

9th Annual

Student Academic Conference

April 11th 2007

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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.

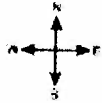
Sponsors

This conference exists because of the work of the entire university community, both in terms of financial and moral support. Supporters include the following: 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.

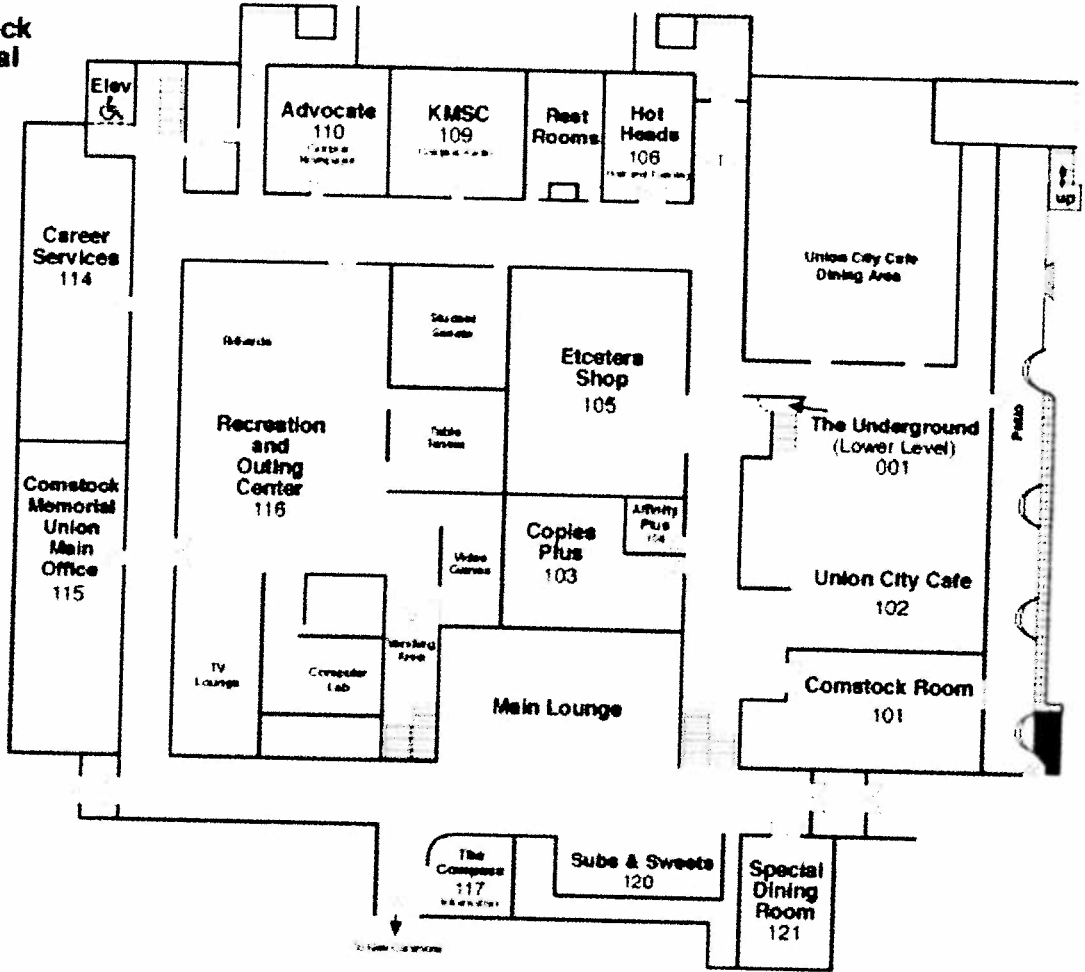
Comstock Memorial Union Map



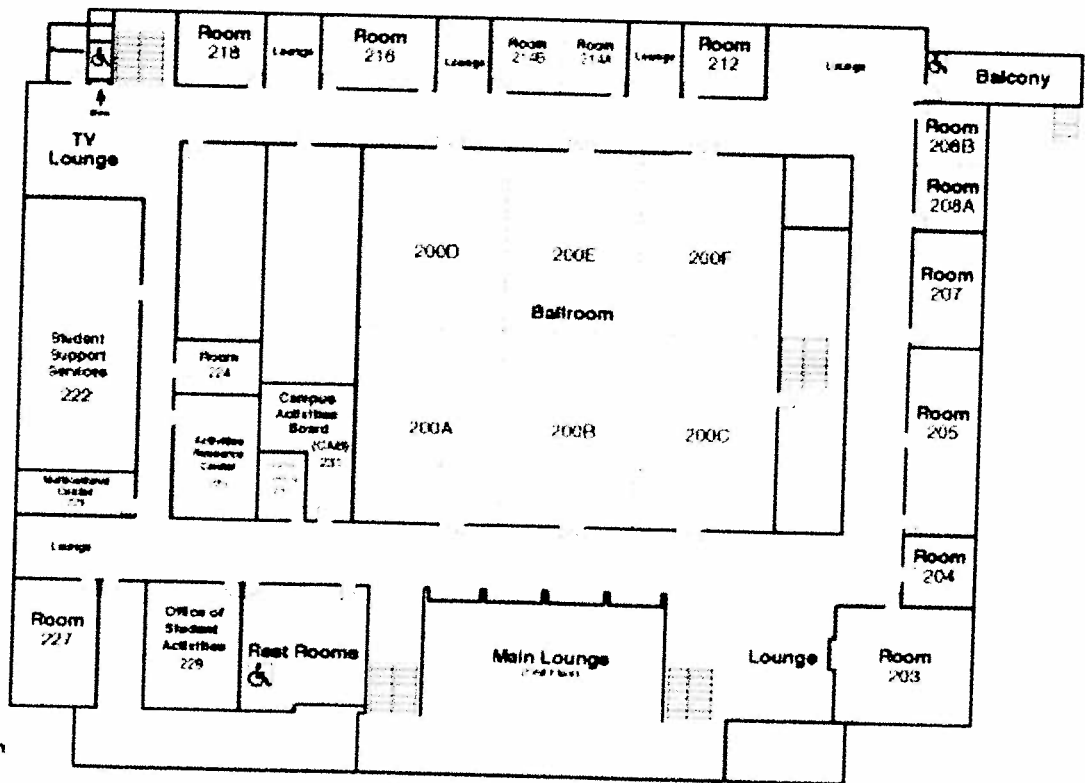
Comstock Memorial Union



First Floor



Second Floor



The Comstock Memorial Union is a smoke-free environment.

How the Conference got Started

Conference Highlights

2007	208 Presentations / 398 Presenters
2006	233 Presentations / 341 Presenters
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



THE ORIGINS OF MSUM'S STUDENT ACADEMIC CONFERENCE

By: Paul Kramer and Brian M. Card

Minnesota State University Moorhead's Student Academic Conference provides student researchers from each of its four colleges with the opportunity to present their work to faculty, administration, peers, and the general public in a formal academic setting. The Conference has grown exponentially over the past eight years to become one of MSUM's most eagerly anticipated annual events.

The Conference was conceived in 1998 through the collaborative efforts of Political Science professor, Andrew Conteh, and his then student-assistant, Ryan Sylvester, who envisioned a forum for students to present original research that would reflect the intellectual vibrancy of the MSUM community. As the format of the proposed Conference took shape, Dr. Conteh and Ryan jointly advocated its relevance to the University's top administrators who expressed both excitement and support for the concept. The enthusiastic participation of both faculty and administration has been a hallmark of the Conference since its inception and remains perhaps its most obvious source of continued success.

Traditionally, the Conference begins with a luncheon held in honor of its presenters, headlined by a keynote speaker address delivered by an MSUM alumnus. The speaker is chosen by the Conference's faculty advisory committee with the goal of identifying MSUM "success stories" representing the multiple disciplines and career orientations offered at the institution. As part of the presentation, current MSUM students are chosen as panelists who respond to the keynote speaker's address and present their own personal anecdotes regarding their individual research experiences.

Following the luncheon, students showcase their work in panel discussions, workshops, multimedia presentations, displays and demonstrations throughout the expanse of the Comstock Memorial Union. The Conference's ever-increasing popularity among students has necessitated moving some of the presentations to Livingston Library in order to accommodate all those who want to share their academic work with their community.

The conference organizers remain committed to encouraging a multi-disciplinary approach to research projects, allowing visitors and guests to explore a panoply of different efforts showing the breadth of opportunities presented in the campus environment. Most of the presentations are limited to twenty minute time periods in order to allow the conference attendees to gain a wide variety of perspectives over the course of the afternoon's events. The Conference ends with a brief reception that allows participants and attendees to relax, unwind and reflect upon a day of academic exchanges.

Without the support of many different campus organizations and financial contributors including faculty, administrators, support staff and students too numerous to mention individually, the Conference would cease to exist. The organizer's of this year's event also wish to note the expansion of support from the Fargo-Moorhead community at large as the program expands and reinvents itself over time. As soon as this year's Conference ends, planning for the next will begin, with new lessons learned and optimism that each succeeding year will bring a bigger and better experience for the MSUM community.

Letter from the Chancellor



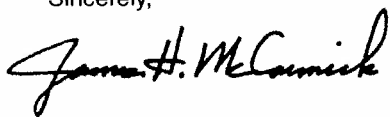
Dear Students, Colleagues, and Friends:

Congratulations on yet another fine salute to scholarship, achievement, and talent in the Minnesota State University Moorhead community. The occasion of the Minnesota State University Moorhead Student Academic Conference has become an annual celebration of the ability and skill exhibited by the university's students. I am pleased to join with President Roland Barden, the faculty, and the entire university family to recognize our students' accomplishments.

The Minnesota State Colleges and Universities system is the ideal environment for our students to bring their scholarly pursuits to life. At Moorhead, students are proof that we are on the right track with our strategic planning and actions. Because of our students, we know that the power of scholarship and creativity thrives in this university community.

President Barden, the university faculty, and the conference planning team are commended for their leadership. We are proud of your work and enormously proud of the participating students. I know your experiences with the conference have been and will continue to be rewarding. With best wishes on this Ninth Annual Student Academic Conference.

Sincerely,



James H. McCormick

Letter from the President



Greetings:

I, and the faculty, are proud of our students who pursue scholarly and creative projects. Many students become proficient student-scholars and student-artists. The Student Academic Conference showcases their works each spring; indeed, this event has become a hallmark tradition at MSUM.


Essentially all research papers, creative works, group projects, and other student presentations are created under the personal supervision of an involved faculty mentor. Mentoring is central to the teaching-learning activities at MSU Moorhead. This conference presents the student work inspired by the involvement and encouragement of our faculty-mentors.

Presenting one's work beyond the classroom and in the conference setting promotes student growth and development. Students who participate in the Student Academic Conference experience both the challenge and the pleasure of presenting to a competent and interested audience. Critique of one's intellectual products by other students, faculty, and members of the community is an essential part of academic intellectual freedom. Defending ideas in a supportive but critical community of student and faculty scholars is a wonderful opportunity for personal professional growth.

As an audience member, you will encounter intellectual curiosity and creativity. You will be presented with a wide array of new ideas, fresh approaches, and unique methods for arriving at creative solutions. I know that you will be impressed with the curiosity and rigor of our students.

Congratulations to all student participants, faculty mentors, conference planners, and supporters. You make this event a memorable experience for all of us. Thank you for your role in building Minnesota State University Moorhead's mission to foster excellence in teaching and learning.

Sincerely,



Roland Barden
President

Letter from the Vice President of Academic Affairs



Conference Presenters, Faculty Mentors, and Conference Participants:

In many ways, the annual Student Academic Conference is the best day of the academic year. Students who have worked hard with their faculty mentors and supervisors present the results of their original work to the entire University community. Conference participants are engaged and curious. Student presenters explain what they have done, what worked and what did not go as they planned. Often they indicate that they learned so much more when the unexpected happened. They also often reveal that they never thought that they would be able to do this kind of work until they became graduate students, or were well into their professional careers.

Congratulations to everyone responsible for organizing the conference, inviting the speakers, and handling the almost countless logistical components that every conference entails. To the students whom you will meet today and to the faculty members who inspired and supported the hundreds of projects displayed this afternoon – well done, very well done indeed.

Sincerely,

A handwritten signature in cursive script that reads "Bette G. Midgarden".

Bette G. Midgarden, Ph.D.
Vice President for Academic Affairs

Letter from the Vice President of Student Affairs



Welcome to this year's Student Academic Conference. A fine tradition of student participation and engagement has been established through prior years' efforts. This is a great day to reflect upon the learning that takes place on campus, both in and out of the classroom. Your participation through presentation and observation can be rewarding and insightful. I hope you make efforts to fully integrate your total student experience including involvement in student organizations, student government, residence life, athletics, employment and other areas of student life that guide you to develop a passion for active learning that lasts a lifetime. Enjoy the day!

A handwritten signature in cursive script that reads "Warren Wiese".

Warren Wiese
Vice President


Letter from the President of IFO

Greetings:

On behalf of the Faculty and Minnesota State University Moorhead, I want to welcome you all to the 2007 edition of the Student Academic Conference. A university, to justify its name, must be a community of scholars. This conference is an important opportunity for our students to participate more fully in that community and taste the excitement that comes in sharing knowledge. We congratulate them on their scholarly work being presented at this Conference.

I also want to thank my colleagues who have worked side by side with these students, encouraging and challenging them in their efforts. It is this amazing dedication to teaching and learning that characterizes our faculty and provides our students with such a rich educational environment.

The Faculty Association sends its best wishes to all the participants.



Cindy Phillips
President
MSU Moorhead
Faculty Association

Letter from the Executive Vice President of Alumni Foundation

The author Zora Neale Hurston described research as “formalized curiosity.” Furthermore, she saw it as “poking and prying with a purpose.” When I think of the excitement of my own research, I see great value in this “poking and prying” that is so necessary to keep humanity moving forward. It is this kind of excitement that I see in all of the students participating in the 9th Annual Student Academic Conference here at Minnesota State University Moorhead.

We here at MSUM are so fortunate to have this kind of conference that focuses on undergraduate research. I was fortunate enough to have a mentor who encouraged my “poking and prying” in my early academic years. This constant search for more and something different made my research in later years continuously enjoyable and facile.

Those of us in the MSUM Alumni Foundation salute the “formalized curiosity” that has led to the projects presented in this year’s Conference. Somewhere among these undergraduates might be a future scientist whose work saves lives or a scholar whose research opens new areas of knowledge for all of us. Congratulations!



Patrick D. Hundley
Executive Vice President
Minnesota State University Moorhead Alumni Foundation, Inc.

Letter from the President of the Student Senate

Welcome!

Minnesota State University Moorhead is proud to present and share with you its 9th annual Student Academic Conference. We at the university have been getting ready all year for this exciting event. We’ve set up the tables and prepared the displays; now we just need you to enjoy the conference and engage in active questioning and learning!

Last year over 300 students made presentations. Students work with their peers, as well as professors, year-round, gathering data, and drawing their conclusions. One never knows exactly what you will learn when you attend. You might learn about the inner workings of a brain or how to impose a photograph on an object other than paper.

Most importantly, the conference allows students to show off their muscles in the area of intelligence. Our campus gives students the opportunity to receive a lot of one-on-one attention from faculty and staff. Many of our professors are internationally known in their fields. This allows for a great learning environment.

What have YOU learned lately? We at the MSUM community look forward to seeing you here!

Sincerely,

Leigh Wilson-Mattson
President
MSUM Student Senate

- 7:30 A.M.** **Poster Set-ups – Registration/ Information Table** – CMU Main Lounge
- 10:30 A.M.** **Presenter Registrations – 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
- 12:05 P.M.** **Keynote Speaker** – CMU Ballroom
Anita Sue Bement, Director
White Earth Early Intervention Program
- 12:30 P.M.** **Student Panelist Respond** – CMU Ballroom
- Jayne Linstad, College of Social & Natural Sciences
 - Savannah Nelson, College of Business & Industry
 - Scott Garman, College of Education & Human Services
 - Nathan Wood, College of Arts & Humanities
- 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** – CMU hall by Dragon Shop
Refreshments sponsored by Counseling and Personal Growth Center

Conference Organizers And Steering Committee

Conference Coordinator



Dr. Andrew Conteh
Professor of Political Science

Conference Organizers

Tim Slininger

Computer Science Department



Samantha Daugherty

Mass Communications Department



Haleigh Overseth

Film Department



PROGRAM COMMITTEE

Andrew Conteh	Ashish Gupta
Richard Lahti	Harry Weisenberger
Ruth Lumb	Hazel Reztlaff
Christine Malone	Tim Slininger
Rose Bakke	Samantha Daugherty
Chizuko Shastri	Rupa Mitra
Annette Morrow	Ruth Newton
Judith Peterson	

LOGISTICS COMMITTEE

Andrew Conteh	Kristine Montis
Layne Anderson	Tim Slininger
Thomas Brandau	Samantha Daugherty
Timothy Decker	Christopher Huot
Nina Johnson	Kristine Montis

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 aconf@mnstate.edu

Keynote Speaker

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 years Keynote Speaker is:



Anita Sue Bement

**Director of White Earth Early Intervention Program
Early Childhood Special Education Teacher**

Anita Sue Bement, better known as Sue, is a Minnesota State University Moorhead Alumnus. She received an undergraduate and master's degrees in Special Education as well as licensure in learning disabilities, emotional behavior disorders, and early childhood special education.

Sue is a member of the Bureau of Indian Education Advisory Board for Exceptional Education, the White Earth Early Childhood Mental Health Advisory Board, the Council for Exceptional Children, and the MSUM Search Committee. She is also the Director of the White Earth Early Intervention Program.

Sue was a Special Education Emotional Behavior teacher at Waubun Public School in Waubun, MN from 1990-1992 and has since taught Early Childhood Special Education at Bemidji Regional Interdistrict Council in Bemidji, MN Sue has many achievements in her professional career which include the Johnson O'Malley and Title IV Appreciation Award. She is also the senior class and cheerleading advisor.

Bement's topic is "Keeping a Positive Attitude." Her keynote address discusses how to stay upbeat and optimistic in a job that is often emotionally taxing.

PAST KEYNOTE SPEAKERS

2006 – Tammy J. Miller, CPA, Business

2005 – Todd Marvin Koel, Ph.D, Biology

2004 – Thomas C. Proehl, Theatre

2003 – Dr. Tom Sawyer, Chemistry

2002 – Kimberly Maluski Sarte, Economics

2001 – Dr. Paul Spies, Education

2000 – Dr. Janet Anderson, Education

1999 – Dr. Shawn Dunkirk, Chemistry

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 the following:



Scott Garman is a student at MSUM pursuing a degree in Special Education with licensure to teach individuals who have Developmental and Cognitive Disabilities. He is currently planning on attending Graduate School at MSUM after fall semester 2007 at which time he will not only seek a Master's Degree but also further Special Education licensure areas. Scott also attended NDSU where he studied Political Science. He has spent most of his adult life working with children and adults with Developmental Disabilities as well as individuals in other at-risk populations. Most recently Scott has been working as a Case Manager for individuals with disabilities and prior to coming back to school he was employed as the Program Administrator at MCRS, a local company that provides services for individuals with disabilities. He is the treasurer for the Student Council for Exceptional Children and a member of the Dean's Student Advisory Board. Scott is looking forward to a career in education in which he is able to assist those in our society who are most in need.



Jayne Linstad will be graduating this May after five years with degrees in mathematics and physics. She is a member of Sigma Pi Sigma, a national honor society in physics, along with the Society of Industrial and Applied Mathematics. For two years she has served as Math Club president and has been an officer in Society of Physics Students. Jayne participated in the Budapest Semester in Mathematics for the spring semester in 2006. Last spring, she was named Outstanding Senior of the Year in Mathematics. She has been a math tutor for 4 years. After a two year position as a research assistant at Dakota Technologies, Inc., she has found that her interests lie in applied mathematics and hopes to continue her studies in graduate school.



Savannah Nelson is currently a senior at MSUM and originally from Beulah, ND. She is majoring in Business Management and is also a pre-optometry student. Savannah plans to apply to optometry schools for the entering class of 2008. She is passionate about serving others in Christ's love and hopes to do this in a future career. In her spare time she enjoys seeing movies, dancing, spending time with friends and family, and playing volleyball.



Nathan Wood is currently a junior double-majoring in Philosophy and English with an emphasis on creative writing and a minor in German. He is very interested in Nietzsche and the existential/phenomenological movement in philosophy and will go on to study these topics in Graduate school, in hope of earning his Ph. D in Philosophy and then becoming a Philosophy Professor. Nathan is the President of Phi Sigma Tau, the National Philosophy Honors Society, and serves as a student representative to the Student Advisory Committee and on the Accreditation board.

Juried Student Art Exhibition

The Juried Student Art Exhibition is an annual event open to all registered art majors during the spring semester at MSUM. This year's exhibition will be on display from April 9-21 in the gallery, located in the Roland Dille Center for the Arts. The juror this year is Howardena Pindell, visual artist, critic and professor at Yale and NYC Sunny in New York.

Each student was able to enter two pieces of artwork. The work was juried on April 4 and awards will be presented on Thursday April 12 at 4:45PM in the gallery. The award designations are Juror's Choice, Honorable Mentions, and Viewer's Choice. This event is free and open to the public.

Session Chairs

- CMU 101
1:00 - Session 1 Brittney Goodman
2:30 - Session 2 Ellen Brisch
- CMU 200A
2:30 - Session 2 Diane Wolter
- CMU 200B
2:30 - Session 2 Henry Chan
- CMU 200C
2:30 - Session 2 Joann Segovia
- CMU 203
1:00 - Session 1 Jean Hollaar
2:30 - Session 2 Tim Borchers
- CMU 204
1:00 - Session 1 James Hatzenbuhler
2:30 - Session 2 Barb Headrick
- CMU 205
1:00 - Session 1 Sheri Erickson
2:30 - Session 2 Lisa Stewart
- CMU 207
1:00 - Session 1 Kim Gillette
2:30 - Session 2 Edward Choate
- CMU 208
1:00 - Session 1 Bette Midgarden
2:30 - Session 2 Doug Hamilton
- CMU 214
1:00 - Session 1 Ron Jeppson
2:30 - Session 2 Joan Justesen
- CMU 216
1:00 - Session 1 Ronald Barden
2:30 - Session 2 Travis Dolence
- CMU 218
1:00 - Session 1 David Crockett
2:30 - Session 2 Warren Wiese
- CMU 227
1:00 - Session 1 Larry Schwartz
2:30 - Session 2 Karen Branden
- Underground
1:00 - Session 1 Chizuko Shastri
2:30 - Session 2 Jeanne Aske
- Library Instruction - Room 208
1:00 - Session 1 Kathleen Enz-Finken
3:00 - Session 2 Jean Sando
- CMU 200D
3:00 - Session 2 Patrick Hundley
- CMU 200E
3:00 - Session 2 Linda Fuselier
- CMU 200F
3:00 - Session 2 Kathryn Wise
- Library Instruction - Room 103
1:00 - Session 1 Veronica Michael
- Library Instruction - Room 222
1:00 - Session 1 Sandy Pearce
2:30 - Session 2 Zachary Machunda

Schedule by Room

• CMU 101

Session 1

1:00	104	New Order on the New Frontier: CCP Strategies for Self-Legitimization in Xinjiang, 1949-1957
1:20	95	Current Banking Fraud Issues From a Tellers Perspective
1:40	67	Greenpeace, My Semester of Activism
2:00	40	Synthesis and Characterization of Chemical Analogs of Nitrile Hydratase Active Site

Session 2

2:30	59	Research Presentation for the Rape and Abuse Crisis Center
2:50	71	An Examination of the Effects of a Minimum Wage Increase
3:10	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter
3:30	156	Human Papillomavirus- The Information You Need to Know to Stay Alive

• CMU 200A

2:30	126	Sleep Apnea
2:50	135	No Bones About it

• CMU 200B

2:30	224	Workers' Rights Violations in U.S. Territories
2:50	133	Plants and Animals Everywhere! Oh My!

• CMU 200C

2:30	47	U.S. Foreign Policy Regarding Human Rights: A Regrettable Past
2:50	132	Hypothermia and YOU!

• CMU 200D

3:00	134	Ice Cream: A Chilling Experience
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• CMU 200E

3:00	146	Into The Deep: Dynamic Organisms
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• CMU 200F

3:00	139	Why should I care about global warming?
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• CMU 203

Session 1

1:00	58	Utilization of ISSR-PCR for Determining Sex-Specific Markers in Marchantia
1:20	116	Admiral Yi Sunsin and the First Korean War, 1592-1598
1:40	99	What is Naturalistic? Analysis of Mothers' Communication
2:00	97	Refugee Campes and Human Rights

Session 2

2:30	215	What will happen to the Earth's orbit when the Sun dies?
2:50	145	The Nature of the Wagner-Hitler Connection
3:10	92	Woman Dramatists
3:30	256	Cross-Platform Collaborative Music Composition over the Internet

• **CMU 204**

Session 1

1:00	93	Failure to Communicate: Septimus Smith and Clarissa Dalloway as Doppelgangers in Mrs. Dalloway
1:20	186	John Marshall, Chief Justice of the United States Supreme Court
1:40	64	Genocide in Sudan
2:00	161	Health Issues of Music Performers

Session 2

2:30	254	How Low Can You Go: Adolescent Interactions in the Social World
2:50	112	Substance Abuse on our Campuses - Causes & Prevention
3:10	179	Human Rights of Disabled Persons
3:30	234	W. V. Quine- Ontological Relativity

• **CMU 205**

Session 1

1:00	251	Augustine And the Devil
1:20	86	The Impact of Commute Time on the Labor Force Participation of Women
1:40	151	A Percussion Recital: Music, Noise, or Big Loud Drums?
2:00	82	Hiroshima

Session 2

2:30	96	FASB Standard Setting Process
2:50	185	Native American Poverty and Discrimination: Abusing Human Rights
3:10	27	Debate, legalization of marijuana
3:30	2	Grand Round:Gretchen Louise Parker

• **CMU 207**

Session 1

1:00	22	MeritCare: Volunteer Opportunities
1:20	214	Taxing the Fat out of America
1:40	188	News Media and Public Influence: Perceptions, Opinions and Beliefs
2:00	60	A Right to Life

Session 2

2:30	160	Fraud in Sports Memorabilia
2:50	158	Alternative Environmental Policies Regarding Global Climate Change
3:10	110	Payroll Fraud: Ghost Employees and Diverting Wages
3:30	63	Chechnya: Terrorists or Freedom Fighters

• **CMU 208**

Session 1

1:00	115	Abrahams' Ethics: Duty vs. Care in Genesis
1:20	109	
1:40	196	Comparing the Relationship Between Dichotic Digits test Scores and APD Diagnosis
2:00	206	Sodium Hydrogen Exchanger Isoform 1 and Phospholipase D are both critical regulators of MMP9 mediated cell invasion and migration in CCL39 lung fibroblasts.

Session 2

2:30	89	Moorhead Public Library Service Learning Research Project.
2:50	167	Procurement Fraud - What is it? How can organizations prevent it in today's tech-heavy world?
3:10	117	A Spirit That Will Never Die: Hiroshima's Search for Peace
3:30	91	The cleaner choice; Wind vs. Coal in North Dakota

• **CMU 214**

Session 1

1:00	4	Robert Allen Anderson Grand Round Presentation
1:20	180	The Jazz Guitarist in Contemporary Society
1:40	69	The Evolution and Usage of the Lakota Flute
2:00	125	Feasibility Study for Williston Public Schools Requiring Children to have Professional Eye Examinations Prior to Entering School

Session 2

2:30	46	Islamic influence in Today's Spain
2:50	175	Extensible Business Reporting Language (XBRL)
3:10	208	Lysophosphatidic acid, Urokinase-type Plasminogen Activator, and Phenylephrine Stimulation of Stress Fiber Formation in Human Cancer Cells.
3:30	223	The Political Economy of Africa's Food

• CMU 216**Session 1**

1:00	138	The Dark Side of Tourism: A Look at Sex Tourism in Costa Rica
1:20	45	The Global Rise of the Female Terrorist
1:40	200	Vowel Placement and its Affect on Blend Within a Choir
2:00	249	XBRL (Extensible Business Reporting Language)

Session 2

2:30	144	Chasin' the Bird: Charlie Parker and the Roots of Bebop
2:50	183	The application of a soft agar assay for tumorigenic growth of human epithelial lung cancer cell lines in the study of colony forming capabilities
3:10	81	City Of Hiroshima
3:30	103	Ghazala Beer: Poetry Workshop
3:30	72	Health Care Directives - Who needs one, What can they accomplish, Why should I care.

