



Minnesota State University Moorhead  
**Red**

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Student Academic Conference Abstract Books

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2008

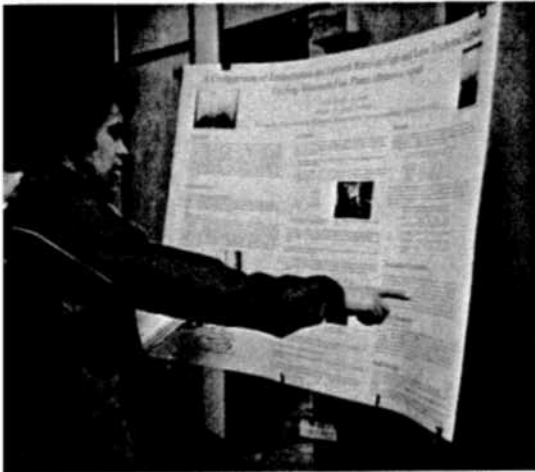
# 10th Annual Student Academic Conference

Minnesota State University Moorhead

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MINNESOTA STATE UNIVERSITY  
**moorhead**



10th Annual

# Student Academic Conference

April 9th, 2008

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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.

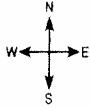
## **Sponsors**

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.

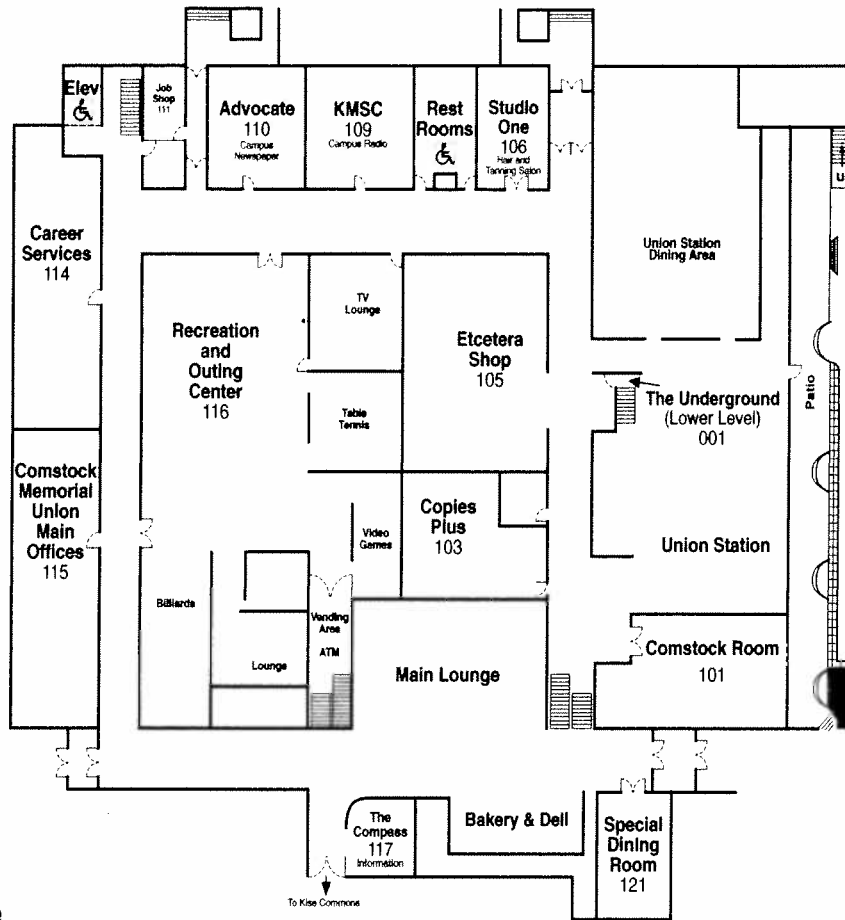
# Comstock Memorial Union Map



Comstock Memorial Union

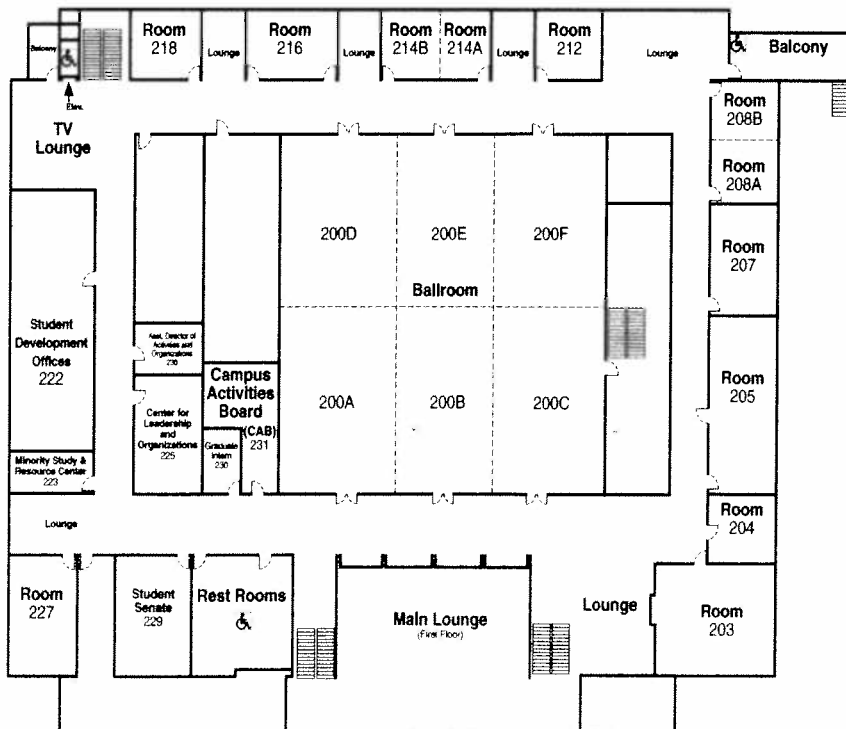


First Floor



= You Are Here

Second Floor



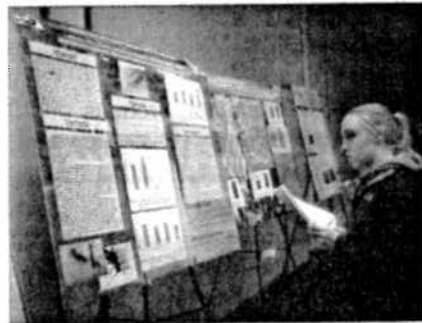
Comstock Memorial Union is a smoke-free environment

# How the Conference got Started

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## Conference Highlights

2008	258 Presentations / 436 Presenters
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

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

The 2008 Annual Student Academic Conference marks the tenth anniversary of the pursuit of scholarship, achievement, and talent by the Minnesota State University Moorhead community. I am proud to join with President Roland Barden, conference founder Dr. Andrew Conteh, and the university's supporting faculty and staff to recognize our participating students.

The Student Academic Conference has become an annual celebration, a tradition, but it also has set the pace for student achievement across the Minnesota State Colleges and Universities system. Likewise, the leadership of President Barden has been the model for scholarly pursuit and collegial encouragement. As I so often have observed, the public university is a special place. Here, we are encouraged to challenge, to question, and to ponder. This environment is demonstrated enthusiastically and vigorously at Minnesota State University Moorhead.

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

Sincerely,

A handwritten signature in cursive script that reads "James H. McCormick".

James H. McCormick

## Letter from the President

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Greetings:

This year we celebrate the tenth anniversary of the Student Academic Conference! From its inception, the conference offered an outlet for student research and creative work. Over the years thousands of students shared their knowledge in an environment that promoted inquiring minds and faculty mentoring.

