advisor: Cecilia Mafla-Bustamante

Abstract: This presentation "El Machismo de Latino America" attempts to explain machismo to those who otherwise may not understand it. I will explain machismo through examples of the research I have done on this topic. Some of this research includes definitions, different perspectives from many types of people, and a brief history of the idea of machismo. Machismo not only occurs in Latin America, but also in other countries, including the United States. It is important to understand machismo in Latin America, especially if a person is planning to interact with Latin Americans. Machismo is a big part of the culture and is often misunderstood by those who do not know exactly what it is. This presentation will be done entirely in Spanish.

348

Title: The Catholic Influence on Spanish Traditions and Cultural Values

Presenter(s): Kerry Plath

Department: Languages and Cultures

Advisor: Cecilia Mafla-Bustamante

Abstract: The Catholic religion greatly influenced current Spanish culture, traditions, and customs. The degree of Catholic rule in Spain varied with changes in the government, but its continued presence has altered the Spanish way of life. Current cultural morals and values, living styles, and festivals resulted from Spanish Catholicism. This presentation will demonstrate the importance of Catholic influence in the Spanish Culture. The entire work will be presented in Spanish.

349

Title: Spoken Word Recognition: The Effects of Sound and Spelling Information

Presenter(s): Lindsay Lass, Emily Hugh, Christine Malone

Department: Psychology

Advisor: Malone Christine

Abstract: Spelling, in addition to sound information, is important in spoken word recognition. A primed naming task presented word pairs whose initial syllables possessed (1) matching sounds (e.g., nuisance-noodle), (2) matching spelling (e.g., ratio-ratify), and (3) matching sounds and spelling (e.g., funnel-funny). Possible word-final relationships were (1) matching sounds (e.g., vocalist-catalyst), (2) matching spelling (e.g., radial-redial), and (3) matching sounds and spelling (e.g., palisade-crusade). Priming effects will be discussed in terms of current connectionist models of word recognition.

350

Title: Are Immersion Students Progressing at the same rate as General Education Students?

Presenter(s): Holly Saarion

Department: Spanish

Advisor: Benjamin Smith

Abstract: Students will be tested to see if they are meeting the graduation standards for each grade level. The immersion program at Ellen Hopkins Elementary will be assessed and compared to General Education classrooms around the area to see if they are meeting the grade requirements. They will be compared statistically to see if learning a second language interferes with academic progress.

351

Title: Shakespeare Debate

Presenter(s): Brett Ortler, Larissa Anderson, Lindsey Rheault, Ronald Davenport, Trevor Due, Ryan Jurgens, Keziah Keller, Jane Rogness, Andrea Hagen, Darryl Scarborough, Tess MacMaster, Miranda Roberson

Department: English

Advisor: Marie Tarsitano

Abstract: Does Shakespeare validate the status quo in his plays or subtly critique its underlying values? A postmodern approach to the plays can uncover tensions suggesting the plays rebelled against the same patriarchal and aristocratic system they seem to tolerate. Each student will use a different situation to question and explore unresolvable or contradictory themes in the Taming of the Shrew, the Merchant of Venice, A Midsummer Night's Dream, Much Ado about Nothing, and Henry IV.

352

Title: Critical Views of Marsha Norman's "Night Mother"

Presenter(s): Michael Walker

Department: New Center

Advisor: Mareen Kelly Jonason

Abstract: Review of five critics on Marsha Norman's "Night Mother".

353

Title: Federico Garcia Lorca and the Themes in "The House of Bernarda Alba"

Presenter(s): Heather Fleckenstein

Department: Spanish

Advisor: Cecilia Mafla-Bustamante

Abstract: This presentation will give a brief overview of the life of Spanish writer, Federico García Lorca and discuss the themes present in his play, The House of Bernarda Alba, including social systems, power struggles and the role of men and women in society. This presentation will be done entirely in Spanish.

354

Title: Evolution of Financial Statement from Simple to Complex: 1990 to Present

Presenter(s): Sayem Ahmed

Department: Accounting

Advisor: James Hansen

Abstract:

355

Title: Pornography and Advertising

Presenter(s): Lindsay Bergenheier

Department: Sociology

Advisor: Lee Vigilant

Abstract:

356

Title: International Sex Slavery

Presenter(s): Lindsay Bergenheier, Kate Warner, Lea Vogl, Holly Neuharth

Department: Sociology

Advisor: Lee Vigilant

Abstract:

357

Title: Reading Creative Writing

Presenter(s): Stephanie Palm, Shane Harms, Jan Hough

Department: New Center

Advisor: Mareen Kelly Jonason

Abstract:

358

Title: Starvation Amid Surplus: Third World Food Dependency

Presenter(s): Michael Carbone

Department: Political Science

Advisor: Andrew Conteh

Abstract: Sometimes domestic policies have unintended consequences in the international arena. This presentation provides a multilevel analysis of how agricultural policies in the United States and European Union are made and what effect these policies have had on agricultural producers in the Third World, as well as what obstacles to policy reform exist within the United States and European Union. Finally, this presentation provides suggestions for Third World strategies to overcome food dependence.