• CMU 218**Session 1**

1:00	25	March of Dimes
1:20	157	Drug Prohibition
1:40	229	Title IX in Division II
2:00	202	Radioactively Determining Isoform Activation of PLD in alpha-1 adrenergic signaling in CCL39 Cells

Session 2

2:30	102	Conceptual Framework Project of FASB and IASB
3:10	166	A look into the Airline Industry
3:30	111	What is SAAC? (Student Athletic Advisory Committee)

• CMU 227**Session 1**

1:00	105	Poetry From Life: Robert Frost & William Carlos Williams
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Session 2

2:30	190	Calculating Fluorescence Lifetimes from a Periodic Excitation
2:50	106	The "Critical Period" in Second Language Learning
3:10	199	Analysis of Human Mortality
3:30	77	Hyponatremia

• LI 103**Session 1**

1:00	140	Eco-speak
2:00	237	Philosophers and Jews: Connected

• LI 208**Session 1**

1:00	162	Insurance Fraud-What it Costs You
1:20	244	Tradeoffs Between Allelopathy and Trichomes
1:40	219	Opportunity costs in drug rehabilitation
2:00	137	Sourcing Museum Collections Using Reflectance Spectrometry

Session 2

2:30	257	Occupational Fraud: How is it affecting your organization?
2:50	250	Mothers' Use of Facilitating Techniques before and after Using the Parent-Child Communication Program
3:10	83	A Genealogy of Truth
3:30	253	Investigating Degradation of mtDNA in paternal sperm mitochondria

• LI 222**Session 1**

1:00	57	Modern Literature Masters
2:00	108	The London Times, John Delane & the American Civil War

Session 2

2:30	141	Detecting genetic variation amongst Minnesota Fathead minnows using DNA Microsatellite analysis
2:50	23	The Unification of China
3:10	169	Mother's Use of Facilitating Techniques Before and After Parent-Child Communication Program Training
3:30	246	Switching from Gasoline to Ethanol: Cost Implications on Various Social Groups in the USA

• Underground**Session 1**

1:00	84	Let Roth IRA be the ticket to your prosperous future!
2:00	231	Monk's Mood

Session 2

2:30	176	The "Who" and "Why" of Coca-Cola Classic: A Research Project for the National Student Advertising Competition
2:50	182	Rising Costs of Healthcare
3:10	241	Business Combinations Proposed Standard
3:30	213	Progressive authorships of Korean film industry VS Gigantic Hollywood genre films

• Main Lounge**Session 1**

1:00	181	Gonadectomy of adult male Dark Agouti and Copenhagen rats abolishes phenotypic differences in cardiovascular regulation.
1:00	94	Oneota Ceramics at the Adams Site
1:00	101	Analysis of Sprunk Ceramics
1:00	88	The Effects of Water Flow and Alarm Cue in Relation to the Placement of Shelters
1:00	113	Phase Separation Between Perpendicular and Parallel Ferromagnetic Ordering in a Quantum Well Model of Ga _{1-x} Mn _x As.
1:00	79	Updated Survey Results of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties
1:00	76	Correlations of Artistic Quality with Personal Liking and Artistic Skill
1:00	118	Speed of Light
1:00	70	Does a Bigger Belly Equal a Bigger Tip? How Tipping Behavior Changes When a Server is Pregnant
1:00	130	A Tale of Two Cyclothem: A Comparison of Two Sections of the Iowa High Frequency Sequence Using Sequence Stratigraphy and Conodont Distribution Patterns (Upper Pennsylvanian; Iowa and Kansas)
1:00	120	Charcot-Marie-Tooth
1:00	122	An Investigation of the Induced Alternations of <i>Cucumis sativus</i> L. Seedlings Following the Abiotic Induction of Systemic Acquired Resistance
1:00	124	Sequence Stratigraphy of Marine Host Rocks With Preferential Zones of Gold Mineralization: Carlin Trend, Northeast Nevada
1:00	66	Synthesis of a Boron-Containing Thymine Derivative
1:00	128	Perceived Skill and Beauty as Predictors of Artistic Quality
1:00	42	Effects of Ultraviolet Radiation on Asexual Propagules of <i>Marchantia polymorpha</i>
1:00	74	Correlations of Complexity and Levels of Interestingness In Artistic Evaluations
1:00	221	Social Burden of Obesity
1:00	171	Investigation of the habitat preferences of three genera of Plecopterans in the Buffalo River, Minnesota
1:00	173	Comparing photosynthetic performance and biomass production between Switch Grass, a potential new biofuel, and corn, in response to high levels of fertilizer
1:00	177	Creatine Supplementation
1:00	203	Estrogen Contributes to Phenotypic Differences in Cardiac Sympathetic Tonus in Adult Female Dark Agouti and Copenhagen Rats
1:00	205	The Mentally Disabled as a Minority Group
1:00	209	Quantized Energy Levels in He-Ne Lasers

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1:00	193	Domestic Violence & The Effects It Has On Children
1:00	195	Magnetic Susceptibility at Poverty Point
1:00	198	Replication Origins in <i>Drosophila melanogaster</i>
1:00	168	Sex-specific Antipredator behavior in <i>Anax junius</i> , a migratory dragonfly
1:00	218	How does Starbucks compare to Walmart and Caribou Coffee: Economic and environmental comparison
1:00	211	Copper(II) Complexes as Oxidation Catalysts
1:00	225	The effect of simulated drought on the physiological performance of the native prairie plant, Switch Grass, and the consequences for its utilization in ethanol production
1:00	227	Oracle, a revolution in Relational Database Management Systems
1:00	230	Are Common Green Darner Dragonflies Dependent on the Geomagnetic Field for Migration?
1:00	232	Great Outdoors Construction
1:00	235	RecycleMania
1:00	238	Halo effect ! -> the effect where the good - looking appearance goes to a person evaluation!
1:00	240	Recent Progress in Poverty Reduction in Minnesota
1:00	243	Efficiency Study of Dye Sensitized Solar Cells(DSSC)
1:00	247	Diurnal trends in geomagnetic noise
1:00	252	The Photoelectric & Compton Effect
1:00	216	Differential Activation of ERK in Five Different Cancer Cell Lines
1:00	159	Examination of Account Receivable Fraud in Businesses
1:00	164	Using Relationship Vignettes as a Measure of Relationship Difficulty
1:00	147	"Pollen Yields Discovery of Novel Protein": Regulation of PPK via it's novel protein.
1:00	149	New copper(II) oxidation catalysts: Toward catalytic metal-organic frameworks
1:00	187	Aftermath of Hiroshima
1:00	154	An Electron Microprobe Examination of Surface Coatings and Internal Structures on Ceramic Fragments from the Sprunk Site
1:00	152	Does municipal Waste Water Effluent Result in the Feminization of Male Guppies?
1:00	142	Developmental and Behavioral Ontogeny of Antipredator Behavior in Cichlid Larvae
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2:30	226	Helping People with Disabilities through Art Therapy
2:30	68	Shortage of Registered Nurses
2:30	127	Biased sex ratios of larval populations of <i>Anax junius</i> in the prairie pothole region
2:30	65	Robot Programming using Hierarchical, Reactive and Hybrid Deliberative/Reactive Paradigms
2:30	148	Lithic Analysis of the Sprunk Site
2:30	233	Blue Heron Bay Development
2:30	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, Minnesota
2:30	73	Relations Between Complexity and Quality in Works of Art
2:30	75	Development of a novel method of acyloxazolidinone synthesis using Mukaiyama's reagent and dimethylaminopyridine.
2:30	222	Education and Student Life in Japan
2:30	228	Behavioral Responses of Fathead Minnows to Denatured Chemical Alarm Cues
2:30	217	Injured Minnow Cue's Effect On Predator Fish Hunting Activity
2:30	258	Ehlers Danlos
2:30	78	Annexins, Dysferlins and the characterization of Ca ²⁺ binding domains
2:30	131	Imposing a sales tax on online sales
2:30	236	Crest Point Contractors Inc. Blue Heron Bay Project Development
2:30	239	Blue Heron Bay Cluster Development
2:30	178	A Comparison of Transpiration and Growth Rates in High and Low Trichome Rapid-Cycling Wisconsin Fast Plants (<i>Brassica rapa</i>)
2:30	242	River Blindness
2:30	189	Nuclear Magnetic Resonance Pulse Programmer
2:30	245	The US-China Trade and Its Positive Impacts on the US Rural Economy
2:30	248	Bay View Developers
2:30	184	Raynaud's Phenomenon
2:30	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, Minnesota
2:30	210	Recovery and Analysis of Magnetic Nodules found in Anthropogenic Soils
2:30	170	Is Switch Grass, as a future source of ethanol, better at photosynthesis and biomass production than corn grown under conditions of low soil nutrients?
2:30	114	Analysis of the Faunal Remains at Sprunk Site (32CS4478)
2:30	172	Knowledge Management and Semantic Web

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2:30	107	Formation of Electron Deficient α , β ; oxygenated alkenes
2:30	163	The Influence of Brook Stickleback <i>Culaea Inconstans</i> on Macro Invertebrates in an Artificial Wetland
2:30	174	Re-evaluation of the Earth's Core formation
2:30	201	Development of Lesson Plans Integrating Simulations into the Classroom
2:30	155	Minnesota Academic Standards in Science Through Simulations
2:30	204	Nursing Preceptorship in Nicaragua
2:30	98	Ceramic Analysis of the Mooney Site (21NR29)
2:30	207	Cultural Resources of the Sheyenne river valley
2:30	119	The Atomic Attack On Hiroshima
2:30	212	Diet, Exercise, and Obesity in college students
2:30	194	The Oregon Death with Dignity Act
2:30	153	Do fish skin cells protect against ultraviolet radiation?
2:30	150	Which is more sensitive to the soil pollutant Aluminum (Al +3): Corn or the native prairie species switch grass?
2:30	143	An investigation into the onset of the abiotic induction of systemic acquired resistance in <i>Lycopersicon esculentum</i>
2:30	90	Smoking; it is not just your life.
2:30	192	Gonadectomy of Adult Male Rats Alters Cardiac Autonomic Regulation of Phenotypically Different Rat Species
2:30	121	Emotional Intensity and Familiarity as Factors in Artistic Judgments
2:30	165	Sickle Cell Anemia
2:30	80	The City of Hiroshima
2:30	197	The effect of time on the efficacy of chemical alarm cues in fathead minnows
2:30	123	NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway through an

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Last Name	First Name	Presentation	Title	Room	Time
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Aas	William	252	The Photoelectric & Compton Effect	Main Lounge	1:00
Abbott	Natalie	104	New Order on the New Frontier: CCP Strategies for Self-Legitimization in Xinjiang, 1949-1957	101	1:00
Abeyawardena	Lasanka	175	Extensible Business Reporting Language (XBRL)	214	2:50
Abeyawardena	Lasanka	249	XBRL (Extensible Business Reporting Language)	216	2:00
Ableidinger	Lewis	144	Chasin' the Bird: Charlie Parker and the Roots of Bebop	216	2:30
Adams	Liping	167	Procurement Fraud - What is it? How can organizations prevent it in today's tech-heavy world?	208	2:50
Ajith	Santino	64	Genocide in Sudan	204	1:40
Aldinger	Megan	102	Conceptual Framework Project of FASB and IASB	218	2:30
Alexander	Matt	139	Why should I care about global warming?	200F	3:00
Allmaras	Josh	140	Eco-speak	LI 103	1:00
Althoff	Matt	241	Business Combinations Proposed Standard	Underground	3:10
Anderson	Jake	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Arness	Eric	146	Into The Deep: Dynamic Organisms	200E	3:00
Arnold	Crystal	178	A Comparison of Transpiration and Growth Rates in High and Low Trichome Rapid-Cycling Wisconsin Fast Plants (<i>Brassica rapa</i>)	Main Lounge	2:30
Arntson	Jesse	25	March of Dimes	218	1:00
Ayubashev	Ivan	131	Imposing a sales tax on online sales	Main Lounge	2:30
Baalman	Lauren	194	The Oregon Death with Dignity Act	Main Lounge	2:30
Bach	Aaron	91	The cleaner choice; Wind vs. Coal in North Dakota	208	3:30
Bakko	Matthew	45	The Global Rise of the Female Terrorist	216	1:20
Bandara	Madnka	189	Nuclear Magnetic Resonance Pulse Programmer	Main Lounge	2:30
Barron	David	91	The cleaner choice; Wind vs. Coal in North Dakota	208	3:30
Beard	Jessica	210	Recovery and Analysis of Magnetic Nodules found in Anthropogenic Soils	Main Lounge	2:30
Becker	Josh	232	Great Outdoors Construction	Main Lounge	1:00
Bemboom	Megan	25	March of Dimes	218	1:00
Benz	Laura	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Berberich	Stephanie	176	The "Who" and "Why" of Coca-Cola Classic: A Research Project for the National Student Advertising Competition	Underground	2:30
Berg	Roxanne	105	Poetry From Life: Robert Frost & William Carlos Williams	227	1:00
Bergman	James	200	Vowel Placement and its Affect on Blend Within a Choir	216	1:40
Bernier	Lucas	151	A Percussion Recital: Music, Noise, or Big Loud Drums?	205	1:40
Bertsch	Erika	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Binstock	Char	127	Biased sex ratios of larval populations of <i>Anax junius</i> in the prairie pothole region	Main Lounge	2:30
Binstock	Char	88	The Effects of Water Flow and Alarm Cue in Relation to the Placement of Shelters	Main Lounge	1:00

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Blaha	Alissa	207	Cultural Resources of the Sheyenne river valley	Main Lounge	2:30
Bodin	Jerrie	254	How Low Can You Go: Adolescent Interactions in the Social World	204	2:30
Bonkoski	Tyson	198	Replication Origins in Drosophila melanogaster	Main Lounge	1:00
Borden-King-Jones	Christine	122	An Investigation of the Induced Alternations of Cucumis sativusL. Seedlings Following the Abiotic Induction of Systemic Acquired Resistance	Main Lounge	1:00
Bottelberghe	Heidi	169	Mother's Use of Facilitating Techniques Before and After Parent-Child Communication Program Training	LI 222	3:10
Braddock	Christopher	186	John Marshall, Chief Justice of the United States Supreme Court	204	1:20
Brandt	Alex	113	Phase Separation Between Perpendicular and Parallel Ferromagnetic Ordering in a Quantum Well Model of Ga _{1-x} Mn _x As.	Main Lounge	1:00
Brandvold	Kristoffer	75	Development of a novel method of acyloxazolidinone synthesis using Mukaiyama's reagent and dimethylaminopyridine.	Main Lounge	2:30
Braun	Katherine	163	The Influence of Brook Stickleback Culaea Inconstans on Macro Invertebrates in an Artificial Wetland	Main Lounge	2:30
Braun	Katherine	132	Hypothermia and YOU!	200C	2:50
Breen	Michaela	99	What is Naturalistic? Analysis of Mothers' Communication	203	1:40
Breker	Pat	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Brew	Derrick	239	Blue Heron Bay Cluster Development	Main Lounge	2:30
Bridley	Jesse	150	Which is more sensitive to the soil pollutant Aluminum (Al +3): Corn or the native prairie species switch grass?	Main Lounge	2:30
Brown	Alex	133	Plants and Animals Everywhere! Oh My!	200B	2:50
Buck	Ben	239	Blue Heron Bay Cluster Development	Main Lounge	2:30
Buntrock	Brietta	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Buretta	Cedric	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Burner	Tim	241	Business Combinations Proposed Standard	Underground	3:10
Bybee	Elizabeth	59	Research Presentation for Rape & Abuse Crisis Center	101	2:30
Canine	Jenny	208	Lysophosphatidic acid, Urokinase-type Plasminogen Activator, and Phenylephrine Stimulation of Stress Fiber Formation in Human Cancer Cells.	214	3:10
Carlson	Jeff	232	Great Outdoors Construction	Main Lounge	1:00
Carry	Rachel	165	Sickle Cell Anemia	Main Lounge	2:30
Carter	Sadie	155	Minnesota Academic Standards in Science Through Simulations	Main Lounge	2:30

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Last Name	First Name	Presentation	Title	Room	Time
Caspers	Mike	107	Formation of Electron Deficient α , β ; oxygenated alkenes	Main Lounge	2:30
Caswell	Shari	122	An Investigation of the Induced Alternations of Cucumis sativusL. Seedlings Following the Abiotic Induction of Systemic Acquired Resistance	Main Lounge	1:00
Chakradhar	Ashish	243	Efficiency Study of Dye Sensitized Solar Cells(DSSC)	Main Lounge	1:00
Chang	Eun Hyuk	147	"Pollen Yields Discovery of Novel Protein": Regulation of PPDK via it's novel protein.	Main Lounge	1:00
Citrowske	Amanda	22	MeritCare: Volunteer Opportunities	207	1:00
Claerbout	Nick	124	Seqence Stratigraphy of Marine Host Rocks With Preferential Zones of Gold Mineralization: Carlin Trend, Northeast Nevada	Main Lounge	1:00
Cole	Matt	91	The cleaner choice; Wind vs. Coal in North Dakota	208	3:30
Colton	Michelle	254	How Low Can You Go: Adolescent Interactions in the Social World	204	2:30
Conway	Janelle	106	The "Critical Period" in Second Language Learning	227	2:50
Cossette	Brooke	27	Debate, legalization of marijuana	205	3:10
Cota	Avery	154	An Electron Microprobe Examination of Surface Coatings and Internal tructures on Ceramic Fragments from the Sprunk Site	Main Lounge	1:00
Craft	Lindsay	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Cribb	Aaron	236	Crest Point Contractors Inc. Blue Heron Bay Project Development	Main Lounge	2:30
Crossett	Anna	196	Comparing the Relationship Between Dichotic Digits test Scores and APD Diagnosis	208	1:40
Dalager	Mike	234	W. V. Quine- Ontological Relativity	204	3:30
Danielson	Clay	57	Modern Literature Masters	LI 222	1:00
Davis	Tanya	221	Social Burden of Obesity	Main Lounge	1:00
Davison	Cory	232	Great Outdoors Construction	Main Lounge	1:00
Denker	Joe	229	Title IX in Division II	218	1:40
Devorak	Joseph	171	Investigation of the habitat preferences of three genera of Plecopterans in the Buffalo River, Minnesota	Main Lounge	1:00
Devorak	Joseph	170	Is Switch Grass, as a future source of ethanol, better at photosynthesis and biomass production than corn grown under conditions of low soil nutrients?	Main Lounge	2:30
Deyle	Elizabeth	236	Crest Point Contractors Inc. Blue Heron Bay Project Development	Main Lounge	2:30
Dimerson	Quintin	119	The Atomic Attack On Hiroshima	Main Lounge	2:30

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Dobberstein	Calyn	27	Debate, legalization of marijuana	205	3:10
Dogar	Eshret	227	Oracle, a revolution in Relational Database Management Systems	Main Lounge	1:00
Dotzenrod	Sara	4	Robert Allen Anderson Grand Round Presentation	214	1:00
Dowling	Molly	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, Minnesota	Main Lounge	2:30
Dowling	Molly	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Dulka	Jessica	4	Robert Allen Anderson Grand Round Presentation	214	1:00
Duval	Matthew	192	Gonadectomy of Adult Male Rats Alters Cardiac Autonomic Regulation of Phenotypically Different Rat Species	Main Lounge	2:30
Eastman	Meghan	195	Magnetic Susceptibility at Poverty Point	Main Lounge	1:00
Ecker	Jeremy	236	Crest Point Contractors Inc. Blue Heron Bay Project Development	Main Lounge	2:30
Elfelt	Morgan	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Elfelt	Morgan	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Enniful	Shirley-Nita	68	Shortage of Registered Nurses	Main Lounge	2:30
Erickson	Justine	81	City Of Hiroshima	216	3:10
Even	Matt	91	The cleaner choice; Wind vs. Coal in North Dakota	208	3:30
Failing	Christopher	181	Gonadectomy of adult male Dark Agouti and Copenhagen rats abolishes phenotypic differences in cardiovascular regulation.	Main Lounge	1:00
Farragut	Lauren	130	A Tale of Two Cyclothem: A Comparison of Two Sections of the Iola High Frequency Sequence Using Sequence Stratigraphy and Conodont Distribution Patterns (Upper Pennsylvanian; Iowa and Kansas)	Main Lounge	1:00
Farren	Justin	22	MeritCare: Volunteer Opportunities	207	1:00
Fenske	Allan	162	Insurance Fraud-What it Costs You	LI 208	1:00
Ferrari	Chris	127	Biased sex ratios of larval populations of <i>Anax junius</i> in the prairie pothole region	Main Lounge	2:30
Fetzer	Daniel	141	Detecting genetic variation amongst Minnesota Fathead minnows using DNA Microsatellite analysis	LI 222	2:30
Friedrich	Carla	258	Ehlers Danlos	Main Lounge	2:30
Fuentes	Evelyn	203	Estrogen Contributes to Phenotypic Differences in Cardiac Sympathetic Tonus in Adult Female Dark Agouti and Copenhagen Rats	Main Lounge	1:00

Last Name	First Name	Presentation	Title	Room	Time
Gallagher	John	118	Speed of Light	Main Lounge	1:00
Gibson	Danfee	197	The effect of time on the efficacy of chemical alarm cues in fathead minnows	Main Lounge	2:30
Giedosh	Stephen	231	Monk's Mood	Underground	2:00
Gilbraith	Jay	248	Bay View Developers	Main Lounge	2:30
Giwa	Oluwaloni	223	The Political Economy of Africa's Food	214	3:30
Godfread	Ross	219	Opportunity costs in drug rehabilitation	LI 208	1:40
Gorackowski	Amber	66	Synthesis of a Boron-Containing Thymine Derivative	Main Lounge	1:00
Greer	Matthew	246	Switching from Gasoline to Ethanol: Cost Implications on Various Social Groups in the USA	LI 222	3:30
Griffin	Riley	65	Robot Programming using Hierarchical, Reactive and Hybrid Deliberative/Reactive Paradigms	Main Lounge	2:30
Grussendorf	Kelly	141	Detecting genetic variation amongst Minnesota Fathead minnows using DNA Microsatellite analysis	LI 222	2:30
Guenther	Kelci	125	Feasibility Study for Williston Public Schools Requiring Children to have Professional Eye Examinations Prior to Entering School	214	2:00
Gulayets	Hayley	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Gustafson	Tim	215	What will happen to the Earth's orbit when the Sun dies?	203	2:30
Haak	Dan	114	Analysis of the Faunal Remains at Sprunk Site (32CS4478)	Main Lounge	2:30
Hagen	Tyler	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Halvorson	Carrie	184	Raynaud's Phenomenon	Main Lounge	2:30
Hansen	Brian	46	Islamic influence in Today's Spain	214	2:30
Hanson	Carl	160	Fraud in Sports Memorabilia	207	2:30
Hass	Mike	233	Blue Heron Bay Development	Main Lounge	2:30
Hausmann	Heather	239	Blue Heron Bay Cluster Development	Main Lounge	2:30
Haverland	Nicole	156	Human Papillomavirus- The Information You Need to Know to Stay Alive	101	3:30
Heinz	Blake	183	The application of a soft agar assay for tumorigenic growth of human epithelial lung cancer cell lines in the study of colony forming capabilities	216	2:50
Heiter	Kiley	84	Let Roth IRA be the ticket to your prosperous future!	Underground	1:00
Helgeson	Kristen	57	Modern Literature Masters	LI 222	1:00
Hellem	Scott	116	Admiral Yi Sunsin and the First Korean War, 1592-1598	203	1:20
Henke	Jadon	204	Nursing Preceptorship in Nicaragua	Main Lounge	2:30

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Last Name	First Name	Presentation	Title	Room	Time
Herath	Bodini	168	Sex-specific Antipredator behavior in Anax junius, a migratory dragonfly	Main Lounge	1:00
Heringer	Holly	99	What is Naturalistic? Analysis of Mothers' Communication	203	1:40
Hermanson	Derick	245	The US-China Trade and Its Positive Impacts on US Rural Economy	Main Lounge	2:30 the
Hersch	Ashlee	225	The effect of simulated drought on the physiological performance of the native prairie plant, Switch Grass, and the consequences for its utilization in ethanol production	Main Lounge	1:00
Hess	Matthew	236	Crest Point Contractors Inc. Blue Heron Bay Project Development	Main Lounge	2:30
Hill	Georgia	67	Greenpeace, My Semester of Activism	101	1:40
Hill	Thomas	22	MeritCare: Volunteer Opportunities	207	1:00
Hochgraber	Erika	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Hochhalter	Eric	247	Diurnal trends in geomagnetic noise	Main Lounge	1:00
Homan	Jody	156	Human Papillomavirus- The Information You Need to Know to Stay Alive	101	3:30
Hopper	Matthew	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Howell	Elizabeth	237	Philosophers and Jews: Connected	LI 103	2:00
Hubbard	Carrie	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Huiras	Andy	233	Blue Heron Bay Development	Main Lounge	2:30
Ince	Leslie	159	Examination of Account Receivable Fraud in Businesses	Main Lounge	1:00
Inomata	Shiho	199	Analysis of Human Mortality	227	3:10
Jackson	Robert	155	Minnesota Academic Standards in Science Through Simulations	Main Lounge	2:30
Jacobs	Ryan	240	Recent Progress in Poverty Reduction in Minnesota	Main Lounge	1:00
Jagol	Liz	178	A Comparison of Transpiration and Growth Rates in High and Low Trichome Rapid-Cycling Wisconsin Fast Plants (<i>Brassica rapa</i>)	Main Lounge	2:30
Janjua	Saad	118	Speed of Light	Main Lounge	1:00
Janssen	Elizabeth	84	Let Roth IRA be the ticket to your prosperous future!	Underground	1:00
Januszewski	Jason	239	Blue Heron Bay Cluster Development	Main Lounge	2:30
Janvrin	Laura	57	Modern Literature Masters	LI 222	1:00
Jensen	Cole	209	Quantized Energy Levels in He-Ne Lasers	Main Lounge	1:00
Jieun	An	213	Progressive authorships of Korean film industry VS Gigantic Hollywood genre films	Underground	3:30

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Last Name	First Name	Presentation	Title	Room	Time
Job	Jayme	137	Sourcing Museum Collections Using Reflectance Spectrometry	LI 208	2:00
Johanson	Liz	91	The cleaner choice; Wind vs. Coal in North Dakota	208	3:30
Johnson	Chuck	171	Investigation of the habitat preferences of three genera of Plecopterans in the Buffalo River, Minnesota	Main Lounge	1:00
Johnson	Brady	168	Sex-specific Antipredator behavior in Anax junius, a migratory dragonfly	Main Lounge	1:00
Johnson	Megan	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Johnson	Megan	96	FASB Standard Setting Process	205	2:30
Johnson	Megan	95	Current Banking Fraud Issues From a Tellers Perspective	101	1:20
Johnson	Chuck	153	Do fish skin cells protect against ultraviolet radiation?	Main Lounge	2:30
Johnson	Chuck	150	Which is more sensitive to the soil pollutant Aluminum (Al +3): Corn or the native prairie species switch grass?	Main Lounge	2:30
Johnson	Frank	122	An Investigation of the Induced Alternations of Cucumis sativusL. Seedlings Following the Abiotic Induction of Systemic Acquired Resistance	Main Lounge	1:00
Johnson	Ryan	232	Great Outdoors Construction	Main Lounge	1:00
Johnson	Ben	192	Gonadectomy of Adult Male Rats Alters Cardiac Autonomic Regulation of Phenotypically Different Rat Species	Main Lounge	2:30
Johnson	Ghellissa	82	Hiroshima	205	2:00
Johnson	Emily	25	March of Dimes	218	1:00
Johnson	Tom	180	The Jazz Guitarist in Contemporary Society	214	1:20
Johnston	Brianna	73	Relations Between Complexity and Quality in Works of Art	Main Lounge	2:30
Josephson	Erik	138	The Dark Side of Tourism: A Look at Sex Tourism in Costa Rica	216	1:00
Joshi	Kailash	175	Extensible Business Reporting Language (XBRL)	214	2:50
Joshi	Kailash	249	XBRL (Extensible Business Reporting Language)	216	2:00
Joung	Yeon	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Jung	Yeonsoo	213	Progressive authorships of Korean film industry VS Gigantic Hollywood genre films	Underground	3:30
Kaplan	Jeremy	243	Efficiency Study of Dye Sensitized Solar Cells(DSSC)	Main Lounge	1:00
Karst	Justin	228	Behavioral Responses of Fathead Minnows to Denatured Chemical Alarm Cues	Main Lounge	2:30
Kekic	Jana	74	Correlations of Complexity and Levels of Interestingness in Artistic Evaluations	Main Lounge	1:00