MSU Moorhead Professor Andrew Conteh loves a great idea and ten years ago he was tireless in his advocacy for this conference. From the beginning, it provided opportunities for collaborations between students and their faculty mentors. Mentoring is central to our teaching and learning activities.

Presenting one's work beyond the classroom promotes student growth and development. The conference provides students the challenge and the pleasure of communicating to an interested audience—and important feedback in critiques of their intellectual products. Defending ideas in a supportive and analytical community of student and faculty scholars is a wonderful opportunity for personal professional growth.

You will encounter intellectual curiosity and creativity. You will learn about new ideas, fresh approaches, and unique methods of problem-solving. Most importantly, you will witness the next generation of scholars and leaders.

Congratulations to the student participants, faculty mentors, and conference planners who've worked to prepare for a conference that celebrates the mission of our University "to foster excellence in teaching and learning." A decade ago, this was a very good idea—today, it's a wonderful tradition!

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

Roland E. Barden, Ph.D.  
President

## Letter from the Vice President of Academic Affairs

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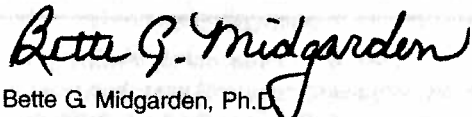
### Conference Participants:

There are so many reasons that the Minnesota State University Student Academic Conference became a tradition after its initial offering. Student learning and excellent faculty teaching are what we are about, and nothing is more appropriate for us to celebrate than student achievements in scholarship, research, and creative activity.

It seems that more and more attention is focused on institutional collaborations and partnerships. In that context, it is so important always to remember that the most significant collaboration is between student and teacher, learner and mentor. Today, we all have the opportunity to learn from the results of so many truly special partnerships.

As you make your selections and visit the poster sessions, be certain to ask the student presenters questions about what they have accomplished and what each envisions the next step to be. Also, please take time to thank the faculty mentors for their efforts – without them the rewarding day you have ahead of you would never have happened.