359

Title: Quantitative Analysis of Online Auction of Coins

Presenter(s): Adam Gierszewski

Department: Economics

Advisor: Oscar Flores

Abstract: Heritagecoins.com has provided online auctions of coins since the 1990s. A particular minted coin up for auction will receive a different realized auction price than another coin of the same type. What role does reputation play on the online auctions of coins? To answer this question, a particular coin was chosen and the realized prices of several different auctions were recorded along with the rating and who rated the company. The number of bidders and minimum price of a coin are other variables that affect the online auction of a coin. If the coin is made up of gold, how does the price of gold affect the price of a coin up for auction? A gold coin was selected and the price of gold monitored for dates coins were auctioned.

360

Title: Should We Scale Up or Scale Down?

Presenter(s):

Department: Mathematics

Advisor:

Abstract: An interesting way to solve proportions in everyday situations by using the mental strategy of scaling up or scaling down.

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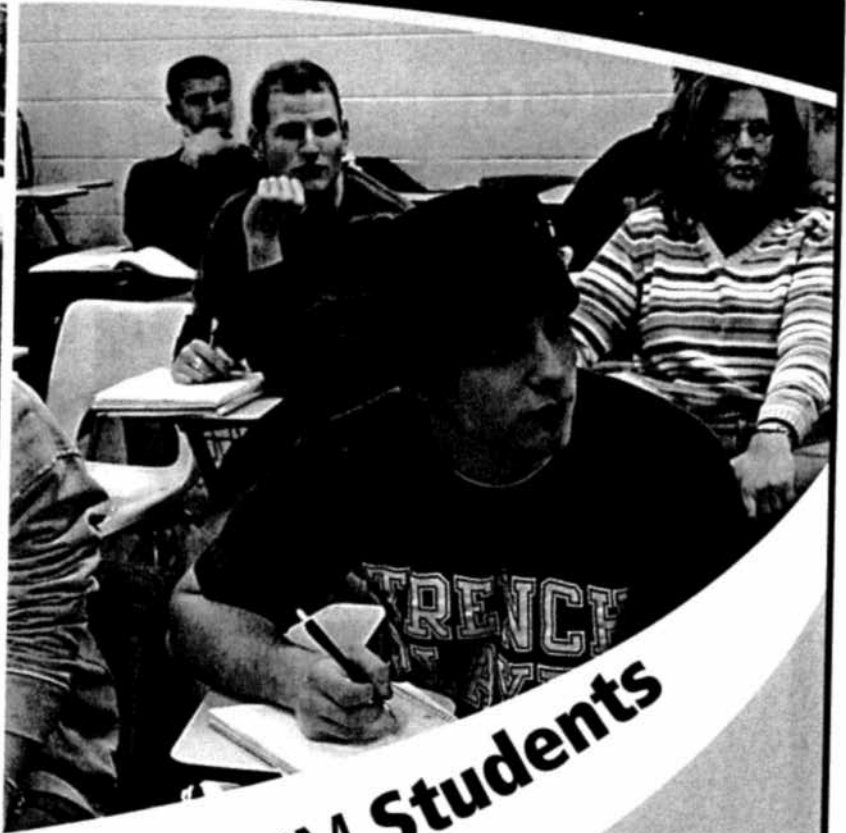
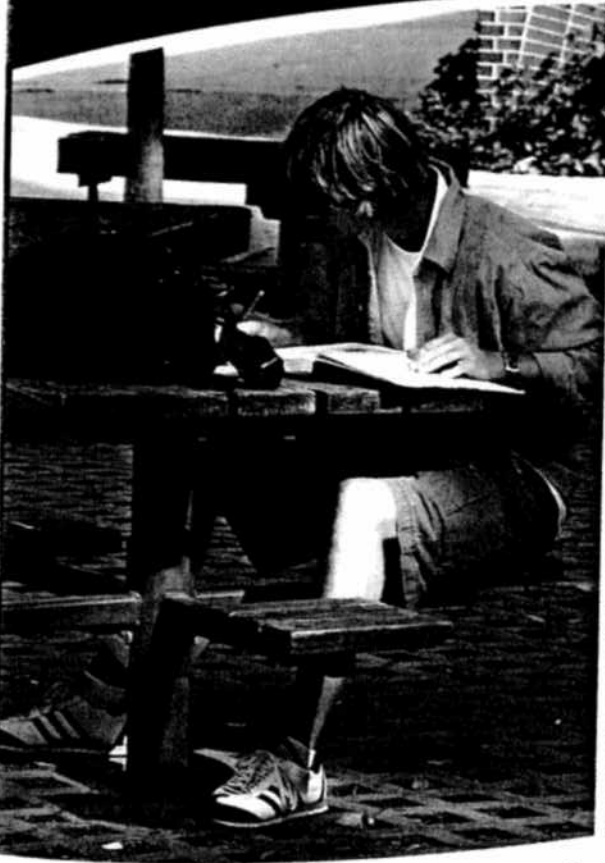
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