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Last Name	First Name	Presentation	Title	Room	Time
Keleher	Christa	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Keller	Terrence	177	Creatine Supplementation	Main Lounge	1:00
Kellner	Katie	241	Business Combinations Proposed Standard	Underground	3:10
Kempers	Jeannie	240	Recent Progress in Poverty Reduction in Minnesota	Main Lounge	1:00
Kendall	Kristin	169	Mother's Use of Facilitating Techniques Before and After Parent-Child Communication Program Training	LI 222	3:10
Kharel	Prajwal	175	Extensible Business Reporting Language (XBRL)	214	2:50
Khavel	Prajwal	249	XBRL (Extensible Business Reporting Language)	216	2:00
Klimek	John	96	FASB Standard Setting Process	205	2:30
Kline	Brandon	57	Modern Literature Masters	LI 222	1:00
Klipfel	Katherine	164	Using Relationship Vignettes as a Measure of Relationship Difficulty	Main Lounge	1:00
Knoll	Kristine	152	Does municipal Waste Water Effluent Result in the Feminization of Male Guppies?	Main Lounge	1:00
Knoll	Kristine	88	The Effects of Water Flow and Alarm Cue in Relation to the Placement of Shelters	Main Lounge	1:00
Knutson	Kristofer	78	Annexins, Dysferlins and the characterization of Ca ²⁺ binding domains	Main Lounge	2:30
Kopetsky	Christina	250	Mothers' Use of Facilitating Techniques before and after Using the Parent-Child Communication Program	LI 208	2:50
Kowalski	Brandon	163	The Influence of Brook Stickleback <i>Culaea Inconstans</i> on Macro Invertebrates in an Artificial Wetland	Main Lounge	2:30
Kramer	Cassie	135	No Bones About it	200A	2:50
Kramer	Margo	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Kramer	Margo	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, Minnesota	Main Lounge	2:30
Kurth-Nelson	Zach	256	Cross-Platform Collaborative Music Composition over the Internet	203	3:30
Kurtz	Tracy	211	Copper(II) Complexes as Oxidation Catalysts	Main Lounge	1:00
Kutz	Craig	216	Differential Activation of ERK in Five Different Cancer Cell Lines	Main Lounge	1:00
Kwun	Yule	238	Halo effect ! -> the effect where the good - looking appearance goes to a person evaluation!	Main Lounge	1:00
Lachowitz	Seth	242	River Blindness	Main Lounge	2:30
Ladd	Hallie	150	Which is more sensitive to the soil pollutant Aluminum p (Al +3): Corn or the native prairie species switch grass?	Main Lounge	2:30

Last Name	First Name	Presentation	Title	Room	Time
Ladd	Hallie	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Ladd	Hallie	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Laducer	Michael	59	Research Presentation for Rape & Abuse Crisis Center	101	2:30
Lang	Shawna	173	Comparing photosynthetic performance and biomass production between Switch Grass, a potential new biofuel, and corn, in response to high levels of fertilizer	Main Lounge	1:00
Langseth	Lisa	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
LaPlante	Amanda	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
LaPlante	Amanda	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Larson	Jeremy	233	Blue Heron Bay Development	Main Lounge	2:30
Larson	Anthony	154	An Electron Microprobe Examination of Surface Coatings and Internal Structures on Ceramic Fragments from the Sprunk Site	Main Lounge	1:00
Larson	Ross	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Larson	Ross	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Laub	Jason	128	Perceived Skill and Beauty as Predictors of Artistic Quality	Main Lounge	1:00
Ledezma	Abraham	101	Analysis of Sprunk Ceramics	Main Lounge	1:00
Lee	Blake	247	Diurnal trends in geomagnetic noise	Main Lounge	1:00
LeGare	Amanda	25	March of Dimes	218	1:00
Leidholm	Dwight	182	Rising Costs of Healthcare	Underground	2:50
Linstad	Jayne	190	Calculating Fluorescence Lifetimes from a Periodic Excitation	227	2:30
Lisburg	Megan	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Lisburg	Megan	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Loe	Ashley	27	Debate, legalization of marijuana	205	3:10
Loosbrock	Danielle	84	Let Roth IRA be the ticket to your prosperous future!	Underground	1:00
Lubich	Chelsea	2	Grand Round:Gretchen Louise Parker	205	3:30
Lundell	Ryan	90	Smoking; it is not just your life.	Main Lounge	2:30
Lunski	Josh	230	Are Common Green Darner Dragonflies Dependent on the Geomagnetic Field for Migration?	Main Lounge	1:00

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Maag	Adriane	203	Estrogen Contributes to Phenotypic Differences in Cardiac Sympathetic Tonus in Adult Female Dark Agouti and Copenhagen Rats	Main Lounge	1:00
Maas	Jenny	102	Conceptual Framework Project of FASB and IASB	218	2:30
Magstadt	Lisa	192	Gonadectomy of Adult Male Rats Alters Cardiac Autonomic Regulation of Phenotypically Different Rat Species	Main Lounge	2:30
Malecek	Kayla	126	Sleep Apnea	200A	2:30
Maliskowski	Ross	233	Blue Heron Bay Development	Main Lounge	2:30
Marihart	Melissa	99	What is Naturalistic? Analysis of Mothers' Communication	203	1:40
Marsh	Laura	250	Mothers' Use of Facilitating Techniques before and after Using the Parent-Child Communication Program	LI 208	2:50
Marthaller	Kyle	147	"Pollen Yields Discovery of Novel Protein": Regulation of PDK via it's novel protein.	Main Lounge	1:00
Marvin	Ashley	169	Mother's Use of Facilitating Techniques Before and After Parent- Child Communication Program Training	LI 222	3:10
Mathis	Dante	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Mattson	Leigh	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Maxwell	Kathryn	148	Lithic Analysis of the Sprunk Site	Main Lounge	2:30
Meehlhause	Kellie	93	Failure to Communicate: Septimus Smith and Clarissa Dalloway as Doppelgangers in Mrs. Dalloway	204	1:00
Meek	Charles	77	Hyponatremia	227	3:30
Meier	Lance	236	Crest Point Contractors Inc. Blue Heron Bay Project Development	Main Lounge	2:30
Mejova	Yelena	65	Robot Programming using Hierarchical, Reactive and Hybrid Deliberative/Reactive Paradigms	Main Lounge	2:30
Miller	Brant	120	Charcot-Marie-Tooth	Main Lounge	1:00
Mjolsness	Emily	90	Smoking; it is not just your life.	Main Lounge	2:30
Mohamed	Bilal	181	Gonadectomy of adult male Dark Agouti and Copenhagen rats abolishes phenotypic differences in cardiovascular regulation.	Main Lounge	1:00
Mornes	Andy	65	Robot Programming using Hierarchical, Reactive and Hybrid Deliberative/Reactive Paradigms	Main Lounge	2:30
Mumm	Matthew	209	Quantized Energy Levels in He-Ne Lasers	Main Lounge	1:00
Myklebust	Luke	124	Sequence Stratigraphy of Marine Host Rocks With Preferential Zones of Gold Mineralization: Carlin Trend, Northeast Nevada	Main Lounge	1:00

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Nagle	Kayla	152	Does municipal Waste Water Effluent Result in the Feminization of Male Guppies?	Main Lounge	1:00
Nakamura	Akiko	158	Alternative Environmental Policies Regarding Global Climate Change	207	2:50
Nesheim	Timothy	174	Re-evaluation of the Earth's Core formation	Main Lounge	2:30
Ness	Kimberly	212	Diet, Exercise, and Obesity in college students	Main Lounge	2:30
Nicholls	Paul	253	Investigating Degradation of mtDNA in paternal sperm mitochondria	LI 208	3:30
Nitschke	Melissa	164	Using Relationship Vignettes as a Measure of Relationship Difficulty	Main Lounge	1:00
Norby	Danielle	60	A Right to Life	207	2:00
Norris	Jacob	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Noyes	Kyle	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Noyes	Kyle	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Nygaard	Daniel	102	Conceptual Framework Project of FASB and IASB	218	2:30
O'Brien	Matt	115	Abrahams' Ethics: Duty vs. Care in Genesis	208	1:00
O'Brien	Kari	79	Updated Survey Results of Wild gallopavo) Turkey (<i>Meleagris</i> Distribution and Human- Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
O'Keefe	Kelsie	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Olson	Jared	147	"Pollen Yields Discovery of Novel Protein": Regulation of PPDK via it's novel protein.	Main Lounge	1:00
Olson	Robert	76	Correlations of Artistic Quality with Personal Liking and Artistic Skill	Main Lounge	1:00
Olson	Kim	164	Using Relationship Vignettes as a Measure of Relationship Difficulty	Main Lounge	1:00
Olson	Michael	71	An Examination of the Effects of a Minimum Wage Increase	101	2:50
Oni	Kemi	78	Annexins, Dysferlins and the characterization of Ca ²⁺ binding domains	Main Lounge	2:30
Opitz	Dawn	23	The Unification of China	LI 222	2:50
Ornberg	Dave	248	Bay View Developers	Main Lounge	2:30
Osborne	Sarah	205	The Mentally Disabled as a Minority Group	Main Lounge	1:00
Oster	Rebecca	57	Modern Literature Masters	LI 222	1:00

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Ota	Kiyotada	161	Health Issues of Music Performers	204	2:00
Ouren	Chelsey	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Oxenreider	Julia	92	Woman Dramatists	203	3:10
Pabody	Jon	23	The Unification of China	LI 222	2:50
Pahan	Jed	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Palm	Danny	233	Blue Heron Bay Development	Main Lounge	2:30
Palmer	Ryan	248	Bay View Developers	Main Lounge	2:30
Panel	Dr.Kukowski	72	Health Care Directives - Who needs one, What can they accomplish, Why should I care.	216	3:30
Papenfuss	Amber	173	Comparing photosynthetic performance and biomass production between Switch Grass, a potential new biofuel, and corn, in response to high levels of fertilizer	Main Lounge	1:00
Papsin	Marisa	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Park	Sunyoung	238	Halo effect I -> the effect where the good - looking appearance goes to a person evaluation!	Main Lounge	1:00
Pasquali	Iskender	187	Aftermath of Hiroshima	Main Lounge	1:00
Pederson	Melissa	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Pederson	Melissa	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Perman	Nicole	250	Mothers' Use of Facilitating Techniques before and after Using the Parent-Child Communication Program	LI 208	2:50
Peterson	Danielle	179	Human Rights of Disabled Persons	204	3:10
Pfenning	Rosie	105	Poetry From Life: Robert Frost & William Carlos Williams	227	1:00
Picka	Craig	98	Ceramic Analysis of the Mooney Site (21NR29)	Main Lounge	2:30
Pierson	Samantha	157	Drug Prohibition	218	1:20
Pladson	Bethany	59	Research Presentation for the Rape and Abuse Crisis Center	101	2:30
Planteen	Jeremy	69	The Evolution and Usage of the Lakota Flute	214	1:40
Pogge	Asha	185	Native American Poverty and Discrimination: Abusing Human Rights	205	2:50
Poulson	Kris	27	Debate, legalization of marijuana	205	3:10
Price	ShawnDee	25	March of Dimes	218	1:00
Provost	Joe	123	NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway.αthrough an	Main Lounge	2:30

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Quiggle	Anthony	222	Education and Student Life in Japan	Main Lounge	2:30
Rabel	Vanessa	97	Refugee Campes and Human Rights	203	2:00
Rajapakse	Mahesh	247	Diurnal trends in geomagnetic noise	Main Lounge	1:00
Rastedt	Danielle	202	Radioactively Determining Isoform Activation of PLD in alpha-1 adrenergic signaling in CCL39 Cells	218	2:00
Raths	Jake	84	Let Roth IRA be the ticket to your prosperous future!	Underground	1:00
Reames	Robert	123	NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway.αthrough an	Main Lounge	2:30
Remmick	Jen	58	Utilization of ISSR-PCR for Determining Sex-Specific Markers in Marchantia	203	1:00
Reoelle	Ryan	198	Replication Origins in Drosophila melanogaster	Main Lounge	1:00
Roberson	Miranda	105	Poetry From Life: Robert Frost & William Carlos Williams	227	1:00
Rugg	Matthew	197	The effect of time on the efficacy of chemical alarm cues in fathead minnows	Main Lounge	2:30
Rupert	Anne	193	Domestic Violence & The Effects It Has On Children	Main Lounge	1:00
Salas	Daniel	94	Oneota Ceramics at the Adams Site	Main Lounge	1:00
Salmen	Alishia	246	Switching from Gasoline to Ethanol: Cost Implications on Various Social Groups in the USA	LI 222	3:30
Salvejoya	Rachel	228	Behavioral Responses of Fathead Minnows to Denatured Chemical Alarm Cues	Main Lounge	2:30
Sanden	Heather	252	The Photoelectric & Compton Effect	Main Lounge	1:00
Schafer	Marissa	58	Utilization of ISSR-PCR for Determining Sex-Specific Markers in Marchantia	203	1:00
Schindler	Macy	226	Helping People with Disabilities through Art Therapy	Main Lounge	2:30
Schlosser	Emily	102	Conceptual Framework Project of FASB and IASB	218	2:30
Schock	Chris	232	Great Outdoors Construction	Main Lounge	1:00
Schrader	Jessica	103	Ghazala Beer: Poetry Workshop	216	3:30
Schultz	Dustin	256	Cross-Platform Collaborative Music Composition over the Internet	203	3:30
Schultze	Kevin	149	New copper(II) oxidation catalysts: Toward catalytic metal-organic frameworks	Main Lounge	1:00
Schulz	Luke	214	Taxing the Fat out of America	207	1:20
Schutt	Bradley	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (Chrysemys picta bellii) in Clay County, MN	Main Lounge	2:30

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Schutt	Bradley	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Schwegel	Justin	224	Workers' Rights Violations in U.S. Territories	200B	2:30
Self	Patrick	142	Developmental and Behavioral Ontogeny of Antipredator Behavior in Cichlid Larvae	Main Lounge	1:00
Sexton	Melissa	59	Research Presentation for the Rape and Abuse Crisis Center	101	2:30
Sherpa	Tenzing	175	Extensible Business Reporting Language (XBRL)	214	2:50
Sherpa	Tenzing	249	XBRL (Extensible Business Reporting Language)	216	2:00
Shjerve	Nicholas	191	The Ethnographic Field School Experience in Undergraduate Education	Main Lounge	1:00
Shmyrev	Alexander	172	Knowledge Management and Semantic Web	Main Lounge	2:30
Shoemaker	Kaye	257	Occupational Fraud: How is it affecting your organization?	LI 208	2:30
Situma	Stella	112	Substance Abuse on our Campuses - Causes & Prevention	204	2:50
Slovick	David	86	The Impact of Commute Time on the Labor Force Participation of Women	205	1:20
Smith	Jason	251	Augustine And the Devil	205	1:00
Smith	Marco	217	Injured Minnow Cue's Effect On Predator Fish Hunting Activity	Main Lounge	2:30
Smith	Jonathan	201	Development of Lesson Plans Integrating Simulations into the Classroom	Main Lounge	2:30
Smith	Jennifer	40	Synthesis and Characterization of Chemical Analogs of Nitrile Hydratase Active Site	101	2:00
Sommerfeld	Matthew	47	U.S. Foreign Policy Regarding Human Rights: A Regrettable Past	200C	2:30
Sorgert	Becca	92	Woman Dramatists	203	3:10
Spiess	Rachel	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Spiess	Rachel	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Staton	Heather	96	FASB Standard Setting Process	205	2:30
Stotesbury	Alex	239	Blue Heron Bay Cluster Development	Main Lounge	2:30
Stowman	Gerri	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Streitz	Lisa	123	NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway through an	Main Lounge	2:30
Streitz	Lonella	63	Chechnya: Terrorists or Freedom Fighters	207	3:30

Last Name	First Name	Presentation	Title	Room	Time
Streyle	Alison	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Stueness	Brandon	108	The London Times, John Delane & the American Civil War	LI 222	2:00
Stumbo	Anthony	142	Developmental and Behavioral Ontogeny of Antipredator Behavior in Cichlid Larvae	Main Lounge	1:00
Sturlaugson	Brock	196	Comparing the Relationship Between Dichotic Digits test Scores and APD Diagnosis	208	1:40
Sundberg	Kyle	121	Emotional Intensity and Familiarity as Factors in Artistic Judgments	Main Lounge	2:30
Swenson	Shawn	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Swenson	Dawn	201	Development of Lesson Plans Integrating Simulations into the Classroom	Main Lounge	2:30
Swenson	Dawn	134	Ice Cream: A Chilling Experience	200D	3:00
Swol	Kim	117	A Spirit That Will Never Die: Hiroshima's Search for Peace	208	3:10
Tammaro	Thom	105	Poetry From Life: Robert Frost & William Carlos Williams	227	1:00
Tan	Jason	216	Differential Activation of ERK in Five Different Cancer Cell Lines	Main Lounge	1:00
Taves	Jennifer	206	Sodium Hydrogen Exchanger Isoform 1 and Phospholipase D are both critical regulators of MMP9 mediated cell invasion and migration in CCL39 lung fibroblasts.	208	2:00
Tennant	Kerry	70	Does a Bigger Belly Equal a Bigger Tip? How Tipping Behavior Changes When a Server is Pregnant	Main Lounge	1:00
Thapa	Shyam	243	Efficiency Study of Dye Sensitized Solar Cells(DSSC)	Main Lounge	1:00
Thomas-Goddard	Melissa	225	The effect of simulated drought on the physiological performance of the native prairie plant, Switch Grass, and the consequences for its utilization in ethanol production	Main Lounge	1:00
Thorstad	Jason	145	The Nature of the Wagner-Hitler Connection	203	2:50
Tichy	Andrew	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
True	Nicole	42	Effects of Ultraviolet Radiation on Asexual Propagules of <i>Marchantia polymorpha</i>	Main Lounge	1:00
True	Nicole	146	Into The Deep: Dynamic Organisms	200E	3:00
Turman	Naomi	109	Poverty as an Impediment to Human Rights	208	1:20
Tweten	Cassie	188	News Media and Public Influence: Perceptions, Opinions and Beliefs	207	1:40
Violet	Colt	217	Injured Minnow Cue's Effect On Predator Fish Hunting Activity	Main Lounge	2:30

Numbers correspond with abstract listings beginning on page 38

Last Name	First Name	Presentation	Title	Room	Time
Voels	Brent	143	An investigation into the onset of the biotic induction of systemic acquired resistance in <i>Lycopersicon esculentum</i>	Main Lounge	2:30
Vu	Amy	194	The Oregon Death with Dignity Act	Main Lounge	2:30
Wald	Summer	2	Grand Round: Gretchen Louise Parker	205	3:30
Wald	Raina	164	Using Relationship Vignettes as a Measure of Relationship Difficulty	Main Lounge	1:00
Walsh	Ryan	244	Tradeoffs Between Allelopathy and Trichomes	LI 208	1:20
Walton	Lucas	166	A look into the Airline Industry	218	3:10
Wananu	Moses	123	NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway. α through an	Main Lounge	2:30
Wanzek	Stacy	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Wanzek	Stacy	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Waters	Charley	89	Moorhead Public Library Service Learning Research Project.	208	2:30
Waters	Drew	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Wavra	Jill	220	Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (<i>Chrysemys picta bellii</i>) in Clay County, MN	Main Lounge	2:30
Wavra	Jill	129	Relationship of Painted Turtle (<i>Chrysemys picta bellii</i>) Size to Differing Habitat Variables in Clay County, MN	Main Lounge	2:30
Weiss	Jonathan	218	How does Starbucks compare to Walmart and Caribou Coffee: Economic and environmental comparison	Main Lounge	1:00
Wendroth	Shannon	156	Human Papillomavirus- The Information You Need to Know to Stay Alive	101	3:30
Wicker	Evan	255	Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter	101	3:10
Williams	Naomi	80	The City of Hiroshima	Main Lounge	2:30
Witt	Catherine	171	Investigation of the habitat preferences of three genera of Plecopterans in the Buffalo River, Minnesota	Main Lounge	1:00
Witt	Catherine	170	Is Switch Grass, as a future source of ethanol, better at photosynthesis and biomass production than corn grown under conditions of low soil nutrients?	Main Lounge	2:30
Wolbeck	Cheri	110	Payroll Fraud: Ghost Employees and Diverting Wages	207	3:10
Wolbeck	Cheri	96	FASB Standard Setting Process	205	2:30
Wood	Nathan	83	A Genealogy of Truth	LI 208	3:10

Last Name	First Name	Presentation	Title	Room	Time
Wright	Nate	130	A Tale of Two Cyclothem: A Comparison of Two Sections of the Iola High Frequency Sequence Using Sequence Stratigraphy and Conodont Distribution Patterns (Upper Pennsylvanian; Iowa and Kansas)	Main Lounge	1:00
Zadach	Megan	79	Updated Survey Results of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zielinski	Todd	79	Updated Survey Results of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zieske	Lynne	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Zimmerman	Mary	78	Annexins, Dysferlins and the characterization of Ca ²⁺ binding domains	Main Lounge	2:30

Abstracts

2

Title: Grand Round: Gretchen Louise Parker
Presenter(s): Chelsea Lubich, Summer Wald
Department: Education
Advisor: Brian Smith

Abstract: In Ed 294 a grand round presentation was a required final project. It involved creating a profile of a person and analyzing them using different psychological theories. For our grand round, we choose to profile Gretchen Louise Parker. She is the 3rd grade sister of a rape victim. Our grand round details the behavior change in Gretchen following the rape.

4

Title: Robert Allen Anderson Grand Round Presentation
Presenter(s): Jessica Dulka, Sara Dotzenrod
Department: Education
Advisor: Brian Smith

Abstract: For Ed 294 Educational Psychology, we were required to complete a grand round presentation on a fictitious student. We were to observe their behavior and apply it to specific theories. These theories included learning theory, human development theory, and motivation theory. My partner, Sara and I chose Robert Allen Anderson for our student to observe and applied his behavior to the required fields within the theories.

22

Title: MeritCare: Volunteer Opportunities
Presenter(s): Amanda Citrowske, Thomas Hill, Justin Farren
Department: Chemistry
Advisor: Jason Anderson

Abstract: "MeritCare Volunteer Services is an aspect of the hospital system that is often overlooked; this service places volunteer in over 60 sites throughout the hospital. These include greeters at the doors, people to sit and keep a patient and their family company during their stay, and many more; one thing they do not do is sit in a room stuffing envelopes. Knowing that they service so many areas of the hospital it is frustrating to realize that they have an incredible shortage of volunteers, especially college-age volunteers. Our mission this past semester was to collect data, through interviewing and surveying, to find out exactly why it is that they experience such shortages. Our data then went on to MeritCare for them to use in their future recruitment endeavors."

23

Title: The Unification of China
Presenter(s): Jon Pabody, Dawn Opitz
Department: History
Advisor: Henry Chan

Abstract: China's history is rich with mystery and intrigue, but no other moment in this treasure trove of incredible events is more intriguing than the moment of China's unification. Join us as we take a look back in time and examine a few of the accomplishments of this powerful leader, and the events surrounding the unification of this great nation — SHI HUANGDI – First Emperor of China.

25

Title: March of Dimes
Presenter(s): Emily Johnson, Jesse Arntson, Megan Bemboom, Amanda LeGare, ShawnDee Price
Department: Chemistry
Advisor: Jason Anderson

Abstract: Throughout the fall semester at MSUM, our group from Jason Anderson's Persuasion course worked with the March of Dimes. Our main goal was to create an awareness of the March of Dimes. We also wanted to increase student motivation to volunteer. Using persuasion techniques used from class, we conducted a campaign and targeting MSUM students. Our presentation will consist of the major findings from our study as well as some general information about the March of Dimes and how to get involved.

27

Title: Debate, legalization of marijuana
Presenter(s): Calyn Dobberstein, Brooke Cossette, Ashley Loe, Kris Poulson
Department: Corrick Center
Advisor: Jarilyn Gess
Abstract: Debate on the pros and cons of legalizing marijuana. What are other considerations that should be taken with legalizing marijuana.

40

Title: Synthesis and Characterization of Chemical Analogs of Nitrile Hydratase Active Site
Presenter(s): Jennifer Smith
Department: Chemistry
Advisor: Jeffrey Bodwin
Abstract: The goal of this research is to construct a chemical analog of Nitrile Hydratase (NHase) to be used in the industrial production of amides, specifically acrylamide and nicotinamide as well as the bioremediation of nitriles in water sources. NHase is an enzyme which catalyzes the conversion of nitriles to their corresponding amides. It is a vital component to the nitrogen metabolism of common soil bacteria. NHase is a heterodimer consisting of α and β subunits which form a hexacoordinated ligand around a novel metal center. There are two types of metal centers found in different bacterial species. The non-heme iron (III) center hydrates aromatic nitriles; whereas, the non-corrin cobalt (III) center hydrates small aliphatic nitriles. Current research is focused on the coordination of metal centers to a hexacoordinated ligand consisting of pyridine, amide nitrogen and thiol sulfur donors. The ligand has been synthesized and efforts are directed toward coordination of a cobalt (III) center as in the native enzyme. A characteristic absorbance at 425 nm has confirmed the formation of the complex and attempts are being made to crystallize and further characterize the complex before testing its catalytic competency.

Last Name	First Name	Presentation	Title	Room	Time
Wright	Nate	130	A Tale of Two Cyclothem: A Comparison of Two Sections of the Iola High Frequency Sequence Using Sequence Stratigraphy and Conodont Distribution Patterns (Upper Pennsylvanian; Iowa and Kansas)	Main Lounge	1:00
Zadach	Megan	79	Updated Survey Results of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zielinski	Todd	79	Updated Survey Results of Wild Turkey (<i>Meleagris gallopavo</i>) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zieske	Lynne	111	What is SAAC? (Student Athletic Advisory Committee)	218	3:30
Zimmerman	Mary	78	Annexins, Dysferlins and the characterization of Ca ²⁺ binding domains	Main Lounge	2:30

42

Title: Effects of Ultraviolet Radiation on Asexual Propagules of *Marchantia polymorpha*

Presenter(s): Nicole True, Rachel Aanenson

Department: Biosciences

Advisor: Linda Fuselier

Abstract: The depletion of the ozone layer and other types of habitat loss have contributed to an increase in ultraviolet (UV) radiation reaching historically sheltered habitats. Increased UV exposure can be directly harmful to terrestrial plants and may also have far-reaching effects in plant populations. Liverworts, considered the earliest land plants, may harbor insights into how plants react to increased UV radiation and the impacts of these effects on clonal plant propagation. We exposed gemmae of *Marchantia polymorpha* to enhanced ultraviolet radiation in a controlled experiment.

45

Title: The Global Rise of the Female Terrorist

Presenter(s): Matthew Bakko

Department: Political Science

Advisor: Andrew Conteh

Abstract: In an era of persistent attention to the daily actions of terrorists, the acts of female terrorists garner special consideration. The current assumption that women have had little to no historical dealings in terrorist activities until recently is wholly inaccurate. In order to understand the cause behind the recent increase in the number of female terrorist attacks, it is necessary to look into historical moments when women have taken the helm of terrorist activities and couple this analysis with theories on the motivations of female terrorists of both past and present. This analysis will primarily use a feminist empowerment approach with a focus on the root social problems that correlate to women becoming terrorists. The analysis will conclude with a discussion on policy implications of the findings.

46

Title: Islamic influence in Today's Spain

Presenter(s): Brian Hansen

Department: Language and Cultures

Advisor: Benjamin Smith

Abstract: I intend to show that even though the Muslims have not ruled Spain for over 800 years and Roman Catholicism is by far the dominant religion in Spain, there remains a Muslim influence in both the culture and language of Spain. Everywhere one looks in Spain there are little hints of the Islamic culture whether it be in architecture, food or even as the people talk in daily speech even though most people don't realize it.

47

Title: U.S. Foreign Policy Regarding Human Rights: A

Presenter(s): Regrettable Past, Matthew Sommerfeld

Department: Political Science

Advisor: Andrew Conteh

Abstract: The International Community has failed to live up to the obligations of the Universal Declaration of Human Rights, written in 1948. As the prominent world leader, the U.S. has failed millions of innocent victims who have been brutally slaughtered in the past 60 years. Furthermore, on more than one occasion, the U.S. has facilitated the abuse of human rights during the Cold War as a result of its anti-communist mentality. It is my contention that the U.S. bases military

intervention not on humanitarian causes, but for reasons based on self-interest. In particular, U.S. intervention will be examined in Chile, the Philippines, Rwanda, and the present situation in Iraq.

57

Title: Modern Literature Masters

Presenter(s): Laura Janvrin, Brandon Kline, Clay Danielson, Rebecca Oster, Kristen Helgeson

Department: English

Advisor: Sandy Pearce

Abstract: Five separate essays on two modern literature masters, William Faulkner and James Joyce.

58

Title: Utilization of ISSR-PCR for Determining Sex-Specific Markers in *Marchantia*

Presenter(s): Marissa Schafer, Jen Remmick

Department: Biology

Advisor: Michelle Malott

Abstract: *Marchantia polymorpha* and *inflexa* are geographically differentiated species of dioecious, thallose liverworts that typically reside in clustered populations along river banks. *Marchantia polymorpha* a local species (Buffalo River, Felton Creek), and *Marchantia inflexa* is a species found in many other parts of the U.S. (Kentucky.) The sexual integrity of this plant is only identifiable if it is 'sex-expressing', or producing male or female sex structures. Because sex-expression is somewhat sporadic, sex characterization is often difficult. It would therefore be beneficial to acquire a new method of sexual identification. Inter-simple sequence repeats (ISSRs) are mono-, di-, or trinucleotide repeat patterns within a genetic sequence that are specific to areas within a gene.

These sequences can be identified and amplified through the utilization of polymerase chain reactions (ISSR-PCR.) This application can therefore be widely employed to assess genetic variation within populations of *Marchantia*. Because *Marchantia* possesses sex-specific chromosomes (and genes) it is likely that those regions also contain ISSRs that could be identified through PCR. It is in our interest to search for and distinguish these patterns and apply them to sexual determination and further assessment of genetic variation.

59

Title: Research Presentation for the Rape and Abuse Crisis Center

Presenter(s): Bethany Pladson, Michael Laducer, Melissa Sexton, Elizabeth Bybee

Department: Communication Studies

Advisor: Jason Anderson

Abstract: Our presentation combines information obtained through qualitative and quantitative research throughout the course of a semester. The goals of our research were to try to understand the awareness and knowledge base of students at Minnesota State University Moorhead regarding sexual assault. After we found out how much knowledge students had we then created and implemented a campaign to try to increase their awareness. Our presentation covers the results of our study.

60

Title: A Right to Life

Presenter(s): Danielle Norby

Department: Political Science

Advisor: Andrew Conteh

Abstract: The United States of America is considered the Land of the Free, but how can that be if the freedoms and universal human rights are being violated. In fact, they are violated by laws instilled in this society. In many important documents the words In God We Trust are printed, and in a way, this is another foundation of our country. Yet, we, as Americans, proceed to practice Capital Punishment. Use of the death penalty violates Human Rights in a number of ways; the loss of a right to life, the criminals are tried using subjective views, the crime rates do not significantly decrease, money is not saved and people of color are disproportionately executed. The United States should abolish the use of the death penalty in all states because along with violating a person's right to life, it also contradicts the foundations our very country was built on.

63

Title: Chechnya: Terrorists or Freedom Fighters

Presenter(s): Lonella Streitz

Department: Political Science

Advisor: Andrew Conteh

Abstract: What is the difference between terrorists and freedom fighters? Is there one? Categories of insurgents are described, and acceptable motives are explained in order to understand how a terrorist can be a freedom fighter. Discussion of "military terrorism" aides in this categorization. These classifications are then applied to the conflict between Chechnya and Russia. A brief history of the conflict is broached, then expanded upon to show how terrorism came to be used - by both sides and what impact that has on justice. It ends with a brief analysis of American and Russian policies regarding Chechnya and finally, what must happen to resolve the conflict.

64

Title: Genocide in Sudan

Presenter(s): Santino Ajith

Department: Political Science

Advisor: Andrew Conteh

Abstract: Sudan has been engaged in a series of civil wars with itself since attaining its independence from the British in January 1, 1956 and within these civil wars, genocide might have taken place in my own opinion. The fights have always been between the controlling Islamic regimes in Khartoum, North Sudan and the South Sudan which is the land occupied by the African black people who are predominantly Christians and Animists. According to the UN convention on the crime of genocide, "genocide is defined as killing members of the group; causing serious bodily or mutual harm to the members of the group, deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part." This definition fits the situation in Sudan.

65

Title: Robot Programming using Hierarchical, Reactive and Hybrid Deliberative/Reactive Paradigms

Presenter(s): Yelena Mejova, Riley Griffin, Andy Mornes

Department: Computer Science

Advisor: Rick Walker

Abstract: In our presentation, we describe the three architectural paradigms in robotics: Hierarchical, Reactive and Hybrid Deliberative/Reactive. We discuss the process of

programming for robots and the peculiarities of working with the hardware. Finally we illustrate the paradigms using robots built using Lego's NXT Mindstorm Kits and programmed using RobotC.

66

Title: Synthesis of a Boron-Containing Thymine Derivative

Presenter(s): Amber Goraczowski

Department: Chemistry

Advisor: Gary Edverson

Abstract: A thymine derivative containing boron has the potential to be a very powerful tool in cancer therapy. The purpose of this research is to discover methods of synthesizing such a derivative. The attempted synthesis of the semicarbazide adduct of cyanohydromethylborate through the reaction of lithium cyanodihydromethylborate and semicarbazide hydrochloride will be reported. Various spectroscopic methods such as ¹¹B NMR, ¹H NMR, and IR will be used to support the results.

67

Title: Greenpeace, My Semester of Activism

Presenter(s): Georgia Hill

Department: Anthropology

Advisor: Paul Saudo

Abstract: From September to December 2006 I lived in Washington D.C. to be part of Greenpeace Organizing Term. Twenty students from across the country were chosen to be trained in grassroots organizing, media relations, non-violent direct action and campaign planning. I took part in three major actions in Amsterdam, Florida and New York covering Global Warming, Toxic Technology and Ancient Forest Destruction.

68

Title: Shortage of Registered Nurses

Presenter(s): Shirley-Nita Enniful

Department: Health Services Administration

Advisor: Barry Halm

Abstract: Historically, nursing shortage has most often been associated with nurses' dissatisfaction dramatized by low salaries and poor working conditions-organizational factors. Shortage of nurses can also be attributed to environmental factors such as limited availability of nursing faculty, educational facilities and difficulty entering nursing programs due to limited enrollment standards. The purpose of this presentation is to shed light on the factors/causes resulting in nursing shortage. The presentation will also address solutions as well as its impact upon society.

69

Title: The Evolution and Usage of the Lakota Flute

Presenter(s): Jeremy Planteen

Department: Anthropology

Advisor: Erik Gooding

Abstract: For the Lakota, the end blown flute was an integral part of the courting process, and as such, an important part of Lakota history and culture. This paper examines the importance of the flute in traditional society and the issues with transcription methods used by anthropologists to study and record flute music, as well as its place in contemporary culture.

70

Title: Does a Bigger Belly Equal a Bigger Tip? How Tipping Behavior Changes When a Server is Pregnant

Presenter(s): Kerry Tennant

Department: Psychology

Advisor: Rochelle Bergstrom

Abstract: Numerous research studies have been done to investigate tipping and types of behaviors servers perform that affect the size of tips received. However, tipping behavior towards pregnant servers has not been investigated. The current study hypothesized that pregnant servers would receive significantly higher tips than non-pregnant servers. College-aged women read a scenario and viewed a picture of their server. Based on this, they completed a survey assessing the size of the tip they would leave. The hypothesis was not confirmed; pregnant servers do not receive significantly higher tips than non-pregnant servers. However, tipping research was expanded to an area not investigated to date, and a foundation was laid for the previously lacking research into helping behavior towards pregnant women.

71

Title: An Examination of the Effects of a Minimum Wage Increase

Presenter(s): Michael Olson

Department: Economics

Advisor: Oscar Flores

Abstract: This presentation will be an examination of the effects of an increase in the minimum wage. Topics discussed will be a brief history of the minimum wage, the theory behind an increase in the minimum wage, and the reality of an increase in the minimum wage. With this presentation I hope to gain insight into the true effects of the minimum wage and with that insight provide listeners with the not so obvious truth that an increase in the minimum wage may be overrated (for both supporters and opposers).

72

Title: Health Care Directives - Who needs one, What can they accomplish, Why should I care.

Presenter(s): Dr.Kukowski Panel

Department: Paralegal

Advisor: Deborah Kukowski

Abstract: Health Care Directives – Who needs one, What can they accomplish, Why should I care. I'm not old. I'm not sick. Why would I want a health care directive? This question and more will be answered by a panel of students from MSUM's Elder Law course. As part of a service learning project, the class prepares and presents a seminar to area senior citizens on the topic of Minnesota Health Care Directives. The class then offers, free of charge, to work with the senior to draft and finalize a Health Care Directive. Here's your chance to learn about the law governing Health Care Directives and how you can draft your own document. For the first time, the seminar presentation will be offered at the Student Academic Conference on April 11, 2007. The seminar for area seniors will be April 12, 2007 at the Hjemkomst Center.

73

Title: Relations Between Complexity and Quality in Works of Art

Presenter(s): Brianna Johnston

Department: Psychology

Advisor: Willie Hallford

Abstract: There has been little empirical research exploring how people evaluate artistic work. In the current study artistic quality was analyzed in terms of complexity of the artistic pieces. This is part of a larger project in which 53 participants rated 16 pictures on 11 different dimensions. Correlation and regression analysis was used to determine the effects of complexity on artistic quality ratings.

74

Title: Correlations of Complexity and Levels of Interestingness in Artistic Evaluations

Presenter(s): Jana Kekic

Department: Psychology

Advisor: Willie Hallford

Abstract: Participants (N = 53) judged eight photographs and eight paintings on 11 dimensions as part of a study examining art perception. Some questions pertained to complexity of the artistic piece and also how interesting the participant found it to be. A correlation and regression will be run to determine a relationship between these two variables.

75

Title: Development of a novel method of acyloxazolidinone synthesis using Mukaiyama's reagent and dimethylaminopyridine.

Presenter(s): Kristoffer Brandvold

Department: Chemistry

Advisor: Craig Jasperse

Abstract: Acyloxazolidinones are a common and valuable family within the world of synthetic organic chemistry. The two double-bonded oxygens are excellent candidates for metal cation ligation. Current methods of acyloxazolidinone synthesis involve a reaction between 2- oxazolidinone and an acid chloride. These sorts of reactions face some problems. Acid chlorides are water and air sensitive and additional steps are often required for acid chloride formation (usually from carboxylic acids). These reactions are also usually carried out in excessive amounts of expensive anhydrous THF (due to poor solubility of 2-oxazolidinone and its salts). A novel method of acyloxazolidinone synthesis has been found to be promising. This method employs Mukaiyama's reagent (2-chloro-1-methylpyridinium iodide) and a catalytic amount of dimethylaminopyridine. A variety of carboxylic acids have been screened, resulting in clean product formation in most cases. The scope and limitations of the method will be presented.

76

Title: Correlations of Artistic Quality with Personal Liking and Artistic Skill

Presenter(s): Robert Olson

Department: Psychology

Advisor: Willie Hallford

Abstract: The formal analysis and evaluation of art has been almost exclusively the domain of art experts, who have identified a number of technical and psychological qualities that presumably influence the "greatness" of an art work. However, there has been very little empirical research regarding these factors. In the current project, participants were asked to rate the artistic quality of art works in terms artistic

skill and personal liking, as well as several other factors. Aspects such as content (landscape versus still-life), format (photography versus painting), and style (abstract versus realism) were systematically varied. Ratings of artistic quality were correlated with ratings of artistic skill and liking, and analyzed in terms of the three aspects of the pictures.

77

Title: Hyponatremia

Presenter(s): Charles Meek

Department: Health & Physical Education

Advisor: Dawn Hammerschmidt

Abstract: What hyponatremia is and the effects on the body.

78

Title: Annexins, Dysferlins and the characterization of Ca²⁺ binding domains

Presenter(s): Kristofer Knutson, Kemi Oni, Mary Zimmerman

Department: Biosciences & Chemistry

Advisor: Anne Hinderliter

Abstract: The evidence for cholesterol "flip-flop" in the membrane has been well established through the studies of lipid vesicles, however, the mechanism for this flipping has been difficult to elucidate. The established link between cholesterol and lipid rafts has been experimentally shown, yet the relationship between annexins and cholesterol /lipid complex has not previously been investigated. The peripheral protein annexin a5 maintains a tight relationship with the plasma membrane by binding negatively charged phospholipids on the inner leaflet of the plasma membrane in physiological systems. Experimentally, we will be coating of the exterior of a liposome with annexin a5 so we can influence the arrangement of phosphatidyl serine (PS) and cause a change in the florescence of the fluorescent analog of cholesterol, dehydroergosterol (DHE) that is located in the membrane. The general scheme will be to transform the wild-type annexin a5 into competent cells. This protein will then be collected, purified and then bound to our prepared liposome's containing fluorescent cholesterol probe dehydroergosterol. The quantification of cholesterol flipping will be determined through the use of fluorescent spectroscopy and a contact florescence quencher, 2,4,6-Trinitrobenzenesulfonic acid (TNBS). When 2,4,6-Trinitrobenzenesulfonic acid encounters a fluorescent probe such as dehydroergosterol it quenches fluorescence. Thus, as dehydroergosterol alternates between the inner and outer leaflet in our experimental large unilamellar vesicles (LUVs) the fluorescence of dehydroergosterol will be quenched as it flips to the side containing 2,4,6-Trinitrobenzenesulfonic acid. If the annexin a5 is able to sequester dehydroergosterol on the outer portion of the membrane, flipping of dehydroergosterol in between leaflets will not occur and fluorescence will be maintained. To conduct this experiment we will encapsulate 2,4,6-Trinitrobenzenesulfonic acid inside our liposomes and then bind annexin to the outside of our liposomes. The data collected will be analyzed using a combination of graphing software and derived equations.

79

Title: Updated Survey Results of Wild Turkey (*Meleagris gallopavo*) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties

Presenter(s): Todd Zielinski, Megan Zadach, Kari O'Brien

Department: Biosciences

Advisor: Donna Stockrahm

Abstract: This study was initiated in 2003 with an initial objective of using mail surveys to estimate the minimum wild turkey (*Meleagris gallopavo*) population in the Red River Valley (RRV) in the Fargo (ND)/Moorhead (MN) (i.e., F/M) area. The RRV offers suitable turkey habitat in a relatively narrow corridor surrounded in the F/M area by a dense human population. In 2004, we also monitored urban human-turkey interactions. In 2005, we added a survey to assess public opinion on wild turkey management options in the event abatement measures were necessary due to problematic urban turkeys. In 2006, a follow-up survey was created to determine if changes in survey respondents' opinions occurred. A total of 537, 368, 661, and 964 turkey observations were reported in 2003, 2004, 2005, and 2006, respectively. Estimates were made as accurate as possible by eliminating reports believed to be duplicates. In 2004, 12.5% of survey respondents (respondents = 40, out of 150 mailed surveys) reported negative human-turkey interactions. In 2005, negative reports rose to 24% (respondents = 75, out of 500 mailed surveys). In 2006, negative interactions dropped to 7% (respondents = 190, out of 537 mailed surveys). Negative interactions included such things as turkeys blocking traffic routes, entering yards, eating from bird feeders/gardens, and aggressive behaviors. In 2005, public opinion surveys of management options for abatement indicated 61.3% (46 out of 75 respondents) agreed or strongly agreed with a turkey hunting season to reduce potential problems. In 2006, this value was 57% (85 out of 149 respondents).

80

Title: The City of Hiroshima

Presenter(s): Naomi Williams

Department: Languages and Cultures

Advisor: Chizuko Shastri

Abstract: A presentation of the Hiroshima museum, what is in it and some stories behind them.

81

Title: City Of Hiroshima

Presenter(s): Justine Erickson

Department: Languages and Cultures

Advisor: Chizuko Shastri

Abstract: I will be speaking about how the government came in and how they tried to fix what the war did to Hiroshima.

82

Title: Hiroshima

Presenter(s): Ghellissa Johnson

Department: Languages & Culture

Advisor: Chizuko Shastri

Abstract: My presentation is a brief overview of Japanese culture as a whole and an indebt overview of the bombing of Hiroshima by the United States. I will be presenting a powerpoint presentation about the city of Hiroshima, how the war started, why the US Bombed Japan, Japan before the war, Japan after the war, & the Peace Declaration. I will also show a few clips on the powerpoint slide as well.

83

Title: A Genealogy of Truth

Presenter(s): Nathan Wood

Department: Philosophy

Advisor: Randy Cagle

Abstract: In Nietzsche's "The Genealogy of Morals" he investigates the evolution of the concept of morality. However, he dedicates very little discussion to a parallel evolution, viz. that of the concept truth. How has truth come to represent what it does today? How did it come about in the first place? Are there any differences between the evolution of morality and truth? These questions are the focal point for this discussion and will incorporate a brief introduction to Nietzsche's own ideas about morality and truth.

84

Title: Let Roth IRA be the ticket to your prosperous future!

Presenter(s): Danielle Loosbrock, Kiley Heiter, Elizabeth Janssen, Jake Rath

Department: Math

Advisor: Geok Ng

Abstract: What do you know about Roth IRA? Learn about this important savings plan and realize that it's not too late to start investing. We will supply you with some money saving tips such as the Latte Factor. A "Latte" is not just a drink!

86

Title: The Impact of Commute Time on the Labor Force Participation of Women

Presenter(s): David Slovick

Department: Economics

Advisor: Oscar Flores

Abstract: This paper presents and tests the hypothesis that longer commute times have a negative impact on the labor force participation (LFP) of women. I directly tested this hypothesis using the recently published commute time statistic collected from 125 metropolitan statistical areas (MSA's) using the Census Bureau's 2005 Annual Community Survey (ACS). The model includes the traditional economic LFP model variables as other regressors. Results from estimating this LFP model confirm my hypothesis that suggests longer commute times will decrease the LFP of women (LFPW).

88

Title: The Effects of Water Flow and Alarm Cue in Relation to the Placement of Shelters

Presenter(s): Kristine Knoll, Char Binstock

Department: Bioscience

Advisor: Brian Wisenden

Abstract: Fish use chemical information for assessing predation risk. When a fish is eaten by a predator, damage to the skin releases an alarm substance that brings out a fright

reaction to others nearby. Different species of fish vary in their response to the alarm cue, but the most noted responses are reduction in activity and seeking shelter. A number of experiments have been conducted using alarm cue to observe reactions, but most of these have been done in aquarium environments. The behavioral responses to the alarm cue in no-flow environments (e.g. an aquarium) versus stream-like environments could be significantly different. We tested the effect of flow on alarm reactions by recording behavioral differences in zebrafish in both "flow" and "no flow" environments. We introduced either water (control) or zebrafish skin extract (alarm cue). The fish displayed significantly reduced activity in both environments after alarm cue was introduced and also sought out shelter from the danger. The fish in the no flow environment tended to hide under the shelter that was in close proximity to where the alarm cue was dispensed, whereas the fish in the flow environment preferred the shelter that was the most distant from place where alarm cue was dispensed. These findings indicate that the alarm response contains 2 parts: 1) an immediate response to reduce the risk of predation (reduction in activity, seeking refuge), and 2) sustained monitoring of the dangerous area for change in status of predation risk. In the flow environment, risk status could be assessed from chemical cues from a safe downstream location. In the no-flow environment, the fish could only access chemical information from a location relatively close to the source of the alarm cue.

89

Title: Moorhead Public Library Service Learning Research Project.

Presenter(s): Leigh Mattson, Carrie Hubbard, Jed Pahan, Pat Breker, Charley Waters, Dante Mathis, Megan Johnson

Department: Communication Studies

Advisor: Jason Anderson

Abstract: A presentation focusing on qualitative and quantitative data emphasizing message approaches. Our research involved working with middle school students from Horizon Middle School about their opinions and participation at the Moorhead Public Library.

90

Title: Smoking; it is not just your life.

Presenter(s): Emily Mjolsness, Ryan Lundell

Department: Sociology

Advisor: Susan Humphers-Ginther

Abstract: Many researchers have spent their time researching the affects of smoking and second hand smoke, yet people are still lighting up. Bills on smoking bans have been passed for no smoking in public places such as restaurants and work places, but no one has mentioned college campuses and how smoking affects the students as well as the campus environment. The purpose of my presentation is to AGAIN inform college students on the effects of smoking and how it not only affects them, but their peers as well.

91

Title: The cleaner choice; Wind vs. Coal in North Dakota

Presenter(s): Liz Johanson, Matt Cole, Matt Even, David Barron, Aaron Bach

Department: Sociology & Criminal Justice

Advisor: Lee Vigilant

Abstract: Using the sociological technique of the general treatment strategy we will present the problem of North Dakots's dependency on coal. The most rational solution to this problem would be to implement one of North Dakota's most ignored natural resources: Wind Power.

92

Title: Woman Dramatists

Presenter(s): Becca Sorgert, Julia Oxenreider

Department: English

Advisor: Hazel Retzlaff

Abstract: For our presentation we will be discussing woman dramatists and their place in American Literature. We will focus on similarities as well as specific styles and themes including women in the workplace, expression of anger because of oppression, competition, etc. Specific examples will be drawn from plays written by Valerie Solanas, Lucy Wang and more.

93

Title: Failure to Communicate: Septimus Smith and Clarissa Dalloway as Doppelgangers in Mrs. Dalloway

Presenter(s): Kellie Meehlhause

Department: English

Advisor: Katie Meiners

Abstract: Virginia Woolf once remarked in a diary entry that she saw *The Hours* (later known as *Mrs. Dalloway*) as a series of caves that connect with each other. This theme resonates the most between the title character, Clarissa Dalloway, and Septimus Smith, though they never meet face-to-face. Rather Woolf portrays both characters as doubles of each other through indirect means: how the past affects their present lives, their reaction to social situations, and the affects of the novel's conclusion on each. All of these similarities and differences ultimately illustrate that the difference between sanity and insanity is very narrow.

94

Title: Oneota Ceramics at the Adams Site

Presenter(s): Daniel Salas

Department: Anthropology & Earth Science

Advisor: George Holley

Abstract: This project will explore ceramic variability for the Oneota Period (1200-1600 A.D.) in the Upper Midwest. The ceramic collection used in the analysis draws from investigations at the Adams site, Wisconsin in the Red Wing Locality. This locality is important in understanding the emergence of Oneota ceramic styles. I will examine a sample of rim sherds representative of 252 vessels in order to determine the role of the site in Oneota culture.

95

Title: Current Banking Fraud Issues From a Tellers Perspective

Presenter(s): Megan Johnson

Department: Accounting

Advisor: James Hansen

Abstract: As counterfeit checks, bills, money orders and identity theft becomes more sophisticated, banks as well as the average citizen are becoming more and more susceptible to becoming a victim.

96

Title: FASB Standard Setting Process

Presenter(s): Megan Johnson, Cheri Wolbeck, John Klimek, Heather Staton

Department: Accounting

Advisor: Joann Segovia

Abstract: This presentation outlines the FASB standard setting process and issues surrounding the process.

97

Title: Refugee Camps and Human Rights

Presenter(s): Vanessa Rabel

Department: Political Science

Advisor: Andrew Conteh

Abstract: The world has 26 million refugees and displaced persons who are registered with the United Nations. Most people that are refugees or displaced do not ever make it to a camp. The ones that do often times run into the same human right violations that they were running from; physical abuse, sexual abuse and few resources. These abuses usually end up mainly affecting woman and children because they are the most vulnerable. I will take an in-depth look at what really happens in refugee camps today, including problems with the aid organizations as well as the hosting countries.

98

Title: Ceramic Analysis of the Mooney Site (21NR29)

Presenter(s): Craig Picka

Department: Anthropology & Earth Science

Advisor: George Holley

Abstract: The Mooney Site is a prehistoric site located along the Red River in Norman County, Minnesota. The site was originally discovered in 1980 through an archaeological survey of the Red River levees. The site was later excavated by MSUM in 1983 due to planned construction of a dike. Excavations resulted in the recovery of information pertaining to the Late Prehistoric occupation of the valley. The ceramics collected reflect diverse styles such as Northeast Plains Village, Sandy Lake, and Oneota-influenced wares. An analysis of these ceramics will help reveal the cultural character of this important period in the valley's prehistory.

99

Title: What is Naturalistic? Analysis of Mothers' Communication

Presenter(s): Michaela Breen, Melissa Marihart, Holly Heringer

Department: Speech / Language / Hearing Sciences

Advisor: Louis DeMaio

Abstract: The purpose of our study was to investigate whether the "naturalistic" or client-centered approach to therapy truly is naturalistic. We examined the techniques of the "naturalistic" (or client-centered) and "directive" (or clinician-directed) approaches to therapy to see which more closely aligns with how mothers naturally interact with their children. To do this, we observed videotapes of typical mother/child interactions that were recorded at Minnesota State University Moorhead (MSUM)'s Speech and Hearing clinic as a part of a larger study. Our data showed that mothers use both communication patterns in equal proportions. We have determined that "naturalistic" is not an appropriate term for the client-centered approach to therapy.

101

Title: Analysis of Sprunk Ceramics

Presenter(s): Abraham Ledezma

Department: Anthropology & Earth Science

Advisor: George Holley

Abstract: The Sprunk site (32CS4478) is a Late Prehistoric site located on the Maple River in Cass County, ND, which dates to 1450 A.D. The site is located on a bluff and is characterized by a circular ditch. Two MSUM Field Schools have conducted excavations at this site in 2004 and 2006. These excavations have investigated three parts of the site: the ditch, inside of the ditch where a magnetometry survey has indicated a possible structure, and outside of the ditch. This site has

been identified as having ceramics reflecting three regional traditions (Sandy Lake pottery, Northeastern Plains Village pottery and possibly some Oneota ceramics). Ceramics from the three areas of the site will be compared in order to determine if there are difference occupations at the site. I will also examine the relationships among these three ceramic traditions.

102

Title: Conceptual Framework Project of FASB and IASB
Presenter(s): Daniel Nygard, Jenny Maas, Megan Aldinger, Emily Schlosser
Department: Accounting
Advisor: Daniel Nygard

Abstract: The Conceptual Framework Project is a convergence project between the Financial Accounting Standards Board and International Accounting Standards Board. Their goal is to develop Accounting Standards that can be used worldwide to provide consistency and clarity to financial statements.

103

Title: Ghazala Beer: Poetry Workshop
Presenter(s): Jessica Schrader
Department: English
Advisor: Kevin Carollo

Abstract: This poetry workshop will begin with a brief introduction to creative writing, followed by a free-write to warm up participants joints and minds. The majority of the workshop will consist of different poetry exercises, which participant's will use to create their final poem. At the end of the workshop, participants will be asked to share their work, and give questions or comments.

104

Title: New Order on the New Frontier: CCP Strategies for Self-Legitimization in Xinjiang, 1949-1957
Presenter(s): Natalie Abbott
Department: History
Advisor: Henry Chan

Abstract: Xinjiang is an expansive, sparsely populated region located in the far northwest of China, familiar to the Western world primarily for its location along the ancient trade route now known as the Silk Road. Xinjiang in 1759 C.E. was last among the border regions to be incorporated into China, giving rise to its name, which in Mandarin Chinese literally means "new frontier" or "new boundary." One hundred and ninety years later, the newly victorious Chinese Communist Party recognized both the advantages and the challenges of establishing the legitimacy of its authority in this ethnically diverse border territory. As a result, "liberation" here took on a very different guise than that which emerged in China's core regions, where the population was and continues to be overwhelmingly Han Chinese. A flexible and conciliatory approach to governance in Xinjiang accounts for the relative success the Party enjoyed there during the PRC's first eight years.

105

Title: Poetry From Life: Robert Frost & William Carlos Williams
Presenter(s): Roxanne Berg, Rosie Pfennig, Miranda Roberson, Thom Tammaro
Department: English
Advisor: Thom Tammaro

Abstract: This project is from our American Literature capstone on Robert Frost and William Carlos Williams. We were asked

to explore the connections between a poet's life and work. We each chose a poem and researched the events surrounding its composition to discover what may have inspired the poet. We will be presenting 10 minute summaries of our findings.

106

Title: The "Critical Period" in Second Language Learning
Presenter(s): Janelle Conway
Department: Languages & Culture
Advisor: Benjamin Smith

Abstract: According to popular opinion, it is easier for children than adults to "absorb" a new language. This project discusses the plausibility of the age-dependent "critical period" in relation to second language acquisition and learning, and explains child-adult differences in second language acquisition and learning. Also discussed are non-age-related factors that play a part in language acquisition and learning. A survey conducted as part of this project reveals the attitudes and insights that bilinguals have towards learning a second language.

107

Title: Formation of Electron Deficient α , β ; oxygenated alkenes
Presenter(s): Mike Caspers
Department: Chemistry
Advisor: Craig Jasperse

Abstract: A family of alkoxyalkenes has been formed through a quick procedure. The novel alkyne can be conveniently made in good yield. The solvent used in the chlorination of proliolic acid is critical. There has been no problems with sterics or any problem preventing the type of alcohol being added to the alkyne to make the final products. E/Z ratios are high, and E/Z isomers are easily separable. For the ester analogs the E/Z ratios are mediocre and isomers are not easily separable. Products and related substrates are being investigated for their reactivity towards Grignard reagents, Diels-Alder reactions, and Panson-Kahnd cyclization reactions.

108

Title: The London Times, John Delane & the American Civil War
Presenter(s): Brandon Stueness
Department: History
Advisor: Sean Taylor

Abstract: Even before the hostilities of the Civil War began, the two American belligerents had been pressing for economic and military aid from Great Britain. However, from early on Prime Minister Palmerston and Parliament adopted a policy of "strict neutrality." Because of his close connections with the British government, the Times of London editor, John Delane, also advocated the same neutrality, but he did not exercise neutrality in practice. Using the most influential newspaper in the mid-19th century as his mouthpiece, Delane sought to sway British public sympathy in favor of the South. My research focused on how Delane used his position to inform the British public of events in America, even if those events were grossly exaggerated or false.

109

Title: Poverty as an Impediment to Human Rights
Presenter(s): Naomi Turman
Department: Political Science
Advisor: Andrew Conteh

Abstract: The gripping effects of poverty, and human rights denied to those individuals that are living in poverty. Examples of rights denied include the right to life, food and education.

110

Title: Payroll Fraud: Ghost Employees and Diverting Wages

Presenter(s): Cheri Wolbeck

Department: Accounting

Advisor: James Hansen

Abstract: Fraud is a problem for many businesses today. One type of fraud that may occur is payroll fraud. This presentation discusses various types of payroll fraud such as ghost employees and diverting wages and payroll taxes. In addition, I will talk about the symptoms and detection methods of payroll fraud.

111

Title: What is SAAC? (Student Athletic Advisory Committee)

Presenter(s): Drew Waters, Laura Benz, Hayley Gulayets, Lynne Zieske, Alison Streyle, Erika Hochgraber, Tyler Hagen, Chelsey Ouren

Department: Athletics

Advisor: Benjamin Smith

Abstract: The purpose of SAAC presenting at the student academic conference is to introduce people to SAAC, to get people involved in MSUM athletics, and show the many ways SAAC contributes to the community. We will be going over who, what, where and why SAAC is an important committee on campus.

112

Title: Substance Abuse on our Campuses - Causes & Prevention

Presenter(s): Stella Situma

Department: Biosciences

Advisor: Andrew Marry

Abstract:

113

Title: Phase Separation Between Perpendicular and Parallel Ferromagnetic Ordering in a Quantum Well Model of Ga_{1-x}Mn_xAs.

Presenter(s): Alex Brandt

Department: Physics & Astronomy

Advisor: Matthew Craig

Abstract:

Dilute-magnetic semiconductors (DMS) are promising materials for spintronic applications (electronics that take advantage of spin to carry information). Ga_{1-x}Mn_xAs is the most commonly studied DMS system. The direction of the ferromagnetic ordering in a quantum well model of Ga_{1-x}Mn_xAs with doping x is determined. The magnetic order is perpendicular to the plane for low carrier densities, $n < n_1$, and becomes parallel within the plane for higher carrier densities, $n > n_2$. However, it is not known if phase separation occurs between regions having carrier density n_1 and moments pointing perpendicular to the plane, and others having $n_2 > n_1$ and moments within the plane. Phase separation occurs in the system if the chemical potential at two different fillings is the same. In this project, the first two wave functions of the carriers in the quantum well were used to calculate the energy of the system as a function of angle and carrier density. The energy was minimized with respect to angle, and the chemical potential was calculated. A Maxwell construction indicated phase separation occurs between $n_1 = 3.1\%$ and $n_2 = 5.3\%$ for $x = 0.35$. The complete phase diagram for this system was calculated, and distinguished between the phase separated, parallel phase, and perpendicular phase regions for different amounts of dopant. Phase separation of the ferromagnetic phases in a quantum well may imply that some regions may

be magnetically ordered up to higher temperatures. This might allow the design of spintronic devices that can operate at room temperature.

114

Title: Analysis of the Faunal Remains at Sprunk Site (32CS4478)

Presenter(s): Dan Haak

Department: Anthropology & Earth Science

Advisor: Michael Michlovic

Abstract: Faunal remains from the Sprunk village are important for understanding the way people lived in the Sheyenne Maple Valley region in the late prehistoric period. Excavations in 2004 and 2006 by MSUM archaeology crews recovered a variety of large and small game food sources, including bison, waterfowl, small game, and river mussels. The range of resources reflects directly on the activity of the people who lived at this site, and on the nature of the adaptation they had developed in this region

115

Title: Abrahams' Ethics: Duty vs. Care in Genesis

Presenter(s): Matt O'Brien

Department: Philosophy & Humanities

Advisor: Randy Cagle

Abstract: Soren Kierkegaard explained that Abraham was a knight of faith while Professor Nel Noddings explains that Abraham had the ethics of a man and that the ethics of a woman would not have been those which would sacrifice her son to God. If there is a difference between the ethics of men and women in this story, what are they and what implications do they have? They may change the way we look at biblical stories.

116

Title: Admiral Yi Sunsin and the First Korean War, 1592-1598

Presenter(s): Scott Hellem

Department: History

Advisor: Henry Chan

Abstract: The purpose of this presentation is to examine the life and times of Korea's Admiral Yi Sunsin and his role in saving Korea on the sea with his navy during the First Korean War, 1592-1598. Japanese leader, Toyotomi Hideyoshi, launched a six year war to conquer Ming China through the Korean Peninsula. Admiral Yi Sunsin is considered the greatest military national hero in Korean History. With the help of his Turtle Boats and use of terrain along Korea's southern coast, Admiral Yi was able to defeat a much larger Japanese Fleet in 23 battles out of 24 he commanded. Although Admiral Yi was killed in battle in 1598, his actions prevented Toyotomi Hideyoshi from winning the war.

117

Title: A Spirit That Will Never Die: Hiroshima's Search for Peace

Presenter(s): Kim Swol

Department: History

Advisor: Henry Chan

Abstract: "Have you ever met Pika-Don?" This is what some Hibakusha (atomic bombing victims) ask each other. This presentation will explore a spirit that lives on, in a land that most Americans seem to know little about: Japan. We will learn about Hiroshima, Japan's search for peace and Japanese culture as a whole in concern with Hiroshima, Nagasaki, and their Hibakusha, as this presenter has had observed it through her academic research and experiences this past year, via the 2006 MSUM Hiroshima Peace Studies Tour and studying

abroad in Japan this past fall term. * Some pictures herein may be too graphic for some viewers, viewer's discretion is advised. *

118

Title: Speed of Light

Presenter(s): John Gallagher, Saad Janjua

Department: Physics & Astronomy

Advisor: Steve Lindaas

Abstract: The experiment we conducted measured the speed of light using the idea of measuring phase delay between the original signal generated by wave generator and the signal received by split beam of light. The apparatus consists of a laser modulated at approximately 2 MHz connected to a function generator. The laser is directed on to a mirror and reflected back to a light detector which introduces a time delay to the circuit. The output of the light detector and original modulator signal are connected to an oscilloscope. The two sine wave patterns appear on the screen and are out of phase. If the sine waves are centered vertically the ascending sign wave will cross the x axis at different positions when the mirror is moved. To determine the speed of light we measured the time difference between ascending sine waves at different mirror distances to measure speed of light. The experimental value found by this experiment came out to be $(3.6 \pm 0.6) \times 10^8$ m/s. The experiment conducted does support the idea of measuring speed of light by measuring the time delay between the original signal and signal received from split beam of light. The experiment result compared to expected value for the speed of light has a standard deviation of 1.16 when compared with expected speed of light thus probability of success in result is 23%.

119

Title: The Atomic Attack On Hiroshima

Presenter(s): Quintin Dimerson

Department: Languages & Cultures

Advisor: Chizuko Shastri

Abstract: I will be presenting the details of what the atomic bomb did to the city of Hiroshima and how the people of the city were affected.

120

Title: Charcot-Marie-Tooth

Presenter(s): Brant Miller

Department: Health & Physical Education

Advisor: Dawn Hammerschmidt

Abstract: Charcot-Marie-Tooth (CMT) is the most commonly inherited neurological disorder. It affects 1 in 2,000 people world wide. I will present the different types of CMT, the anatomy involved, signs and symptoms of CMT, diagnosis, and treatment options for the disorder.

121

Title: Emotional Intensity and Familiarity as Factors in Artistic Judgments

Presenter(s): Kyle Sundberg

Department: Psychology

Advisor: Willie Hallford

Abstract: There has been very little empirical research on factors that influence artistic perception. In this study, participants (N = 53) judged eight photographs and eight paintings on 11 dimensions of art perception. Emotional

intensity and familiarity with the artistic style were analyzed to find how correlated they were with artistic judgment. Results showed that emotional intensity proved a better predictor of artistic judgment than familiarity with artistic style.

122

Title: An Investigation of the Induced Alternations of *Cucumis sativus* L. Seedlings Following the Abiotic Induction of Systemic Acquired Resistance

Presenter(s): Christine Borden-King-Jones, Shari Caswell, Frank Johnson

Department: Biology

Advisor: Mazz Marry

Abstract: Systemic Acquired Resistance (SAR) is the defensive mechanism by which plants respond to a necrotizing pathogen or chemical. The activation of SAR can be triggered by applying chemicals or necrotizing pathogens directly to the plants' cellular surface. The first response is the hypersensitive response; one aspect of the response is oxidative burst. During the oxidative burst, H₂O₂, is released and causes the cross-linking of the plant cell wall; it also leads to the quiescence of cell signaling and initiates apoptosis. This localized response leads to a signaling cascade whereby the plant develops the SAR response, which is both long term and distal to the original site of infection/inoculation. The SAR signaling cascade leads to the up regulation of genes that code for specific Pathogenic Related (PR) proteins. The PR proteins are thought to act on, and alter the plant cell wall. The PR proteins have been found in distal tissues not directly affected by the hypersensitive response. In this study, we will be looking at how SAR can be induced in cucumber plants by Salicylic Acid. Cucumber cotyledons will be treated with 0.1% SA, and the distal leaf tissue will be harvested at different times to satisfy different objectives. Three different objectives will be explored within the plant to determine the constituents of SAR induction as well as the resulting alterations. The first objective is the isolation of up-regulated genes to create a cDNA library. This will be done by isolating total RNA from which mRNA will be isolated. Then mRNA differential display will be used to determine the up regulated genes. The cDNAs from the differential display will be used to create a cDNA library at the respective time intervals. The second objective is the isolation and characterization of three different types of proteins. These will be the extensin proteins, pathogenic related proteins, and peroxidases. Western blots and SDS-PAGE gels will be run to identify the molecular weight of all proteins of interest. In addition, further analysis on the peroxidases will be done. A native PAGE will be performed on the peroxidases, and the isolated isozymes will be cut out and analyzed using flow pressure liquid chromatography (FPLC). Lastly, a peroxidase activity assay will be performed to determine whether or not the isolated peroxidases are, in fact, cell wall altering enzymes. These results will then be compared with the control cucumber leaves without SA application. The third objective is to determine any changes that take place in the plant cell wall carbohydrates. The carbohydrates within the plant cell wall will be isolated and analyzed for structural changes that occurred in the structural components. This will be done through paper chromatography, thin layer chromatography, and Fourier Transfer Infrared (FTIR) spectroscopy.

123

Title: NHE-1 Activity is directly mediated by ROCK Phosphorylation 1-adrenergic Receptor Pathway. through an
Presenter(s): Lisa Streitz, Robert Reames, Moses Wananu, Joe Provost

Department: Bioscience & Chemistry

Advisor: Joe Provost

Abstract: The sodium hydrogen ion exchanger isoform 1 (NHE1) is a ubiquitously expressed membrane protein ion exchanger whose function is to regulate intracellular pH by extruding a H⁺ in exchange for an extracellular Na⁺. A novel role for NHE1 has been identified in cell migration and scaffolding. The mechanism by which NHE1 functions is dependent on the phosphorylation of its cytoplasmic regulatory domain. While several protein kinases have been shown to phosphorylate ctNHE1 (carboxy-terminus NHE1), the role of ROCK in this function is unclear. Preliminary phosphorylation studies using purified ROCK on partially purified NHE1 have shown a significant increase in the phosphorylation of ctNHE1 when compared to studies using a ROCK inhibitor (Y27632). The specific phosphorylation site of ctNHE1 by ROCK has also yet to be determined. The purpose of our proposal is to determine if ROCK directly phosphorylates ctNHE1, to identify the upstream signaling components in ROCK phosphorylation of ctNHE1, to identify the residues on ctNHE1 phosphorylation by ROCK, and to examine the function of ROCK phosphorylation on ctNHE1 activity. To accomplish these aims, we will first conduct a large-scale purification using different expression conditions and purification methods of the ctNHE1. By using three different bacterial strains, ctNHE1 has been purified with the presence of contaminating proteins. Currently several purification techniques, including nickel affinity and ion exchange chromatography are being used to obtain pure ctNHE1. Future studies using kinase assays will be performed to determine if ROCK directly phosphorylates ctNHE1, and the extent to which this 1-adrenergic receptor signaling pathway. In addition, NHE assays will be conducted to determine the role of ROCK phosphorylation on ctNHE1. NHE1 is required for numerous cellular processes, and disturbances in NHE1 function have been demonstrated to play a significant role in the motility and invasion of cancer cells. The overall aim of this experiment is to show that such effects are mediated by direct phosphorylation of NHE1 by ROCK.

124

Title: Sequence Stratigraphy of Marine Host Rocks With Preferential Zones of Gold Mineralization: Carlin Trend, Northeast Nevada

Presenter(s): Nick Claerbout, Luke Myklebust

Department: Anthropology & Earth Science

Advisor: Karl Leonard

Abstract: The Carlin Trend is situated along the I-80 corridor in the northern portion of Nevada and is host to one of the world's richest gold deposits. Gold deposits can occur in many different rock types and environments ranging from typical granitic compositions to sedimentary hosts. With the differences in environments comes variability in the rocks and minerals associated with that particular setting. Each deposit has its own very unique characteristics to signify its provenance. The Carlin Trend gold deposit in Northeastern Nevada possesses its own individuality. The gold was deposited here by means of an acidic geothermal system in a disseminated manner. The host rock is an accumulation of limestone that formed on the margins of a prehistoric

continental shelf. The gold dispersion among the host rock is controlled by structure, permeability, and composition. Variances within the controls dictate the gold accumulation. The purpose of this study is to identify a key bed that the gold is more preferential to than others supported by geochemistry, biostratigraphy, and paleoecology. The findings of such a bed will improve the resolution of the stratigraphic column for correlation within the Leeville Underground and possibly with other mine-sites. The Leeville underground mine in North area is composed of the main Leeville deposit with satellite deposits on the peripherals (Turf, Four Corners). Long-hole exploration drill hole analysis from the Leeville suggests that the constraints for gold mineralization include structure and differences in stratal composition. The concern here is being able to find a particular bed or facies where the gold mineralization is partial to deposition more than surrounding beds in the host rock. The discovery of a specific package of strata will lead to a faster more efficient ore control program. Visual identification of a correlative stratigraphic layer or layers will aid in field work. Correlative layer identification will be determined from the described lithologies, biostratigraphy and geochemistry of three exploratory holes drilled from the same drill program at the West Leeville mine-site. Conodont distribution patterns will be analyzed to determine the spatial similarities of correlative strata and the affects they have on gold deposition.

125

Title: Feasibility Study for Williston Public Schools Requiring Children to have Professional Eye Examinations Prior to Entering School

Presenter(s): Kelci Guenther

Department: English

Advisor: Hazel Relzlaff

Abstract: Many students suffer from undetected vision problems that hinder their learning. Only a vision exam by an optometrist can fully detect all vision problems. This study explores the feasibility of requiring students of Williston Public School District #1 to have professional eye examinations prior to entering school. A survey of Williston elementary teachers shows that vision problems do affect children's learning, and these vision problems are difficult to detect. A survey of Williston optometrists stressed the importance of vision exams. This study investigates different options for offering eye examinations, and shows that it is not feasible to require students to have their eyes examined.

126

Title: Sleep Apnea

Presenter(s): Kayla Malecek

Department: Health & Physical Education

Advisor: Dawn Hammerschmidt

Abstract: Sleep apnea affects an estimated 12 million Americans, without many of them knowing they suffer. It is a disease that strikes while asleep, leaving most unaware of its occurrence. With sleep apnea, breathing stops, leading to detrimental effects of the body. This presentation will discuss history, risk factors, signs and symptoms, diagnosis, prevention, and treatment of sleep apnea.

127

Title: Biased sex ratios of larval populations of *Anax junius* in the prairie pothole region

Presenter(s): Char Binstock, Chris Ferrari

Department: Biosciences

Advisor: Linda Fuselier

Abstract: The purposes of this field study is to examine the size structure of the *Anax junius* population between two ponds, determine whether sex ratio is 1:1, and estimate the size of the population using mark and recapture. The *A. junius* that were collected in the North and Stickleback pond were measured and separated into different sexes. A population estimate was obtained in the Stickleback pond by using the mark and recapture method. The sex ratio of *A. junius* is predicted to be 1:1 due to the X and Y chromosomes, but in Odonates there tends to be a biased sex ratio. When conducting the experiment, it was found that there is a biased sex ratio in *A. junius* larvae. There were significantly more male larvae found in both ponds. In addition to this, it was found that females were significantly larger than males in mass. By using headwidth comparisons, the instar of both ponds differed in size and abundance within each range. The Stickleback pond was found to contain very small and exceedingly large larvae. The North pond did not contain these larvae. It had a broader range of average sized larvae. This suggests that the population shifted in size due to the aging of the *A. junius* larvae collected a week later in the North pond. It seemed that the larger larvae left (migrants), and the small larvae grew in size.

128

Title: Perceived Skill and Beauty as Predictors of Artistic Quality

Presenter(s): Jason Laub

Department: Psychology

Advisor: Willie Hallford

Abstract: 53 students judged 8 photographs and 8 paintings on 11 dimensions as part of a study examining art perception. Included in the questionnaire were scales pertaining to the skill of the artist, the beauty of the piece, and the overall artistic quality. In the current analysis, the subjective artistic quality experienced by the participant was found to be present when both artistic skill and beauty were rated high. Additionally, the items of skill and artistic quality exhibit a strong positive correlation.

129

Title: Relationship of Painted Turtle (*Chrysemys picta bellii*) Size to Differing Habitat Variables in Clay County, Minnesota

Presenter(s): Hallie Ladd, Ross Larson, Margo Kramer, Melissa Pederson, Jill Wavra, Amanda LaPlante, Stacy Wanzek, Megan Lisburg, Molly Dowling, Bradley Schutt, Kyle Noyes, Rachel Spiess, Morgan Elfelt

Department: Biosciences

Advisor: Donna Stockrahm

Abstract: In a long-term study, about 570 painted turtles (*Chrysemys picta bellii*) have been live-trapped during the summer/early fall of 2001-2006 in Clay County, MN, to study growth rates, survival, population characteristics, and movements. Two sloughs (< 2 km apart) were trapped, 2.7 ha and 6.2 ha, respectively. For each captured turtle, outer scutes were notched. Turtles were weighed, sexed and measured for length of plastron, width of carapace, and length of curvature of the carapace, then released. During the 2006 field season, we also incorporated PIT tagging into our study to uniquely identify each turtle. The tags are inserted into the abdominal cavity via

a syringe. A total of 169 turtles were successfully PIT tagged. Our main objective for the 2006 field season was to determine if turtle size was associated with various habitat variables such as water depth, distance from shore, water clarity, and water quality (e.g., pH, dissolved oxygen, etc). We also looked to determine if turtles return to the same trap (there were 3 traps on each slough) at which they were previously captured or if they moved freely throughout the slough. Data show the water quality differed little between sloughs and/or trap locations, so no relationship between these variables and turtle size could be determined. Although other studies show smaller turtles seem to be associated with shallower water near the shore, we found no strong relationship. Many turtles were recaptured multiple times at the same trap, but some movement within each slough occurred.

130

Title: A Tale of Two Cyclothem: A Comparison of Two Sections of the Iola High Frequency Sequence Using Sequence Stratigraphy and Conodont Distribution Patterns (Upper Pennsylvanian; Iowa and Kansas)

Presenter(s): Nate Wright, Lauren Farragut

Department: Anthropology & Earth Science

Advisor: Karl Leonard

Abstract: High-frequency sequences of the Iola Limestone in Iowa and Kansas can be distinguished and correlated using the temporal and spatial distribution of conodonts in conjunction with a sequence stratigraphic analysis. The taphonomic and taxonomic differences of conodonts will help distinguish between depositional environments and the stories lithofacies tell. At least two unconformity-bounded HFS's can be delineated in the Iola Limestone in sections in Iowa and Kansas. This interval was previously interpreted as representing a single cyclothem. The repetition of specific lithofacies in addition to the temporal distribution patterns of conodonts has been used to interpret the Iola Limestone as a single cyclothem. The upward progression of lithofacies from thin transgressive limestone to carbonaceous shale and finally to thick regressive limestone suggests that the Iola represents a single transgressive-regressive unit. A comparison of two sections of the Iola Limestone from Winterset, Iowa and Kansas City, Kansas done using sequence stratigraphic analysis of significant surfaces coupled with an investigation of the temporal and spatial distribution patterns of conodonts using closely spaced samples may contradict this interpretation. The vertical stacking patterns of lithofacies in these sections appears to be very similar, however, the dark shale facies (core shale) in the Iowa section contains many calcareous intervals with a benthic fossil assemblage. The character of this facies and stratal patterns of correlative surfaces suggests that this part of the Iola may be the transgressive part of a cycle.

131

Title: Imposing a sales tax on online sales

Presenter(s): Ivan Ayubashev

Department: Accounting

Advisor: Mary Bader

Abstract: Impact of sales tax on online transactions has been a big debate in legal and tax systems in United States. Billions of dollars are being trade for goods annually online. How online transactions should be treated in relationship with sales tax. What kinds of law and court decisions have been made affecting this matter. What is the reaction of general public and possible impact of imposed sales tax on online transactions.

132

Title: Hypothermia and YOU!

Presenter(s): Katherine Braun

Department: Biology

Advisor: Alison Wallace

Abstract: Come learn about what every Minnesotan needs to know. This workshop will focus on how hypothermia affects the human body. There will be a fun hands on experience that illustrates the 5 E-Model to help understand these important concepts.

133

Title: Plants and Animals Everywhere! Oh My!

Presenter(s): Alex Brown

Department: Biology

Advisor: Alison Wallace

Abstract: Have you ever wondered why or how there are so many animals and plants? After all they're all the same right? THINK AGAIN! This workshop will provide a brief lesson on how a new species arises due to adaptation and natural selection. Education majors are encouraged to attend! The 5-E learning model will be implemented and outlined.

134

Title: Ice Cream: A Chilling Experience

Presenter(s): Dawn Swenson

Department: Biology

Advisor: Alison Wallace

Abstract: Anyone for ice cream? Come see how to make your own ice cream! This workshop will demonstrate changes in the state of matter. Workshop participants will be engaged in a hands-on science lesson that illustrates the 5E model.

135

Title: No Bones About it

Presenter(s): Cassie Kramer

Department: Biology

Advisor: Alison Wallace

Abstract: Exploring the structure and function of the Human Skeletal system. Participants will be engaged in hands on science lessons that illustrate the 5E model.

137

Title: Sourcing Museum Collections Using Reflectance Spectrometry

Presenter(s): Jayme Job

Department: Anthropology

Advisor: Michael Michlovic

Abstract: Sourcing archaeological artifacts has proven extremely useful in discerning prehistoric trading patterns and cultural contacts. This study widens the scale of many past sourcing projects by considering an entire museum's collections rather than an individual object type or site. Advancements in the technology of geophysical sourcing, such as non-destructive reflectance spectroscopy, have made access to many previously restricted artifacts possible. By analyzing much of the pipestone collection housed by the Smithsonian's National Museum of Natural History using reflectance spectroscopy, existing notions of prehistoric trade on the plains may be detected and supported.

138

Title: The Dark Side of Tourism: A Look at Sex Tourism in Costa Rica

Presenter(s): Erik Josephson

Department: Anthropology

Advisor: Bruce Roberts

Abstract: Tourism is many things and one of the many scholarly sub-divisions of this growing topic is Sex Tourism. Costa Rica is quickly becoming a tourist hotspot for interested in the "Alternative" aspects of tourism also known as sex tourism. The impact of this type of tourism is felt throughout Costa Rica in many different sectors of the economy. The people involved in the industry and the extent of enforcement of laws all combine to make Costa Rica one of the top destinations for sex tourism. There are many both pluses and minuses to this type of tourism in Costa Rica. The dangers and impact can be felt across the whole country.

139

Title: Why should I care about global warming?

Presenter(s): Matt Alexander

Department: Biology

Advisor: Alison Wallace

Abstract: The cryosphere can be described as the portion of Earth that is frozen at any given time. This includes the frozen ground, global ice volume, snowfall, and snow cover. This exercise will explore the interaction of the cryosphere, global sea level and global climate change through interactive activities that use the 5 E model. Students will see how this relationship has affected and will continue to affect the Earth in the past, present and future.

140

Title: Eco-speak

Presenter(s): Josh Allmaras

Department: Biology

Advisor: Alison Wallace

Abstract: This workshop will demonstrate an effective, 5E activity dealing with the language of ecologists. It will provide participants with the correct scientific terminology in communicating with each other and will allow for hands-on practice. This is a good lesson for gathering a solid understanding of the simple interactions taking place in ecosystems. Education majors are encouraged to attend.

141

Title: Detecting genetic variation amongst Minnesota Fathead minnows using DNA Microsatellite analysis

Presenter(s): Daniel Fetzer, Kelly Grussendorf

Department: Biosciences

Advisor: Michelle Malott

Abstract: The Fathead minnow, *Pimephales promelas*, is the most common minnow in the state of Minnesota. Minnows play an important role in the ecological health of freshwater streams and lakes. This particular species has a unique reproductive behavior that we are interested in studying. In the research performed, we looked at microsatellite variation amongst minnows from different bodies of water to detect the amount of genetic variation occurring within the same species.

142

Title: Developmental and Behavioral Ontogeny of Antipredator Behavior in Cichlid Larvae

Presenter(s): Patrick Self, Anthony Stumbo

Department: Biosciences

Advisor: Brian Wisenden

Abstract: Cichlids are unusual among fishes in having prolonged care of their eggs and developing young for up to 6 weeks. This is an enormous investment because of the energy spent defending the young against predators, lost foraging opportunities, and lost opportunities to reproduce again until the brood of young reaches independence. The duration of brood care is determined by the anti-predator competence of the young. Here, we use video playback analysis to measure the speed and distance of the startle response of convict cichlid, *Archocentrus nigrofasciatus*, young at increments of development. The degree of calcification is measured by developmental staining procedures, which produces a red coloration in bones and a blue coloration in cartilage. We correlate the capacity for behavioral avoidance of predator attack with the degree of calcification of the skeleton. We show that skeletal calcification determines anti-predator competence in this species, and that, in turn, determines patterns of parental care. These data have implications for the evolution of egg size in cichlid fishes.

143

Title: An investigation into the onset of the abiotic induction of systemic acquired resistance in *Lycopersicon esculentum*

Presenter(s): Brent Voels

Department: Biosciences

Advisor: Andrew Marry

Abstract: The plant cell wall is responsible for plant cell growth, differentiation, and response to biotic and abiotic stress. Any change that is induced in the plant will eventually cause a change in the plant cell wall. For this research our interest lies in the gene expression that occurs when systemic acquired resistance (SAR) is induced. SAR activates the plant's defenses and eventually the entire plant gains a lasting resistance to viruses, bacteria, and fungi (Lamb and Dixon, 1997). When SAR occurs it results in several structural alterations including: lignification of the plant primary cell wall material (Friend J., 1976; 1981), protein expression, and activation of and induction of anodic peroxidase isozymes, and the chemical alteration of structural carbohydrates in the plant cell wall (Marry et al. 1995). To date, the actual order of gene expression and alteration of the cell wall have yet to be established.

144

Title: Chasin' the Bird: Charlie Parker and the Roots of Bebop

Presenter(s): Lewis Ableidinger

Department: Music

Advisor: Laurie Blunsom

Abstract: Who would have thought that a man who got kicked off the stage at a jam session would eventually become one of the biggest names in jazz and be one of the founders of the musical revolution called "bebop." The name of that man was Charlie Parker. The boy from Kansas City would eventually turn the jazz world on its head with burning hot musical licks, syncopated rhythms, and fast paced chord changes. My project will focus on Parker's short life and his role in bringing bebop to the jazz world.

145

Title: The Nature of the Wagner-Hitler Connection

Presenter(s): Jason Thorstad

Department: Music

Advisor: Laurie Blunsom

Abstract: It is known that Adolf Hitler held great adoration for the famous opera composer Richard Wagner. While Hitler openly expressed much love and appreciation for Wagner's music, some historians have tried to deepen the ties between these two men by connecting some of Wagner's more strident essays to Hitler's own writings and the subsequent events that took place in Germany in the 1930s and 1940s. In this presentation, I will discuss some of Wagner's writings and their anti-Semitic content and tone. I will also examine Hitler's affinity for Wagner's ideas and how they influenced his thinking. Finally, I will discuss the problem of linking Wagner directly to the holocaust.

146

Title: Into The Deep: Dynamic Organisms

Presenter(s): Nicole True, Eric Arness

Department: Biology

Advisor: Alison Wallace

Abstract: Have you ever wondered where giant squid live or why clownfish live in anemones? Join us and experience a journey from the relaxing beach to the mysterious depths of the ocean. You will learn the where, why, and who of the different ocean zones. The workshop will implement the 5E instructional model. Audience participation is greatly appreciated.

147

Title: "Pollen Yields Discovery of Novel Protein": Regulation of PPDK via it's novel protein.

Presenter(s): Kyle Marthaller, Eun Hyuk Chang, Jared Olson

Department: Biosciences

Advisor: Chris Chastain

Abstract: The plant enzyme, pyruvate orthophosphate dikinase (PPDK) is a metabolic enzyme that can interconvert pyruvate and PEP in the cytosol or chloroplast. Another enzyme, termed the PPDK Regulatory Protein (RP) regulates the activity of PPDK in the chloroplast, but not in the cytosol, by reversible phosphorylation of an active-site threonine residue. Recently, we discovered a second RP enzyme (At RP-2) that can phosphorylate PPDK, but lacks the ability to dephosphorylate the phosphorylated enzyme. In this presentation we describe a research approach we will use to understand the function of a At RP-2 by linking the mRNA transcript levels of the At RP-2 and PPDK genes in plant pollen, where both transcripts are at their peak abundance in the plant. We propose to use Real-time PCR for quantitating the relative transcript abundance of the PPDK cytosolic, PPDK chloroplastic, At RP-1, and At RP-2 mRNA's in pollen isolated from the model plant *Arabidopsis thaliana*. Comparison of transcript level for each of these genes should provide information on whether At RP-2 is targeting the cytosolic PPDK enzyme or the chloroplastic PPDK enzyme, and therefore what its function is in pollen.

148

Title: Lithic Analysis of the Sprunk Site

Presenter(s): Kathryn Maxwell

Department: Anthropology & Earth Science

Advisor: Michael Michlovic

Abstract: The Sprunk site (32CS4478) is a late prehistoric village on the Maple River in Cass County, North Dakota. Excavation at the site by MSUM crews over the past several years yielded a substantial number of stone tools. This report is an analysis of the chipped stone assemblage recovered from the Sprunk site. This assemblage consists of broken implements and debris from the tool manufacturing process. This study will determine the various technological phases represented by the assemblage and the different functions or activities reflected by the tools. The geographic source areas for the raw materials that comprise the assemblage will also be considered.

149

Title: New copper(II) oxidation catalysts: Toward catalytic metal-organic frameworks

Presenter(s): Kevin Schultze

Department: Chemistry

Advisor: Jeffrey Bodwin

Abstract: Metal-organic frameworks (MOFs) have received significant attention for their potential in a wide variety of separation, storage, and catalysis applications. As with the zeolites after which they are modeled, many MOFs have been used as nanoscale reaction vessels with the rigid framework encapsulating catalysts that may or may not be covalently interacting with the MOF superstructure. The goal of this research is to develop a catalytically competent copper(II) complex that can be used as an integral component of the MOF structure. The copper(II) precursor complex is shown with a tridentate ligand consisting of a pyridine donor and two amide nitrogen donors with additional coordination site(s) occupied by solvent molecules, an initial screening complex has been prepared (R = benzyl). Catalytic activity toward the oxidation of alkanes, alkenes, and alcohols will be presented.

150

Title: Which is more sensitive to the soil pollutant Aluminum (Al⁺³): Corn or the native prairie species switch grass?

Presenter(s): Hallie Ladd, Chuck Johnson, Jesse Bridley

Department: Biosciences

Advisor: Chris Chastain

Abstract: Which is more sensitive to the soil pollutant Aluminum (Al⁺³): Corn or the native prairie species, Switch Grass? Recent interest in ethanol biofuels has catapulted Switch Grass (*Panicum virgatum*) a native perennial C4 prairie grass to the forefront as alternatives to corn as possible sources of ethanol feed stocks. One of the arguments used to support the use of Switch Grass for this purpose is that it can grow on marginal lands while corn fails poorly. In many areas of the western prairies, soil aluminum (Al⁺³) occurs in significant amounts and hence renders these lands as marginal in terms of plant growth environments. This study was initiated to assess if Switch Grass would have a distinct advantage (versus corn) in terms of maintaining photosynthesis on these kinds of soils. An ability to tolerate aluminum would also herald another use for Switch Grass for landscape reclamation.

151

Title: A Percussion Recital: Music, Noise, or Big Loud Drums?

Presenter(s): Lucas Bernier

Department: Music

Advisor: Laurie Blunsom

Abstract: The percussion recital is like no other instrumental performance. It provides the listener with an abundance of musical variety. My presentation will focus on literature that will be performed on my senior recital. First, I will give a historical and musical overview of the composers including Elliott Carter, Boogie Sharpe, and Ney Rosauero. Next, I will elaborate on the pieces themselves: why they are important and what makes them unique. The instrumentation of this recital is diverse ranging from 20th century solo timpani to Trinidadian steel drums to solo marimba and multi-percussion works. The mixture of different styles of music from an assortment of composers all writing for percussion will create a unique blend of standard repertoire and contemporary percussion writing.

152

Title: Does municipal Waste Water Effluent Result in the Feminization of Male Guppies?

Presenter(s): Kristine Knoll, Kayla Nagle

Department: Biosciences

Advisor: Ellen Brisch Bee Wisenden

Abstract: Estrogen present in municipal waste waters may feminize male aquatic organisms. The effect of estrogen will be tested using male guppies developmental and behavioral measures of feminization. We hypothesize juvenile male guppies exposed to municipal waste water effluent will delay or incompletely develop adult male sexual characteristics. To test our hypothesis, juvenile male guppies will be exposed to Red River water downstream from the Fargo municipal waste water effluent where toxic levels of estrogen have been reported in a past study. It is expected that male guppies exposed to municipal waste water effluent will show female characteristics such as little or no coloration, large girth and an undeveloped gonopodia (male sexual organ). Sexual behavior data will also be collected on adult male guppies exposed to high levels of estrogen. Male guppies normally display aggressive courtship behavior towards female guppies. We expect to see less courtship displays in male guppies exposed to water downstream of the Fargo municipal waste water treatment plant.

153

Title: Do fish skin cells protect against ultraviolet radiation?

Presenter(s): Chuck Johnson

Department: Biology

Advisor: Brian Wisenden Michelle Malott

Abstract: Club cells in minnows are known to produce an alarm cue, which is released into the water or the feces of the predator when cells are lysed when the minnow is attacked or eaten. We hypothesize that there is a second function to these club cells, a UV protection function. To determine if there is a secondary function to these cells we are extracting DNA from fathead minnow skin after exposing the skin to UV light to see if there is less damage in skin samples that have club cells than in skin samples that lack club cells. The second process we are using is a comet assay where we separate cells from one another and lyse them on a microscope slide to see the DNA damage after UV exposure. From these experiments we expect to see a greater amount of DNA damage in skin samples that do not have club cells in them, and a smaller amount of DNA

damage in skin samples that have club cells in them. If our results come out as expected it would mean that we would have a greater understanding of the epidermal cells that protect fish from UV light.

154

Title: An Electron Microprobe Examination of Surface Coatings and Internal Structures on Ceramic Fragments from the Sprunk Site

Presenter(s): Avery Cota, Anthony Larson
Department: Anthropology & Earth Science

Advisor: Russ Colson

Abstract: We are continuing our use of the JEOL-733 electron microprobe to examine ceramic fragments from the Sprunk site 32CS4478 dated to 1450A.D. \pm 50 years. With the use of the electron microprobe we will obtain petrographic, chemical, and physical information about these ceramic fragments. Last year we reported preliminary results of petrographic analysis, concluding a crushing technique used to process temper as indicated by angular shards in one sample. We also found that even the shell temper ceramics contained some crushed sand temper. This year we hope to address questions regarding the inner and outer coatings of the ceramic fragments and observed concentric swirl features. Did the concentric swirl features form by weathering after the ceramic fragment was discarded or an artifact of the manufacturing process (For example, did they intentionally add two chemically different clays that didn't completely mix and remain identifiable after firing)? Understanding of the coatings and whether or not they were intentionally applied may give us insight into whether the ceramic technology is controlled at the community or family level.

155

Title: Minnesota Academic Standards in Science Through Simulations

Presenter(s): Sadie Carter, Robert Jackson

Department: Chemistry

Advisor: Richard Lahti

Abstract: In 2007 the state of Minnesota will begin administering its No Child Left Behind, MCA-II in Science via computer. This assessment, required of all Minnesota students, will require students to perform labs and create graphs in a virtual environment, in addition to answering typical multiple choice questions over content. A number of science simulations exist on the internet, these vary in quality. The purpose of this research was to find simulations that aligned with MN Academic Standards in Science and create a website that allowed MN teachers to quickly find appropriate simulations, cross referenced by MN standard.

156

Title: Human Papillomavirus- The Information You Need to Know to Stay Alive

Presenter(s): Shannon Wendroth, Jody Homan, Nicole Haverland

Department: Biology

Advisor: Kathryn Wise

Abstract: An informative presentation on the Human Papillomavirus. Including general Biology, methods of infection, affiliation with Cervical Cancer, and other diseases, protective measures, and a new vaccine.

157

Title: Drug Prohibition

Presenter(s): Samantha Pierson

Department: Economics

Advisor: Oscar Flores

Abstract: I will be presenting information on drug prohibition in the U.S. and its economic effects.

158

Title: Alternative Environmental Policies Regarding Global Climate Change

Presenter(s): Akiko Nakamura

Department: Economics

Advisor: Oscar Flores

Abstract: Environmental problems caused by industrial pollutants are part of the contemporary issues the United States is facing. For example, electric utility industries especially coal-burning sectors contribute a large portion of global climate change. As a big industrialized country, the U.S. environmental policies will play a key role easing the issue. This presentation discusses a brief background of the problem, examinations of economic theories, and potential environmental policies.

159

Title: Examination of Account Receivable Fraud in Businesses

Presenter(s): Leslie Ince

Department: Accounting

Advisor: James Hansen

Abstract: The business world is every changing and so are the ethics of those in the professional world. We have seen major upsets in the business world with firms like Enron, Worldcom, and ArthurAnderson. This presentation will focus on misappropriation of company assets, mainly the accounts receivables. Also, how to prevent some account receivable fraud in companies.

160

Title: Fraud in Sports Memorabilia

Presenter(s): Carl Hanson

Department: Accounting

Advisor: James Hansen

Abstract: My presentation will be looking at the fraud that is occurring in the sports world surrounding people falsifying sports memorabilia.

161

Title: Health Issues of Music Performers

Presenter(s): Kiyotada Ota

Department: Music

Advisor: Laurie Blunsom

Abstract: Like professional or amateur athletes, musicians face some physical problems because playing music instrument often requires very intensive use of parts of body. In the concert or recital, they perform various kinds of musical skills and knowledge through traditional to contemporary literatures. Some compositions demand performer's extremely hard movements. Becoming a "total musician" that requires hundreds of thousands of repetitious practices often cause wrist, knee, back and shoulder pain if the routines are not appropriate to the physics of the body. If the symptoms are severe, there is no choice but quit playing instrument. This presentation introduces what kind of effects can happen on the body when playing certain instruments, especially referring

examples of the presenter's senior recital preparatory processes. In addition, it includes some preventative approaches or treatments of any physical problem caused by musical activities.

162

Title: Insurance Fraud-What it Costs You

Presenter(s): Allan Fenske

Department: Accounting

Advisor: James Hansen

Abstract: This presentation identifies insurance fraud, reasons for perpetration, and the impact on society. It will discuss how insurance fraud is committed, potential areas where insurance fraud may be committed, and what is being done to prevent insurance fraud.

163

Title: The Influence of Brook Stickleback *Culaea Inconstans* on Macro Invertebrates in an Artificial Wetland

Presenter(s): Katherine Braun, Brandon Kowalski

Department: Biology

Advisor: Linda Fuselier

Abstract: Located in the Prairie Pothole Region of North America, the brook stickleback (*Culaea inconstans*) is small fish that feeds on macro invertebrates and is commonly introduced into wetlands in the pothole region that were historically fishless. My objective for the study was to investigate the effects that brook stickleback have on the macro invertebrate assemblage of Minnesota wetlands. I hypothesized that the presence of brook stickleback would reduce the numbers and diversity of invertebrates and have an overall negative impact on the invertebrate assemblage. Enclosures with or without brook stickleback were placed in a wetland. The mesh of the cages was large enough to permit free movement of invertebrates but not fish in and out of the enclosure. After one week, all invertebrates were removed and identified to genus. Richness, diversity and composition of the macro invertebrate assemblage was determined using excel. Shannon Weiner-Weaver was exclusively used to determine diversity. Diversity was significantly higher in the control cages, but total number of invertebrates was higher in cages with brook stickleback. Two of the most abundant invertebrates, a small crustacean and a small damselfly larvae, were more abundant in cages with brook stickleback. Cages without fish had more *Anax junius*, a predatory dragonfly, present. In effect, two predator treatments were formed, one with fish and another with the predatory dragonfly. Dragonfly larvae are less size selective and may have reduced numbers of invertebrates more effectively than did the size-selective brook stickleback. Interactions between *Anax junius* and brook stickleback deserve further attention.

164

Title: Using Relationship Vignettes as a Measure of Relationship Difficulty

Presenter(s): Raina Wald, Katherine Klipfel, Kim Olson, Melissa Nitschke

Department: Psychology

Advisor: Richard Kolotkin

Abstract: The purpose of this study was to develop a rating scale along a continuum of relationship difficulty for a series of relationship vignettes, which could be used in later research to develop a measure of perceived relationship distress. Relationship vignettes were initially generated by asking

participants to write down actual relationship stories which were subsequently analyzed for content and various relationship themes. These themes were used to develop a series of standard relationship stimuli which participants were asked to rate using the Method of Successive Intervals to develop standard difficulty scores for each of these vignettes. These standard scores, because they comprise a ratio scale which can be manipulated statistically, will be used in future research to establish a weighted composite which can be summed across these standard stimuli to provide a measure of perceived relationship distress.

165

Title: Sickle Cell Anemia

Presenter(s): Rachel Carry

Department: Health & Physical Education

Advisor: Christopher Huot

Abstract: Poster on Sickle Cell Anemia

166

Title: A look into the Airline Industry

Presenter(s): Lucas Walton

Department: Economics

Advisor: Oscar Flores

Abstract: The paper is going to be an industry study of the airline industry. It will focus on the changes after deregulation.

167

Title: Procurement Fraud - What is it? How can organizations prevent it in today's tech-heavy world?

Presenter(s): Liping Adams

Department: Accounting

Advisor: James Hansen

Abstract: Procurement fraud is clandestine and staggeringly common. Research shows a typical organization loses 6% of its annual revenue to occupational fraud, and as a whole corporate America is losing \$660 billion. What is this white-collar crime, and how can it be prevented in an age when tech insiders, some of them with a propensity for larceny, have complete access to the company's inner workings and can create I.T. infrastructure that tunnels into the company vault electronically? I will answer these questions, citing research and cases involving procurement fraud and the shadowy enterprises that use technology for their own criminal exploits.

168

Title: Sex-specific Antipredator behavior in *Anax junius*, a migratory dragonfly

Presenter(s): Bodini Herath, Brady Johnson

Department: Biosciences

Advisor: Linda Fuselier

Abstract: Odonate populations often exhibit skewed adult population sex ratios that are likely tied to sex-specific life history strategies expressed their aquatic larvae. Differences in mortality between the sexes of the larvae can explain skewed adult population sex ratios. In dragonflies with female-biased sex ratios at emergence, males likely assume a higher predation risk and hence, higher mortality. Further, predation risk is directly and positively related to activity levels. We investigated whether *Anax junius* larvae show a sex-specific response to predation risk in a series of laboratory experiments. We hypothesized that males would assume greater predation risk compared to females when faced with either a conspecific or a fish predator. Preliminary results

indicate that the sexes respond similarly to a caged predator but that males are more active than females in the presence of a free-swimming predator. Females are more likely to strike at the predator and males will feed more in the presence of a predator than will females. We will also be discussing about the response to chemical cues and additional species of odonates.

169

Title: Mother's Use of Facilitating Techniques Before and After Parent-Child Communication Program Training

Presenter(s): Heidi Bottelberghe, Kristin Kendall, Ashley Marvin

Department: Speech-Language-Hearing Sciences

Advisor: Louis De Maio

Abstract: We will be presenting our research project on the effectiveness of Dr. De Maio's Parent-Child Communication Program (PCCP). We analyzed videos and transcriptions to determine if PCCP would increase mothers' use of facilitating techniques in their children.

170

Title: Is Switch Grass, as a future source of ethanol, better at photosynthesis and biomass production than corn grown under conditions of low soil nutrients?

Presenter(s): Joseph Devorak, Catherine Witt

Department: Biosciences

Advisor: Chris Chastain

Abstract: TBA

171

Title: Investigation of the habitat preferences of three genera of Plecopterans in the Buffalo River, Minnesota

Presenter(s): Catherine Witt, Chuck Johnson, Joseph Devorak

Department: Biosciences

Advisor: Linda Fuselier

Abstract: The habitat preferences for three species of Plecoptera (stoneflies) in Buffalo River were studied between the fall months of September and October of 2006, in the north eastern part of Minnesota. The three stoneflies, Perlidae (Common), Pteronarcyidae (Giant), and Perlodidae (Perlodid) were studied to find if there was a habitat overlap between the species. For the study of habitat overlap, we haphazardly picked up substrate in a zigzag pattern along a 700m stretch of the Buffalo River. We recorded how many stoneflies where on each rock, current velocity, depth, and distance to the nearest shore. Rocks that had a greater distance from the shore were more likely to contain Perlidae. The rocks with no stoneflies were found in deeper reaches of the stream, thus the stoneflies preferred rocks found in riffles as opposed to pools. There was a trend for Pteronarcyidae to prefer larger substrate. The species showed a complete overlap of habitats and there was no significant difference between individual species habitats. But we did find that very few rocks had more than one species of stonefly on them, showing that stonefly genera do not occur together on rocks, yet the rock (habitat) does not differ.

172

Title: Knowledge Management and Semantic Web

Presenter(s): Alexander Shmyrev

Department: Computer Science & Information Systems

Advisor: Yuri Boreisha

Abstract: Knowledge management systems (KMS) have become one of the fastest-growing areas of corporate and

government software investment. Knowledge management refers to the set of business processes developed in an organization to create, store, transfer, and apply knowledge. The major types of KMS are enterprise-wide KMS, knowledge work systems and intelligent techniques. The vision of the Semantic Web (SW) is an extension of Web principles from documents to data. The goal of the information (document) retrieval is to produce documents that are relevant to a query; these documents need not be unique, and two successful episodes of information retrieval may nevertheless produce entirely different outcomes. The aim of the data retrieval is to produce the correct answer to the query. The paper discusses the opportunities provided by the SW for the knowledge representation and visualization in contemporary KMS.

173

Title: Comparing photosynthetic performance and biomass production between Switch Grass, a potential new biofuel, and corn, in response to high levels of fertilizer

Presenter(s): Amber Papenfuss, Shawna Lang

Department: Biology

Advisor: Chris Chastain

Abstract: Switch Grass (*Panicum virgatum*) a native perennial C4 prairie grass is currently being touted as an alternative to corn as a feedstock for ethanol biofuels. Although Switch Grass has been suggested to be superior for this purpose because of its ability to grow on sub optimal marginal, low nutrient lands, little information exists comparing how this plant performs under supra-optimal nutrient conditions such as that which cultivated corn receives. This study examined how Switch Grass responds relative to corn to high levels of fertilizer by comparative analysis of the photosynthetic properties in high nutrient regimes.

174

Title: Re-evaluation of the Earth's Core formation

Presenter(s): Timothy Nesheim

Department: Geosciences

Advisor: Russ Colson

Abstract: Prior research done in the scientific community had concluded that Nickel does not dissolve in silicate melts significantly enough to account for the amounts of Ni metal found in the Earth's Mantle (a silicate melt). In the current leading theory of the Earth's core formation, denser elements, such as Nickel which do not dissolve in silicate melts, would have settled into the Earth's core during our planet's early formation. This line of evidence, along with others, has been used to propose the idea that the Earth was impacted by a large body roughly the size of Mars shortly after our planet separated into several layers (inner, mantle, crust, etc.). However, our results over that past 3+ semesters of work have shown that Ni metal may dissolve in silicate melts, such as the Earth's mantle, in amounts much higher than would be expected. This presentation will both outline our lines of evidence and implications that this research could have concerning the Earth's formation.

175

Title: Extensible Business Reporting Language (XBRL)
Presenter(s): Lasanka Abeyawardena, Prajwal Kharel, Tenzing Sherpa, Kailash Joshi
Department: Accounting
Advisor: Joann Segovia
Abstract: XBRL is an XML-based language used to describe business reporting information. These reports can be financial or non-financial. XBRL enables consumers to obtain financial information in a timely manner. It facilitates the reuse and automated processing and analysis of data and provides a framework for more detailed reporting than is currently possible using traditional paper based or electronic reporting methods.

176

Title: The "Who" and "Why" of Coca-Cola Classic: A Research Project for the National Student Advertising Competition
Presenter(s): Stephanie Berberich
Department: Mass Communications
Advisor: Jody Mattern
Abstract: Each year for the National Advertising Student Competition, we are given a client for which we conduct research and develop an integrated marketing campaign. Our assigned client this year is Coca-Cola Classic. We will present our campaign in a competition with other schools in the region and, ultimately, the nation. The proposed presentation is a summary of information we derived from 40 personal interviews, 18 focus group sessions, and a quantitative survey with 640 respondents. The information is used to develop our overall campaign strategy and creative strategy. The data includes information about what differentiates our brand, our target audience, and what motivates our target to purchase a particular brand of soda.

177

Title: Creatine Supplementation
Presenter(s): Terrence Keller
Department: Human Performance Department
Advisor: Chris Huot
Abstract: A display of evidence behind the supplementation of creatine for performance enhancement. It will include common short and long term side effects, enhancement that has been seen, how it works, etc.

178

Title: A Comparison of Transpiration and Growth Rates in High and Low Trichome Rapid-Cycling Wisconsin Fast Plants (*Brassica rapa*)
Presenter(s): Crystal Arnold, Liz Jagol
Department: Biosciences
Advisor: Alison Wallace
Abstract: The purpose of this research was to see if the trichomes on Rapid-Cycling Wisconsin Fast Plants (*Brassica rapa*) would help the seedlings retain moisture in windy conditions. For this research, we set up two chambers, one that simulated windy conditions and one that simulated non-windy conditions. Each chamber held two sets of eight plants; one set with planted seeds artificially selected for high trichomes and one set with low trichomes. The water transpired by the plants was monitored. Plant heights were measured and the final dry weight at time of flowering was recorded to determine growth rates. Our hypothesis is that the

high trichome fastplants will lose less water and have faster growth rates in windy conditions than the low trichome fastplants.

179

Title: Human Rights of Disabled Persons
Presenter(s): Danielle Peterson
Department: Political Science
Advisor: Andrew Conteh
Abstract: There are a huge number of people with disabilities in today's society. About five hundred million people are disabled today. Almost 1 out of 5 people are disabled given these figures. One third of Americans that are disabled are sixty five years of age or older. Disabled persons have been looked down in today's society, although the disabled person are equally competent in other ways. They can contribute equally to the development of the society and the country. Disabled persons are entitled to the same rights and opportunities as any other humans begin. Too frequently disabled people are criticized in today's civilization.

180

Title: The Jazz Guitarist in Contemporary Society
Presenter(s): Tom Johnson
Department: Music
Advisor: Laurie Blunsom
Abstract: If one were to go to an innovative jazz guitarist who has completely mastered their craft and have found a very unique voice on their instrument, they might notice that the number of people in attendance is fairly low. The question then should be, "how does this artist make a living, or is this an example of the old cliché of the starving artist?" The study of the research was a look at multiple contemporary jazz guitarist of today, from different success levels and sub-genres of jazz, and looked at how they make a living. It also is a study through interviews of what kind of jazz player can make a living just playing jazz, compared to some guitarists who have to find other sources of income in various ways like teaching at universities or playing other forms of music like commercial pop music to make a living.

181

Title: Gonadectomy of adult male Dark Agouti and Copenhagen rats abolishes phenotypic differences in cardiovascular regulation.
Presenter(s): Christopher Failing, Bilal Mohamed
Department: Biosciences
Advisor: David Rodenbaugh
Abstract: The Dark Agouti (DA) rat has superior treadmill running capacity relative to the Copenhagen (COP) rat. The disparity in running capacity is associated with differences in neural control of the cardiovascular system. These intermediate phenotypes may be causative of the differences in running capacity but it remains unclear what mechanism may be responsible for these differences. One mechanism may be testosterone levels and its effects on the cardiovascular system. Previous reports have demonstrated that testosterone can alter calcium regulatory protein expression patterns and directly increase ventricular myocyte contractility. In addition, testosterone has been shown to increase cardiac sympathetic innervation and baroreflex control in a manner that would favor increased exercise capacity. Thus, the divergent exercise capacity phenotype of DA and COP rats may involve

testosterone and its effect on the cardiovascular and autonomic nervous system. We predict testosterone levels will be higher in the DA rat and cardiac sympathetic tonus (ST) will be proportional to basal testosterone levels in both the DA and COP rat. Intact and castrated male DA and COP rats were used to compare cardiac ST in relation to testosterone levels. The intact DA rats have a significantly higher cardiac ST. Castration is associated with a 23% and 10% decrease in ST in the DA and COP rats respectively. Importantly, there is no difference in cardiac ST in DA and COP rats after castration. These results suggest testosterone levels may be a phenotype that is contributing to both exercise capacity and the intermediate phenotypic difference in cardiac ST.

182

Title: Rising Costs of Healthcare

Presenter(s): Dwight Leidholm

Department: Economics

Advisor: Oscar Flores

Abstract: This Presentation will look at the rising costs of healthcare and the effects of Medicare, Medicaid, Insurance, and those people with no insurance on the healthcare system.

183

Title: The application of a soft agar assay for tumorigenic growth of human epithelial lung cancer cell lines in the study of colony forming capabilities

Presenter(s): Blake Heinz

Department: Bioscience & Chemistry

Advisor: Mark Wallert Joseph Provost

Abstract: Lung Cancer is the leading cause of cancer deaths in the United States for both men and women. It claims more lives than colon, prostate, and breast cancer combined. Smoking accounts for about 85-90% of lung cancer cases. Other causes include exposure to radon, asbestos, and secondhand smoke. There are two major types of lung cancers, small cell and non-small cell. Cancer cells are capable of proliferating independently of both external and internal signals that restrain growth to normal levels. Cancer cells show reduced requirements for extra-cellular growth promoting factors, aren't restricted by cell to cell contact, and one of the hallmarks of cancer cells is anchorage independent growth. The soft agar colony formation assay has been implicated in the study of the tumorigenic capabilities of our lab's 4 human lung cancer cell lines. This assay consists of soft agar, which promotes a similar environment to that of the human body. Traditionally the soft agar colony formation assay is used as a method to monitor anchorage independent growth, which measures proliferation in a semisolid culture media after 3-4 weeks. Four different human cell lung carcinoma lines were assessed for their tumor formation capabilities in soft agar gel: H1299, A549, H460, and 69AR. Initial work on time dependant formation of colonies were conducted to determine optimum colony formation time. Then at a fixed incubation period each cell line was examined for tumorigenesis by 3 different agonists: LPA (Lysophosphatidic acid), uPA (urokinase plasminogen activator), and PE (phenylephrine). The focus of future lung cancer research will determine which agonist will induce colonies/tumor formation.

184

Title: Raynaud's Phenomenon

Presenter(s): Carrie Halvorson

Department: Health & Physical Education

Advisor: Dawn Hammerschmidt

Abstract: Raynaud's phenomenon is a condition that affects the blood vessels in the extremities generally, the fingers and toes. It is characterized by episodic attacks, called vasospastic attacks, in which blood vessels in the digits (fingers and toes) constrict (narrow), usually in response to cold temperatures and/or emotional stress or trauma. Raynaud's is an oversensitized reaction causing color changes, cold and numbing sensations primarily to the fingers and toes.

185

Title: Native American Poverty and Discrimination: Abusing Human Rights

Presenter(s): Asha Pogge

Department: Political Science

Advisor: Andrew Conteh

Abstract: This presentation will examine the continuing abuse of Native American's human rights through widespread poverty and discrimination. It will also discuss the impact on this discrimination by Native American casinos and corresponding misconceptions.

186

Title: John Marshall, Chief Justice of the United States Supreme Court

Presenter(s): Christopher Braddock

Department: History

Advisor: Ken Smemo

Abstract: John Marshall was arguably the most influential Supreme Court Chief Justice, who dramatically increased the structure of the court and gave considerable power to the judicial branch of our government. It is widely agreed that he is the most prominent historical figure in the United States judicial system, serving for over 34 years and 5 presidents.

187

Title: Aftermath of Hiroshima

Presenter(s): Iskender Pasquali

Department: Japanese Culture

Advisor: Chizuko Shastri

Abstract: I will be displaying statistics on how the Japanese of MSUM think of America after the attack on Hiroshima. I will discuss how the people survived economically and emotionally after the attack.

188

Title: News Media and Public Influence: Perceptions, Opinions and Beliefs

Presenter(s): Cassie Tweten

Department: Sociology & Criminal Justice

Advisor: Deborah White

Abstract: The goals of the media are often thought to be to disseminate truth, to carry important information to the mass public, and to speak out for those who would otherwise be unable to make their messages heard. The founding fathers of the United States realized the importance of the press, and although they had no way of foreseeing the tools of mass media utilized today, they worked to ensure the free communication of ideas. My goal is to explore this idea through a sociological perspective. I completed this paper as a final

project for SOC350, a stats and methods class I took to fulfill the requirements for my Psychology minor. As a Mass Communications major, I wanted to write a sociology paper that dealt with the field I plan to enter when I graduate. This paper is a literature review which looks at a number of articles on the influence of news media on the public.

189

Title: Nuclear Magnetic Resonance Pulse Programmer

Presenter(s): Madnka Bandara

Department: Physics

Advisor: Ananda Shastri

Abstract: The purpose of this project is to build a computer controlled nuclear magnetic resonance (NMR) pulse programmer. NMR occurs due to the absorption of radio frequency radiation which causes the "flipping" of nuclear spins. The nucleus behaves like a small magnet. When the nucleus is in a magnetic field, it starts to move in a manner similar to a gyroscope, a type of motion called "precession". The angle between the extended magnetic field and the precession axis can be changed with a radio frequency (rf) pulse by altering the duration (δ) of the "rf" pulse. We expect the NMR signal "S" to behave according to $S = A \cos(\theta) + B$. Data taken manually will be compared to data taken by the computer. Results and conclusion is to be discussed.

190

Title: Calculating Fluorescence Lifetimes from a Periodic Excitation

Presenter(s): Jayne Linstad

Department: Physics

Advisor: Ananda Shastri

Abstract: The phenomenon of fluorescence is unique to some molecules, thus making it possible to calculate fluorescence lifetimes. The differences in fluorescence lifetimes offer means to distinguish mixtures or even detect binding events. Typically, lasers are used to do fluorescence lifetime analysis, but it is desirable to replace them with less expensive LED's. The discrete Fourier transform can be used in a method to calculate the fluorescence lifetimes in which LED's are used. Today we will examine this method and how well it can solve a system of two fluorescence lifetimes using simulated waveforms.

191

Title: The Ethnographic Field School Experience in Undergraduate Education

Presenter(s): Nicholas Shjerve

Department: Anthropology & Earth Science

Advisor: Erik Gooding

Abstract: The study examines the role of the ethnographic field school in undergraduate education as illustrated by the 2006 MSUM Anthropology Program Meskwaki Summer Field School. Going beyond the traditional classroom process, the ethnographic field school allows the undergraduate to experience other cultures face-to-face and employ and group the various ethnographic research methods employed in cultural anthropology. This poster explores these issues in relation to the unique ethnographic field school opportunities offered at MSUM.

192

Title: Gonadectomy of Adult Male Rats Alters Cardiac Autonomic Regulation of Phenotypically Different Rat Species

Presenter(s): Ben Johnson, Lisa Magstadt, Matthew Duval

Department: Biology & Chemistry

Advisor: David Rodenbaugh

Abstract: Previous research has shown the differences of cardiovascular (CV) regulation in two strains of inbred rats, specifically the Dark Agouti (DA) and Copenhagen (COP) rats. This difference in CV regulation was correlated with increased running capacity on a treadmill. Specifically, male DA rats had increased aerobic exercise capacity when compared to male COP rats, which was associated with an increased cardiac sympathetic tonus. The direct mechanism that contributes to this phenotypic difference in autonomic control of the heart and exercise capacity is unclear, but it has been suggested that differing testosterone levels between the rats may play a role. Testosterone, a nuclear hormone, has been shown to increase protein expression for the Na^+/Ca^{2+} exchanger, L-type calcium channel, and the β_1 -adrenergic receptor in isolated ventricular myocytes. In addition, upon treatment of ventricular myocytes with testosterone, contractility increased significantly. This data suggests that in addition to altering levels of calcium regulatory proteins, testosterone also mediates positively inotropic events that are non-genomic in origin. It has also been shown that testosterone influences normal ventricular repolarization and thus results in a shorter QT interval. Abnormal cardiac repolarization and longer QT intervals directly correlate to an increased susceptibility to cardiac arrhythmias. Thus, testosterone may be acting in a cardiac sympathetic excitatory manner while mediating concomitant changes in Ca^{2+} regulatory proteins in a manner that increases cardiac function and wild type aerobic capacity. We hypothesize that DA rats have higher levels of testosterone than COP rats. These higher levels of testosterone are associated with higher cardiac sympathetic tonus (ST) and increased running capacity. We also hypothesize that gonadectomized rats will have decreased aerobic running capacity compared to that of intact rats. In addition, gonadectomized rats will have a lower cardiac ST and decreased susceptibility to ventricular arrhythmias. These changes will be associated with decreases in calcium regulatory protein abundance. To test this hypothesis, male DA and COP rats will undergo gonadectomy or sham gonadectomy to serve as controls at four weeks of age. These animals will be separated into a time control group and daily spontaneous running group for eight weeks. At 12-14 weeks of age, Cardiac ST and QT dispersion will be determined. The animals will be sacrificed to obtain cardiac muscle tissue for western blot analysis of Ca^{2+} regulatory protein expression. Blood samples will also be obtained between weeks 10-14 to determine testosterone levels using an enzyme-linked immunosorbent assay (ELISA).

193

Title: Domestic Violence & The Effects It Has On Children

Presenter(s): Anne Rupert

Department: Sociology & Criminal Justice

Advisor: Susan Humphers-Ginther

Abstract: Domestic violence affects 3 million people every year, including children. It is imperative that doctors, nurses, social workers, and all professionals working with children understand the consequences of domestic violence. It is also important that they are able to recognize the signs of domestic violence along with the appropriate intervention. The purpose of this presentation is to provide an understanding of the

effects of domestic violence, signs of domestic violence, and the best intervention. The understanding of this information helps to break the cycle of future domestic violence, which is something that all professionals working with children need to be aware of.

194

Title: The Oregon Death with Dignity Act

Presenter(s): Amy Vu, Lauren Baalman

Department: Sociology

Advisor: Susan Humphert-Ginther

Abstract: In the early 1990s, Oregon was the first state to pass a Dying with Dignity Act which allow dying patient to hasten their own death. * What impact did it have on other states * How and why they decided to pass this law * first physician-assisted suicide laws.

195

Title: Magnetic Susceptibility at Poverty Point

Presenter(s): Meghan Eastman

Department: Anthropology

Advisor: Rinita Dalan

Abstract: The Poverty Point Site which dates to approximately 1800-1350 BC is located in northeastern Louisiana. It is an exceptional and significant site, one of the earliest with earthworks, complex social organization, and a size of more than 400 acres. It is recognized by the United Nations as one of three World Heritage Sites in the continental United States. Since its discovery, several geophysical studies have been conducted at this site employing such techniques as magnetic gradiometry, electrical resistance, electrical conductivity, and ground penetrating radar. My research attempts to integrate the results of a magnetometer survey conducted in 2006 with profile descriptions of 18 cores collected on the basis of that survey and to provide new information through magnetic susceptibility analysis of samples from these cores to enhance understanding of earthen construction at Poverty Point.

196

Title: Comparing the Relationship Between Dichotic Digits test Scores and APD Diagnosis

Presenter(s): Brock Sturlaugson, Anna Crossett

Department: Speech / Language / Hearing Sciences

Advisor: Louis Demaio Mary Drake

Abstract: The purpose of our study was to look at the relationship between Dichotic Digits test Scores and Auditory Processing Disorders (APD) diagnosis. We also sought to determine whether or not the Dichotic Digits test could be useful as a screening tool.

197

Title: The effect of time on the efficacy of chemical alarm cues in fathead minnows

Presenter(s): Matthew Rugg, Danfee Gibson

Department: Biosciences

Advisor: Brian Wisenden

Abstract: When the skin of a prey fish is punctured by a predator, it releases a chemical alarm cue that reliably informs nearby prey fish of the presence of predation risk. The amount of time that these alarm cues remain active in the wild has been shown to be between two and four hours. It is unknown if the loss of response to the cue is due to biochemical

breakdown of the alarm cue, or if it is due to cue dilution. In our experiment, we test fathead minnows' response to alarm cue aged at room temperature for 0 hr (fresh), 3 hr, and 6 hr. This will allow us to determine the reason for the loss of alarm cue effectiveness and provide insight into the ecological role of chemical alarm cues in mediating predator-prey interactions.

198

Title: Replication Origins in *Drosophila melanogaster*

Presenter(s): Ryan Reoelle, Tyson Bonkoski

Department: Biosciences

Advisor: Michelle Mallot

Abstract: Cellular activity is an important aspect in everyone lives, and is responsible for the growth, repair and maintenance of tissues in multicellular organisms. Cellular division requires that all the DNA of the cell be accurately replicated in a limited amount of time. To accomplish this, eukaryotic cells initiate DNA replication at many locations within the genome (or at many different spots on each chromosome). One of the important steps in regulating DNA replication occurs during the initiation step. The importance of proper cell division is exemplified by the problems (ie. cancer for example) that occur with a defect/mutation of regulation for this process. There is a known area where replication initiates in human cells, located close to the c-myc gene is a possible known segment where this replication origin may occur. A 2.4 kb region of DNA located upstream of the c-myc gene is known to act as a replication origin in human cells. For better understanding of this mechanism, this regulates the initiation of DNA replication at this region. We are interested in developing the use of *D. melanogaster*, an easy to culture and maintain model organism for the study of the replication origin at MSUM. Our goal is to determine if the homologous region in *D. melanogaster*, d-myc, also acts as a replication origin in this organism. Our approach is to combine both PCR-based analysis of DNA replication in *D. melanogaster* larvae with DNA database information to examine origins activity. We hypothesize that we will observe origin activity at these homologous regions in *D. melanogaster* and that this organism will be suitable for furthering our understanding into how DNA replication origins are regulated. Finding these points of origin and identifying the DNA upstream may give clues as to why these points become origins

199

Title: Analysis of Human Mortality

Presenter(s): Shiho Inomata

Department: Economics

Advisor: Oscar Flores

Abstract: Human mortality rates are different across countries. The paper presents the econometric analysis of mortality, and tests what factors affect to increase or decrease the rates of mortality.

200

Title: Vowel Placement and its Affect on Blend Within a Choir

Presenter(s): James Bergman

Department: Speech / Language / Hearing Sciences

Advisor: LaRae McGillivray

Abstract: I will be looking at the affect that proper vowel use has on the blend of a choir. If vowels differ even slightly, it may alter the sound of a choir, but by using uniform vowels, a performance is much more pleasant and sounds much more

in tune. Even when the pitch is the same, it sounds slightly different if vowels are not uniform. By examining vowel uniformity and its affect on choral music and formant placement within vowels I intend to inform listeners on what separates a good choir from a great one, and hopefully this research might create better musicians and a more informed and appreciative audience.

201

Title: Development of Lesson Plans Integrating Simulations into the Classroom

Presenter(s): Jonathan Smith, Dawn Swenson

Department: Chemistry

Advisor: Richard Lahti

Abstract: In 2007, the state of Minnesota will begin administering its No Child Left Behind, MCA-II in Science via computer. This assessment, required of all Minnesota students, will require students to perform labs and create graphs in a virtual environment, in addition to answering typical multiple choice questions over content. A number of science simulations exist on the internet, however the simulations vary in quality. The purpose of our research was to develop lesson plans using a 5E Learning cycle/Inquiry approach that maximized the effectiveness of using simulation activities to help reach Minnesota's standards. We then tried to achieve testing of these lessons in a classroom setting and assessment of the learning outcomes by use of the practice exams made available by the state of Minnesota.

202

Title: Radioactively Determining Isoform Activation of PLD in alpha-1 adrenergic signaling in CCL39 Cells

Presenter(s): Danielle Rastedt

Department: Biosciences & Chemistry

Advisor: Joseph Provost Mark Wallert

Abstract: Phospholipase D (PLD) is an enzyme expressed in the cells of most higher mammals and plants. The lipase activity of PLD is regulated by a wide variety of hormone agonists. Phospholipase D catalyzes the hydrolysis of phosphatidylcholine to phosphatidic acid (PA) and choline. PA acts as a bioactive lipid, which can trigger function of a number of protein kinases and other effectors. PA can also be further metabolized to diacylglycerol an activator of protein kinase C (PKC). There are two isoforms of PLD, PLD1 and PLD2. PLD1 activity is regulated by the small G proteins RhoA and ARF as well as PKC, while PLD2 is constitutively active and can be stimulated by ARF. There is great interest in understanding which isoforms is activated by various hormones. Several studies implicate a role for PLD in cell motility and cancerogenesis. Earlier studies in our laboratory have shown that PLD is important in signaling from adrenergic receptors to MAPK, MHE, MMP and other cell motility signaling molecules. Therefore, this study was to determine the activity of PLD in alpha-1 1-adrenergic signaling. Cells treated with 50 μ M phenylephrine (PE) a specific adrenergic receptor agonist, resulted in a 2.5 fold increase in phosphatidylbutanol formation over unstimulated control cells. Expression of either PLD1 or PLD2 wild-type both resulted in a minor increase in PLD activity, whereas dominant negative PLD1 and PLD2 expression indicated that PE stimulation needed the PLD1 isoform for PE stimulation. Upstream signaling of PE was also determined in cell treated with either PKC or ROCK inhibitors or activators. Activation of PKC by the addition of 100 nm phorbol esters resulted in a four fold increase in PLD activity

indicating that PLD was stimulated by PKC. The PKC inhibitor Ro-31-8220 blocked PE stimulation of PLD as did 10 μ M Y-27632. It was determined that ROCK is not involved in PLD stimulation. This work was supported by a grant from MSUM Faculty Development Grants and an award from the NIH 1 R15 HL074924-01A1

203

Title: Estrogen Contributes to Phenotypic Differences in Cardiac Sympathetic Tonus in Adult Female Dark Agouti and Copenhagen Rats

Presenter(s): Evelyn Fuentes, Adriane Maag

Department: Biosciences

Advisor: David Rodenbaugh

Abstract: The prevalence of cardiovascular disease in women starts to exceed that of men by 45 years of age. This disparity in the incidence of cardiovascular disease suggests a central role for estrogen on cardiovascular function. It has been reported that renal sympathetic nerve activity increases after central injections of estrogen. In addition, gender influences both exercise capacity and the responses of cardiac sympathetic tone (ST) and parasympathetic tone (PT) to exercise in the spontaneously hypertensive rat. Interestingly, higher cardiac sympathetic activity has been identified as an intermediate phenotypic difference contributing to differences in aerobic capacity between Copenhagen (COP) and Dark Agouti (DA) rats. Thus, the divergent exercise capacity phenotype of DA and COP rats may involve estrogen and its effect on the cardiovascular and autonomic nervous system. We predict estrogen levels will be higher in the DA rats respective to COP rats and that cardiac ST will be proportional to cyclical changes in estrogen during the rat estrous cycle. Intact and ovariectomized female DA and COP rats were used to compare cardiac ST in relation to estrogen levels. Vaginal smears and ELISA were used to evaluate estrous cycle phases and estrogen levels on the days cardiac ST was studied. Cardiac ST is higher in female DA rats respective to female COP rats. In addition, cardiac ST levels were directly related to phases of the estrous cycle. These results suggest estrogen levels may be a phenotypic mechanism affecting both exercise capacity and the intermediate phenotypic difference in cardiac ST in female DA and COP rats.

204

Title: Nursing Preceptorship in Nicaragua

Presenter(s): Jadon Henke

Department: Nursing

Advisor: Jane Bergland

Abstract: A poster presentation about the experiences of doing a preceptorship over in Nicaragua with pictures of the experience.

205

Title: The Mentally Disabled as a Minority Group

Presenter(s): Sarah Osborne

Department: Sociology

Advisor: Susan Humphers-Ginther

Abstract: I will be presenting on the Mentally Disabled as a Minority Group and how the rest of society labels the mentally handicapped. I will also be comparing and contrasting between people who work with the disabled as to people who have little to no knowledge about disabilities. The presentation will explain how and why the mentally handicapped are treated as a minority and the effects it has on them.

206

Title: Sodium Hydrogen Exchanger Isoform 1 and Phospholipase D are both critical regulators of MMP9 mediated cell invasion and migration in CCL39 lung fibroblasts.

Presenter(s): Jennifer Taves

Department: Chemistry & Biosciences

Advisor: Joe Provost Mark Wallert

Abstract: Matrix metalloproteinases (MMP) are a group of enzymes that play a critical role in digesting the extracellular matrix. Degradation of the extracellular matrix by MMP in migrating cells provides a vital function for tumor metastasis and angiogenesis and the protease activity is significantly increased in non-small cell lung carcinomas. Another protein involved in the regulation of cellular motility, the sodium hydrogen exchanger isoform 1 (NHE1), is thought to play a role in carcinogenesis and is elevated in adenocarcinomas. Therefore, we studied the relationship between NHE and MMP activity in Chinese hamster lung fibroblasts (CCL39 cells), PS120 cells (NHE1 null derived from CCL39 cells), and in two PS120 cell lines with reconstituted NHE1 expression (PS127 and RU-NHE1). Initial studies with CCL39 cells found resting cells had moderate MMP9 activity. This activity increased 2.5 fold after 12 hour phenylephrine (PE) stimulation. Invasion activity upon PE treatment also doubled. We found MMP9 activity to be dependent upon the expression and activation of NHE1. In CCL39, PS127, and RuNHE cells, MMP9 was activated in the presence of 100 μ M PE, whereas in NHE1-null PS120 cells, MMP9 activity was not detected in control or PE stimulated cells. Cells pre-treated with the NHE1 inhibitor, 5-(N-ethyl-N-isopropyl) amiloride (EIPA) prior to PE addition also resulted in a notable decrease in MMP9 activation and cell invasion compared to untreated PE stimulated cells. Phospholipase D (PLD) has also been implicated an upstream stimulation of MMP9 activity, we investigated the role of PLD in regulating MMP9 activity. Incubation of cells with 0.5% butanol prior to PE stimulation decreased MMP9 activity and cell invasion similar to the control level, while expression of either dominant-negative PLD1 or PLD2 resulted in a significant decrease in MMP9 activity as compared to control cells. Dominant-negative PLD2 transfection reduced cell migration to basal migration levels; however, dominant-negative PLD1 transfected cells showed migration activity comparable to untransfected PE stimulated cells. This work, for the first time, describes an agonist-induced relationship between NHE1 and MMP and a new potential role for NHE1 in tumor formation. This work was supported by grants from the NIH, Award number 1 R15 HL074924-01A1 and 5 R01 HL074924-URS.

207

Title: Cultural Resources of the Sheyenne river valley

Presenter(s): Alissa Blaha

Department: Anthropology

Advisor: Michael Michlovic

Abstract: The most recent of Minnesota State University Moorhead's archaeological research has been focused on the Sheyenne bend area, roughly between the towns of Fort Ransom and Chaffee. A graphical display of the cultural resources in the Sheyenne and Maple River valleys are presented here, in an effort to bring together a variety of cultural resources. They are obtained through archaeological field projects, government land surveys, and historic maps. These

resources will be associated on the map with natural resources such as soils, geomorphic features and vegetation communities.

208

Title: Lysophosphatidic acid, Urokinase-type Plasminogen Activator, and Phenylephrine Stimulation of Stress Fiber Formation in Human Cancer Cells.

Presenter(s): Jenny Canine

Department: Biosciences and Chemistry

Advisor: Mark Wallert Joe Provost

Abstract: The coordinated reorganization of the actin cytoskeleton is a common cellular event in regulating cell migration. As in virtually all other mammalian cells, the Sodium-Hydrogen Exchanger (NHE) is present and plays a dual role in pH regulation and cytoskeletal attachment to the plasma membrane. In this second role, NHE is also essential for the formation of stress fibers in cells. Previous research from our laboratory has shown that phenylephrine (PE) stimulates NHE and induces stress fiber formation in animal fibroblast cells. Other previous research has shown that the presence of stress fiber formation is related to cellular migration. This mechanism is key to understanding the relationship between cellular migration and cancer metastasis. The research presented here demonstrates that stress fiber formation occurs in human cancer cells when stimulated using specific agonists. To investigate the presence of stress fiber formation, cancer cells were allowed to grow to 30-50% confluency in a 35 mm culture dish containing a glass cover slip. The cells were then serum deprived 12 to 18 hours. The cells were then placed into one of four conditions: Serum-free media, Serum-free media containing 50 μ M PE, 10nM urokinase-type plasminogen activator (UPA), or 3mM lysophosphatidic acid (LPA) and incubated at room temperature for 15 minutes. The cells were then fixed using 0.5% paraformaldehyde, permeabilized using 0.1% Triton-X 100, and stained using phalloidin. Cover slips were then mounted onto slides and analyzed using an inverted epifluorescent microscope. Our data shows that significant stress fiber formation occurs in UPA and LPA stimulated H358 and H460 cells in comparison to the control cells. In H1299 cells, agonist stimulation results in morphology changes with PE, UPA, and LPA stimulation. H1299 cells that were stimulated with LPA exhibit significant stress fiber formation. These studies indicate that stress fiber formation does occur in multiple human cancer cell lines through specific agonist stimulation.

209

Title: Quantized Energy Levels in He-Ne Lasers

Presenter(s): Matthew Mumm, Cole Jensen

Department: Physics & Astronomy

Advisor: Steve Lindaas

Abstract: According to the Bohr model of the atom the energy levels are quantized. Using this quantum theory that energy levels are quantized, we can develop a model of how and where the transfers are occurring. Data analyses of helium, neon, and He-Ne laser spectra's collected via USB adaptable spectrometer are analyzed on Excel. Through careful analysis of the spectras, we found there was a distinct correlation between the neon spectra and the He-Ne laser spectra. This indicated that the helium was being energized in such a way that it transferred its energy to populate the neon's 2s meta-

stable state. Because a meta-stable state has a much greater lifetime it allows for a much greater probability for a stimulated emission to occur. Comparing the energy level diagrams of the two elements we can show that the laser spectral line is made by an energy transfer from the 3s helium state to the 2p meta-stable neon state. This transfer creates the high intensity laser beam through stimulated emission. This supports the theory of quantized energy levels.

210

Title: Recovery and Analysis of Magnetic Nodules found in Anthropogenic Soils

Presenter(s): Jessica Beard

Department: Anthropology & Earth Science

Advisor: Rinita Dalan

Abstract: Surface soils may become magnetically enhanced through natural pedogenic and human processes. This occurs as a result of inorganic and organic chemical changes in the upper soil horizons. Heating the soil, as part of natural or human-induced fires, also causes increased magnetism. This heating causes phase transformations of minerals, some of which are magnetic. Human activities throughout time have involved burning. Use of hearths and kilns increase the magnetic susceptibility signal of soils used by prehistoric peoples. When soils are buried and preserved in the stratigraphic record, these former surfaces may be detected by methods of magnetic susceptibility. Often anthropogenic, or cultural soils, are more magnetic than the natural soils in a region. Previous studies revealed magnetically enhanced nodules in the coarse fraction (> very fine sand) of soils samples recovered from regional archaeological sites that were responsible for the increased magnetism of these soils. Before starting a search for these nodules at other sites, research focused on developing a new technique to separate the archaeological soils into a coarse and fine fraction, with minimal use of chemical reagents. The procedure developed uses ultrasonic vibration to disaggregate soil colloids suspended in water, allowing separation to occur. The soil is then poured through a sieve, which captures particles of very fine sand and larger (>0.05mm, USDA; sieve size 270). The silts and clays (<0.05mm) passing through the sieve are collected and flocculated using CaCl₂, then dried in an oven at 105°C. Using this procedure, soils from a number of archaeological and pedological contexts were separated and analyzed for the presence of nodules. Magnetic susceptibility of the whole, coarse and fine fractions of each soil was measured. Nodules have been found at sites located outside of the Red River Valley region suggesting that they might have a broad archaeological distribution. Current research is focused on determining composition and formation processes of the nodules by examining clay and magnetic mineralogy. The results are used to ascertain mineral phase reactions caused by increasing temperature. Chemical properties are observed using an electron microprobe. Various soil magnetic instruments are providing additional information on magnetic characteristics. These data will establish the effectiveness of using nodules as a diagnostic tool in site identification.

211

Title: Copper(II) Complexes as Oxidation Catalysts

Presenter(s): Tracy Kurtz

Department: Chemistry

Advisor: Jeffrey Bodwin

Abstract: Mononuclear copper(II) coordination complexes have demonstrated competence as catalysts for the oxidation of a variety of organic molecules. This makes these complexes useful in a number of fields from petroleum processing to methane reclamation. This research involves the synthesis of tetradentate ligands and their associated copper(II) complexes in an effort to improve the efficiency and selectivity of these important oxidation catalysts.

212

Title: Diet, Exercise, and Obesity in college students

Presenter(s): Kimberly Ness

Department: Sociology

Advisor: Susan Humphers-Ginther

Abstract: I will be presenting on the diet, exercise and obesity in college aged kids. I will talk about how often college student's exercise and how well they watch their diet compared to the number of obese college aged students. From my presentation, I hope to explain the severity of obesity and its relevance to college students.

213

Title: Progressive authorships of Korean film industry VS Gigantic Hollywood genre films

Presenter(s): An Jieun, Yeonsoo Jung

Department: Film

Advisor: Kyja Kristjansson

Abstract: Hollywood has been overtaking the world film industry somewhere between 80 to 90%. Only a few countries including France, South Korea, and India etc, have survived among those countries that were overtaken by the Hollywood power. Especially, the film industries in South Korea have an unusual success over its limited financial and historical facts. The movies produced in South Korea have been remade by Hollywood more than ever. What could be the reasons of the huge success in the highly distinguished film festivals internationally for South Korea? By examining the comparable characteristics between South Korea and Hollywood, we'd see the limitations and future visions in order to make a better film industry environment.

214

Title: Taxing the Fat out of America

Presenter(s): Luke Schulz

Department: Economics

Advisor: Oscar Flores

Abstract: Heart disease is one of the leading causes of death in the United States. Currently America has a problem with being overweight and not making healthy choices in their food to help curb the problem of heart disease. This presentation will address both the current situation and one possible way to help fix it, a sin tax on fat. Alcohol and cigarettes are currently taxed heavily because of the negative effects on society. By consuming certain foods you are adding to the chances of heart disease and placing a burden on the healthcare system. I will discuss placing a sin tax on certain high fat foods.

215

Title: What will happen to the Earth's orbit when the Sun dies?

Presenter(s): Tim Gustafson

Department: Physics

Advisor: Matt Craig

Abstract: The orbit of Earth is determined by the mass of the Sun and a small amount by the mass of Jupiter. At the end of the Sun's life, when it goes nova and loses mass, the gravitational orbit of Earth will be disturbed and Jupiter's gravitational pull will become more significant. Through numerical analysis and computer simulations, I have analyzed what will happen to the Earth's orbit when this occurs, what the new orbit will look and the different Jupiter will make.

216

Title: Differential Activation of ERK in Five Different Cancer Cell Lines

Presenter(s): Jason Tan, Craig Kutz

Department: Biosciences & Chemistry

Advisor: Joseph Provost

Abstract: We are exploring five cancer cell lines (H358, H1299, H460, CCL39, A549) to characterize ERK activity within intracellular signaling pathways involved in cell migration. The extracellular signal-regulated kinase (ERK) is a protein kinase involved in regulating cell division for differentiated cells, and is active when phosphorylated by an upstream protein kinase. We have also been determining the role of Phospholipase D (PLD) in the regulation of ERK activation. PLD catalyzes the conversion of phosphatidylcholine to phosphatidic acid, which can lead to ERK activation. In this experiment we use Butanol to inhibit PLD-activation of ERK via the Ras-Raf pathway. Cancer cells are stimulated with varied hormonal environments leading to different pathways being turned on or off leading to changes in metastatic potential. The three hormones used in this experiment to stimulate cancer cells were phenylephrine (PE), lysophosphatidic acid (LPA), and the urokinase plasminogen activator (UPA). The amount of pERK was then measured via Western blotting, and quantified with regards to total amount of ERK. In H358, H460, and A549 cell lines, the addition of PE decreases the amount of pERK. Conversely, addition of LPA and UPA increases pERK, but not in A549's. We hope to use the data obtained in this screen of ERK activation to better understand the mechanistic intracellular pathways by which cancer cells metastasize.

217

Title: Injured Minnow Cue's Effect On Predator Fish Hunting Activity

Presenter(s): Marco Smith, Colt Violet

Department: Biology

Advisor: Brian Wisenden

Abstract: Recent studies have found that damaged skin cells of minnows give off a alarm cue that alerts fellow minnows of danger but also attracts predatory fish. Our study is to find if this chemo attractant enhances a game fish's likelihood to strike a lure. Chemo attractant cells were prepared from the skin of *Catostomus commersoni* (a sucker minnow). The scent will be applied to different fishing techniques to determine the effect of chemo attractant on each. We expect to see no increase in the frequency of strike rate in sight oriented fishing techniques. However, we expect an increase in strike rate when using techniques that allow scent to be diffused into the water. The purpose of this study is to gain a better understanding of the hunting patterns of predatory fish and

possibly equate this to the evolutionary benefit minnows have gained from releasing this chemo attractant when injured.

218

Title: How does Starbucks compare to Walmart and Caribou Coffee: Economic and environmental comparison

Presenter(s): Jonathan Weiss

Department: Business Administration

Advisor: James Swenson

Abstract: Starbucks has evolved into a community resource and environmentally friendly corporation. Yet it is still criticized, and often grouped with other corporations accused of price gouging and unfair wages. Walmart will be compared to Starbucks in the areas of position on the job market, employment policies/history, and community resource. A smaller corporation, Caribou Coffee, will also be examined in those three areas. Outline: Starbucks compared to Walmart and Caribou Coffee as a: -Corporation -Employer -Community Resource

219

Title: Opportunity costs in drug rehabilitation

Presenter(s): Ross Godfread

Department: Economics

Advisor: Oscar Flores

Abstract: This paper will examine the costs and benefits of treating drug offenders and also perhaps analyze the costs to individuals and society for mandatory minimum sentencing laws.

220

Title: Use of a PIT Tag System in Permanently Identifying Wild Painted Turtles (*Chrysemys picta bellii*) in Clay County, Minnesota

Presenter(s): Jill Wavra, Ross Larson, Hallie Ladd, Margo Kramer, Melissa Pederson, Amanda LaPlante, Stacy Wanzek, Megan Lisburg, Molly Dowling, Bradley Schutt, Kyle Noyes, Rachel Spiess, Morgan Elfelt

Department: Biosciences

Advisor: Donna Stockrahm

Abstract: Microchips are very useful in uniquely identifying many species of wild and domestic animals. One type of microchip, called a "passive integrated transponder" (i.e., PIT tag) is becoming more widely used in wildlife studies. We have been conducting a study in Clay County, MN on painted turtle (*Chrysemys picta bellii*) ecology where we have marked 570 turtles to date. Up until 2006, we had been marking turtles by notching the outer scutes of the shell in a unique number pattern. However, over the years, the scutes can become chipped or cracked and the notch number is unclear. In July 2006, we started using a PIT tagging system by Biomark to inject a microchip into the turtle's abdomen for permanent identification. We successfully injected 169 PIT tags. The system consists of a microchip reader and the microchip itself. This poster outlines the procedure used to insert the microchip. The overall procedure consists of injecting a tiny microchip with a syringe into the abdominal cavity through the skin on upper leg where the leg adjoins the shell. The injection site, microchip, and syringe are all first disinfected with 70% isopropyl rubbing alcohol. The needle angle is parallel with the long axis of the shell, immediately under the shell so as not to damage internal organs. The PIT tag number is read by the reader and the unique identifying number is recorded. Upon recapture, turtles can then be checked with the reader to

determine if they contain a PIT tag. This method looks very promising so far, and we plan to further field test it in the summer of 2007.

221

Title: Social Burden of Obesity

Presenter(s): Tanya Davis

Department: Sociology

Advisor: Sue Humphers-Ginther

Abstract: Today there is an epidemic happening in the United States; the percentage of those who are overweight or obese is on the rise. While it is evident that being overweight or obese negatively affects ones' health, there is little to be heard of the social costs associated with such a large number of Americans in this condition. This research will look into cultural, environmental, and socioeconomic reasons for obesity as well as the burdens it places on this group of individuals and the society in which they live.

222

Title: Education and Student Life in Japan

Presenter(s): Anthony Quiggle

Department: Languages & Cultures

Advisor: Chizuko Shastri

Abstract: I will be presenting a poster board about education in Japan and it will be broken up in to two different parts. The first is going to be about the education system in Japan. The second is going to be a comparison of student life in Japan and student life in the U.S.A. There will be some charts on these topics.

223

Title: The Political Economy of Africa's Food

Presenter(s): Oluwaloni Giwa

Department: Political Science

Advisor: Lee Vigilant

Abstract: Millions of Africans die of hunger every year. This analysis will consider the ideological reasoning behind agrarian failure and will also analyze the economic policies that facilitated mass hunger in Africa. Using the case study approach, I will study the countries of Zimbabwe and Niger. I will then conclude with a discussion on policy proposals that might potentially end Africa's hunger.

224

Title: Workers' Rights Violations in U.S. Territories

Presenter(s): Justin Schweigel

Department: Political Science

Advisor: Andrew Conteh

Abstract: This oral presentation began as a paper for International Protection of Human Rights, a political science class. It is an exploration of the recent controversy surrounding the suit by several anonymous plaintiffs of The Gap Inc. and other clothing companies that take advantage of cheap labor conditions in U.S. territories like Guam and the Commonwealth of Northern Marianas Islands. The clothes made in these territories can be labeled "Made in the USA" despite differences in minimum wage and working conditions.

225

Title: The effect of simulated drought on the physiological performance of the native prairie plant, Switch Grass, and the consequences for its utilization in ethanol production

Presenter(s): Melissa Thomas-Goddard, Ashlee Hersch

Department: Biology

Advisor: Chris Chastain

Abstract: Switch Grass (*Panicum virgatum*) a native perennial C4 prairie grass is currently being hailed as the best alternative to corn for producing the biofuel ethanol from. As a native prairie plant, it should be able to endure water stress (drought) better than corn, a non-native cultivated crop species. This ability would be an advantage when trying to maximize yield of plant dry matter for use as ethanol feedstock in dryer parts of the great plains. This study sought to test whether or not such an advantage exists by comparing the basic photosynthetic properties of corn versus switch grass under conditions of short-term water stress.

226

Title: Helping People with Disabilities through Art Therapy

Presenter(s): Macy Schindler

Department: Art and Design

Advisor: Wil Shynkaruk

Abstract: For the last three years I, Macy Schindler, under the guidance of Wil Shynkaruk, have been teaching ceramic workshops for people with disabilities. These workshops provide individuals with a way to express themselves and enjoy time with peers. They are exercising their fine motor skills by working with the clay. The workshop contains demonstrations and projects, but for the most part I work on each individual's skill level. Everything that is created at the workshop is bisqued for next time. Then they can glaze their pieces and eventually take them home.

227

Title: Oracle, a revolution in Relational Database Management Systems

Presenter(s): Eshret Dogar

Department: Computer Information Systems

Advisor: John Gaffrey

Abstract: Oracle has been engaged in providing relational database management systems to enterprise and small businesses. Based on IBM's (Relational) model, today oracle RDBMS supports over 80 different operating environment. In my presentation, I will illustrate the Oracle support for 12 rule of Cood for Perfect RDBMS.

228

Title: Behavioral Responses of Fathead Minnows to Denatured Chemical Alarm Cues

Presenter(s): Justin Karst, Rachel Salvejoya

Department: Biosciences

Advisor: Brian Wisenden

Abstract: Many fish use chemicals released from damaged skin as an indicator of predation risk. The chemistry of the active components of skin alarm cue is not well understood. The project is testing whether the active component in chemical alarm cue are composed of proteins. The alarm cues will be exposed to common methods of protein denaturation. This splitting process will be visualized on a electrophoresis gel. Behavioral responses of fathead minnows to the intact alarm cue will show if alarm cues rely on protein structure.

229

Title: Title IX in Division II
Presenter(s): Joe Denker
Department: Economics
Advisor: Oscar Flores
Abstract: An Economic Exploration of Title IX in Division II Athletics.

230

Title: Are Common Green Darner Dragonflies Dependent on the Geomagnetic Field for Migration?
Presenter(s): Josh Lunski
Department: Biosciences
Advisor: Linda Fuselier
Abstract: Little is known about the mass migration of the common green darners and whether the geomagnetic fields allow for their northward route. The purpose of the study will be to find out whether the common green darner dragonflies use geomagnetic field for orientation. Are migrant green darners more likely to orient to the geomagnetic field than resident green darners?

231

Title: Monk's Mood
Presenter(s): Stephen Giedosh
Department: Music
Advisor: Laurie Blumsom
Abstract: Thelonious Monk, pianist, composer, Bebop Pioneer and tortured soul, will be the topic of discussion. Monk was truly a Genius and helped pave the way for modern jazz, and to understand him and his music is to understand the whole Bebop period and just how close Genius and insanity really are. I will start by looking at his childhood and early life. It is in these years that will come to understand not only Monk the person, but also Monk the musician. I will then move to his life as a performer and composer, getting a full idea of just what Monk did musically in the Bebop period, how it influenced him and how he influenced the time and place he lived in as well as his fellow musicians. Lastly I will discuss his last years, in an attempt to get the whole picture and understand what made Monk such an important figure in history, and how his deteriorating mental condition help set him apart from other giants in the Bebop era.

232

Title: Great Outdoors Construction
Presenter(s): Jeff Carlson, Cory Davison, Ryan Johnson, Chris Schock, Josh Becker
Department: Technology
Advisor: Norma Andersen
Abstract: We are developing Two Hundred Fifty Seven acres in Otter Tail County. It will be developed into a common interest community development.

233

Title: Blue Heron Bay Development
Presenter(s): Andy Huiras, Mike Hass, Danny Palm, Jeremy Larson, Ross Maliskowski
Department: Technology
Advisor: Norma Andersen
Abstract: Our presentation will describe the land development of a subdivision located near Perham Minnesota. We will also talk about house building, market analysis, cost analysis, and why a potential buyer should build in this location.

234

Title: W. V. Quine- Ontological Relativity
Presenter(s): Mike Dalager
Department: Philosophy
Advisor: Randy Cagle
Abstract: Using W. V. Quine's idea of ontological relativity, I would like to show that not only our native, but also other languages that we have learned will give us a wider range of interpretations to use when communicating. Creating a larger set of possible meanings for words will result in a greater understanding of the different modes of communication. Ultimately what I would like to show is that the more languages you know (and subsequently your level of knowledge of those languages) the better chance you have at understanding things in the world (ideas, definitions, why people do the things the way they do).

236

Title: Crest Point Contractors Inc. Blue Heron Bay Project Development
Presenter(s): Lance Meier, Jeremy Ecker, Aaron Cribb, Elizabeth Deyle, Matthew Hess
Department: Technology
Advisor: Norma Andersen
Abstract: The project consists of creating a company and using that company to develop an actual residential lakeshore development on Dead Lake, MN. Components of the project included, but are not limited to, demographics of target market, marketing strategies, financial background and outlook, local utilities coordination, zoning requirements, estimating, scheduling, environmental awareness, and housing options for buyers. Project goal is to convince the actual land owner that the company proposal is feasible, attractive for marketing, and the best choice for this development.

237

Title: Philosophers and Jews: Connected
Presenter(s): Elizabeth Howell
Department: American Multicultural Studies
Advisor: Jane Ball
Abstract: Philosophy can be used to interpret sacred texts, cultures, practices, and people of a religion. Judaism is an old religion, dating back 5000 years. Philosophy and Judaism can seem to contradict each other, since philosophy is partly about questioning beliefs and facts while Judaism has very specific beliefs. Some believe that it is impossible for a Jew to also be a philosopher, but what does it really mean to be a philosopher? Must we constantly question everything we're told? Most people do. This presentation sets out to explore why people think there is such a boundary between Judaism and philosophy. The presentation is about looking at philosophy as a Jew and looking at Judaism as a philosopher.

238

Title: Halo effect ! -> the effect where the good - looking appearance goes to a person evaluation!
Presenter(s): Sunyoung Park, Yule kwon
Department: Psychology
Advisor: Ernest Hallford
Abstract: TBA

239

Title: Blue Heron Bay Cluster Development

Presenter(s): Jason Januszewski, Ben Buck, Heather Hausmann, Derrick Brew, Alex Stotesbury

Department: Construction/Technology

Advisor: Norma Andersen

Abstract: A cluster development designed by our made up contractor Red Leaf Builders.

240

Title: Recent Progress in Poverty Reduction in Minnesota

Presenter(s): Ryan Jacobs, Jeannie Kempers

Department: Economics

Advisor: Zachary Machunda

Abstract: In a recent report by the US Census Bureau the State of Minnesota's poverty rate is the second lowest in the nation, yet some minorities and communities still languish in double-digit poverty rates that are above the overall poverty rate for the United States of America. In this presentation we will examine various social, demographic, racial and regional aspects of poor Minnesotans, and those factors underlying Minnesota success in poverty reduction since 1990. We will attempt to identify state antipoverty policies and poverty reduction strategies of civic organizations that have helped to reduce the overall poverty rate of Minnesota in the 1990s. Finally, we will isolate and explain the persistence of concentrated high poverty in some communities.

241

Title: Business Combinations Proposed Standard

Presenter(s): Matt Althoff, Tim Burner, Katie Kellner

Department: Accounting

Advisor: Joann Segovia

Abstract: Our presentation is going to be on Business Combinations Proposed Standard. The objective is to develop a single high-quality standard for accounting for business combinations that could be used for both domestic and cross-border financial reporting.

242

Title: River Blindness

Presenter(s): Seth Lachowitz

Department: Economics

Advisor: Zachary Machunda

Abstract: My topic discusses River Blindness. I will be talking about what it is, what parts of the world it is in, who is more likely to receive the disease, and why river blindness destroys human resources that are essential to the productivity and economic growth of a country. In addition, I will address the following questions. What is the treatment for river blindness? How can a person prevent the disease? What kinds of international organizations are helping developing countries to fight this disease and have they had any success? Finally, I will be discussing the positive economic effects of a successful international program to fight river blindness in West Africa.

243

Title: Efficiency Study of Dye Sensitized Solar Cells(DSSC)

Presenter(s): Ashish Chakradhar, Jeremy Kaplan, Shyam Thapa

Department: Chemistry

Advisor: Asoka Marasinghe

Abstract: Dye Sensitized Solar Cells (DSSC) are promising alternative for the development of new generation of

photovoltaic devices. DSSC are combination of transparent electrode coated with a dye-sensitized mesoporous film of nanocrystalline particles of TiO₂, an electrolyte containing a suitable redox-couple and a Pt coated counter-electrode. In this work, improvement to the efficiency of DSSC's by incorporating different light harvesting molecules and anodic electrode material is investigated.

244

Title: Tradeoffs Between Allelopathy and Trichomes

Presenter(s): Ryan Walsh

Department: Biology

Advisor: Alison Wallace

Abstract: The purpose of this research is to find out as much as possible about the defenses of Brassica rapa, also known as Wisconsin fast plants. To be more specific this experiment is to find out more about allelopathy a type of chemical defense generally used against other plants and if Brassica rapa uses it. The hypothesis is that as the amount of trichomes increases, the ability to use allelopathy and its overall competitive ability will decrease, and when the amount of trichomes decrease, the ability to use allelopathy and its competitive ability will increase. I plan to research this by running three grass type competitors against a set of hairy (lots of trichomes) and bald (little to no trichomes) Brassica rapa. If the "hairy" plants do better then the "non-hairy" plants the Brassica rapa probably doesn't use allelopathy, but if the bald plants do better then the hairy ones then there is the possibility that Brassica rapa uses allelopathy. After that I may be able to discover what kind of relationship if any is between trichomes and allelopathy. This kind of research is very interesting from ecological stand point because natural defenses have the ability to better protect plants without the side effects that come from pesticides.

245

Title: The US-China Trade and Its Positive Impacts on the US Rural Economy

Presenter(s): Derick Hermanson

Department: Economics

Advisor: Zachary Machunda

Abstract: My presentation will examine US-China trade and the positive effects it has on rural America. I will identify reasons why US trade with China is a win-win for China and Rural America.

246

Title: Switching from Gasoline to Ethanol: Cost Implications on Various Social Groups in the USA

Presenter(s): Matthew Greer, Alishia Salmen

Department: Economics

Advisor: Zachary Machunda

Abstract: In the last decade, the use of ethanol to fuel vehicles has become increasingly popular. In this presentation we will examine some of the pros and cons of using ethanol as a fuel substitute in automobiles, the effects of switching from gasoline to ethanol on the cost of producing goods that use corn as an input. Next, we will discuss how various social groups will be burdened with rising prices of food items and other goods. Finally, we will investigate the ultimate question of whether or not private ethanol production will be viable without any form of government subsidy.

247

Title: Diurnal trends in geomagnetic noise

Presenter(s): Mahesh Rajapakse, Eric Hochhalter, Blake Lee

Department: Physics

Advisor: Linda Winkler

Abstract: This presentation combines information obtained through qualitative and quantitative research throughout the course of a semester from online sources as well as magnetometer data gathered from different locations in the world including the Buffalo state park. It has long being recognized that fluctuations in the geomagnetic field "Geomagnetic noise" at different frequencies upon geographic, ionospeheric, magnetospheric and solar conditions. I will be presenting the information that I have been able to find with more detailed information and a poster showing how these data is gathered.

248

Title: Bay View Developers

Presenter(s): Jay Gilbraith, Dave Ornberg, Ryan Palmer

Department: Construction Management

Advisor: Norma Andersen

Abstract: Land Development, with emphasis on commercial, and residential building

249

Title: XBRL (Extensible Business Reporting Language)

Presenter(s): Lasanka Abeyawardena, Prajwal Khavel, Tenzing Sherpa, Kailash Joshi

Department: Accounting

Advisor: Joann Segovia

Abstract: XBRL is an XML-based language used to describe business reporting information. These reports can be financial or non-financial. XBRL enables consumers to obtain financial information in a timely manner. It facilitates the reuse and automated processing and analysis of data and provides a framework for more detailed reporting than is currently possible using traditional paper based or electronic reporting methods.

250

Title: Mothers' Use of Facilitating Techniques before and after Using the Parent-Child Communication Program

Presenter(s): Christina Kopetsky, Nicole Perman, Laura Marsh

Department: Speech / Language / Hearing Sciences

Advisor: Louis DeMaio

Abstract: This study examined the effectiveness of the Parent-Child Communication Program (De Maio, 2000) in training parents to use seven facilitating techniques while interacting with their presymbolic and minimally symbolic children. Parents were taught these techniques through instruction, demonstration, and practice. Data was gathered before and after training. The results showed the program to be effective in training parents to use facilitating techniques with their children.

251

Title: Augustine And the Devil

Presenter(s): Jason Smith

Department: History

Advisor: Annette Morrow

Abstract: This essay explores the Nature of Evil, in the character of "The Devil", as presented by St. Augustine in his work "City of God".

252

Title: The Photoelectric & Compton Effect

Presenter(s): William Aas, Heather Sanden

Department: Physics

Advisor: Stephen Lindaas

Abstract: In our project we will examine the wave/particle duality nature of light. This will be done through the Photoelectric & Compton Effect. The photoelectric effect will show the emission of electrons from electromagnetic radiation. The Compton effect will examine how a high energy photon (gamma ray) interacts with matter.

253

Title: Investigating Degradation of mtDNA in paternal sperm mitochondria

Presenter(s): Paul Nicholls

Department: Biosciences

Advisor: Ellen Brisch

Abstract: Presentation of a research proposal to study the behaviour and removal of paternal mitochondria after fertilization. Methods to study the degradation of mitochondrial DNA and/or removal of whole paternal mitochondria will be shown. The aim of these methods is the test the hypothesis that the egg will digest paternal mitochondrial DNA while leaving the mitochondria intact, in *Xenopus* eggs.

254

Title: How Low Can You Go: Adolescent Interactions in the Social World

Presenter(s): Michelle Colton, Jerrie Bodin

Department: Sociology

Advisor: Lee Vigilant

Abstract: Unobtrusive Observations of Adolescent interactions in the social world at Skateland in Fargo. Are we socializing our children into hyper-consumerism and the club scene?

255

Title: Learning Media Writing on Deadline: SAC's Sneak Preview Newsletter

Presenter(s): Gerri Stowman, Jake Anderson, Erika Bertsch, Brietta Buntrock, Cedric Burette, Lindsay Craft, Matthew Hopper, Yeon Joung, Christa Keleher, Lisa Langseth, Jacob Norris, Kelsie Q'Keefe, Marisa Papsin, Shawn Swenson, Andrew Tichy, Evan Wicker

Department: Mass Communications

Advisor: Gerri Stowman

Abstract: Conflicting schedules and busy lifestyles were some of the problems MSUM's newest media writers faced when they profiled students for the 2007 Student Academic Conference's Sneak Preview Newsletter. "The students we wanted to interview didn't get back to us in time," several writers reported. "Now what do we do?" During this presentation, mass communications students will discuss the

benefits and challenges of developing proficiencies in media writing, Associated Press style and grammar while working on deadline and facing real-life dilemmas.

256

Title: Cross-Platform Collaborative Music Composition over the Internet

Presenter(s): Zach Kurth-Nelson, Dustin Schultz

Department: Music

Advisor: Laurie Blunsom, Ryan Jackson

Abstract: The purpose of our presentation is to outline the development of a technique of collaborative music composition over the internet. We will discuss the technical difficulties of cross-platform composition and online file transfer, as well as the creative differences inherent in any artistic collaboration.

257

Title: Occupational Fraud: How is it affecting your organization?

Presenter(s): Kaye Shoemaker

Department: Accounting

Advisor: James Hansen

Abstract: I will discuss what occupational fraud is, what types of occupational fraud occur, and how organizations can prevent this type of fraud.

258

Title: Ehlers Danlos

Presenter(s): Carla Friedrich

Department: HPE/Athletic Training

Advisor: Chris Huot

Abstract: Over view on Ehlers Danlos Syndrome

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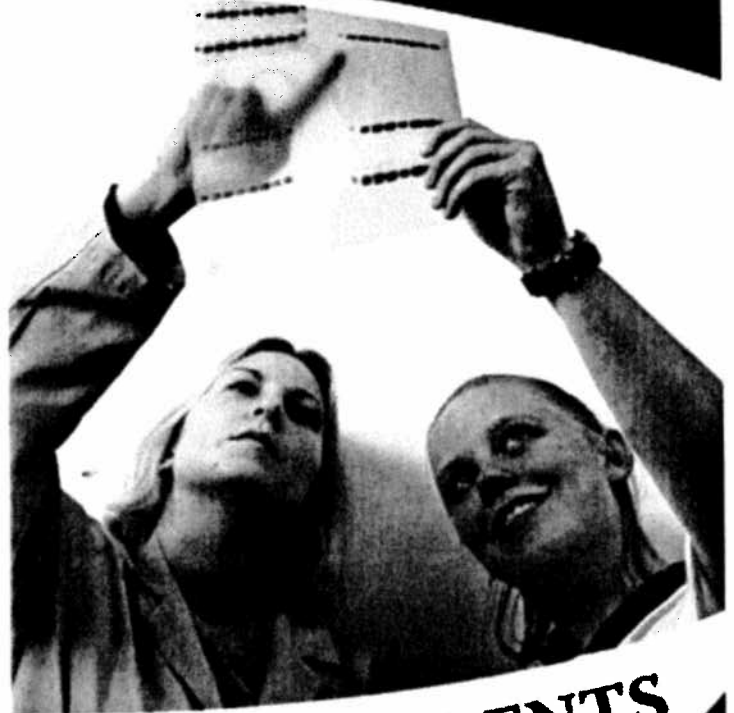
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