Yours truly,



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

## Letter from the Vice President of Student Affairs

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Welcome to this year's Student Academic Conference. This event has become one of the premier events of the year for students participating in an academic event that is unique, rewarding and challenging. Having been a session chair for many of the past conferences, I have observed firsthand the hard work, dedication and research that have been focused on the wide variety of interesting topics. I've always come away with new perspectives and items of interest that have been part of the presentation or later conversation. I have especially enjoyed those presentations that blend the research and classroom experiences with those activities that are learning experiences outside of the classroom. Making connections between one's academic endeavor and the other activities you may be involved with such as leadership opportunities within student organizations, student government, athletics, residence life or a unique employment experience can lead to a truly enriching experience.

Congratulations and many thanks to all who are participating, those that are responsible for coordinating this experience from start to finish, and those faculty and staff who support the participants and event in so many ways. Thanks to everyone that helps to make the Student Academic Conference a very special day.



Warren Wiese  
Vice President

## Letter from the President of IFO

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The Faculty at MSU Moorhead commends all those involved in the Student Academic Conference. Special recognition must, of course, go to Professor Andrew Conteh, who is the driving force in providing this wonderful opportunity to our campus.

As we look at what we as a University need to be doing, we can't help but see the many ways this conference reinforces our goals of developing students who can think critically, engage in research, and express themselves professionally in both oral and written communication.

As faculty, we are proud of our students and the work they have put into making this a success for themselves and all of us at Moorhead.

Have a great day!



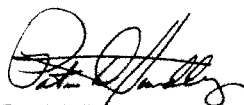
Cindy Phillips  
President  
MSU Moorhead  
Faculty Association

## Letter from the Executive Vice President of Alumni Foundation

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The great Albert Einstein once humorously described his work by saying "If I knew what I was doing, it would not be called research, would it?" If you analyze this statement, however, you see that he was being quite profound. It is research that opens up the unknown for us, that brings us to be doing new things with new purposes. To begin such exploration as an undergraduate student is a unique and special privilege.

We are so fortunate here at Minnesota State University Moorhead to have the privilege to conduct research as undergraduates and then to showcase that work here at our annual Student Academic Conference. We congratulate all participants, present and past, and we look forward to many of you having careers that, like Einstein, are involved in reaching into the unknown to find new solutions for mankind.



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

## Letter from the President of the Student Senate

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Greetings All-

The Student Academic conference is once again upon us and the students of this university are busy preparing a variety of different projects and presentations for this event. While I myself have not presented at this event, I have had the pleasure of attending the conference and have always come out knowing something I hadn't before I went in. The Conference's ability to bring a wide variety of students together to represent knowledge in the various fields of study our university has to offer is what makes this event so beneficial to not only the presenters, but the attendees as well.

Of course the event wouldn't even take place if it were not for the dedication by its director, professor Andrew Conteh. His diligence in making this event bigger and better every year is most appreciated. From the planning stages of the Student Academic Conference to the event itself he always ensures student participation is the cornerstone of this event. Conteh's contribution to the conference is the fuel that keeps the engine of the Student Academic Conference going.

As a representative of the student body, I believe it is important for the students to be a part of as many areas of college life as possible. The ability of the Student Academic Conference to combine the extracurricular and academic aspects of MSUM is a valuable venue for this type of student involvement.

So, whether you're a freshman Mathematics major or a fifth year senior English major, the Student Academic Conference has a place for you.

Sincerely,

Jered Weber  
President  
MSUM Student Senate



# Conference Schedule

Wednesday, April 9, 2008

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- 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**
- 11:50 A.M.**   **Keynote Speaker – CMU Ballroom**  
Dr. Karen Branden  
Assistant Professor, Sociology & Criminal Justice
- 12:20 P.M.**   **Student Panelist Respond – CMU Ballroom**
- College of Arts and Humanities representative will be **Debbie Pestka**, a Chemistry and Spanish double major.
  - College of Business and Industry representatives will be **Casey Swenson**, a Construction Management major and **Lindsey Swenson**, a Finance and Accounting double major.
  - College of Education representative will be **Krystal Dassinger**, a Speech Hearing Sciences major.
  - College of Social and Natural Science representative will be **Sherryse Mayo**, a Psychology major.
- 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 Main Lounge**  
Refreshments sponsored by Counseling and Personal Growth Center

# Conference Organizers And Steering Committee

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## Conference Coordinator



**Dr. Andrew Conteh**  
*Professor of Political Science*

## Conference Organizers

**Samantha Daugherty**  
*Spanish Department*



**Justin Voels**  
*Computer Science*



## PROGRAM COMMITTEE

Ashish Gupta	Rose Bakke
Barb Hopppe	Ruth Lumb
Chizuko Shastri	Dr. Conteh
Christine Malone	Justin Voels
Richard Lahti	Samm Daugherty

## LOGISTICS COMMITTEE

Layne Anderson	Hardy Koenig
Travis Dolence	Dr. Conteh
Nina Johnson	Justin Voels
Rebecca Gardner	Samm Daugherty
Aaron Quanbeck	

## How to Get Involved?

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

## PAST KEYNOTE SPEAKERS

2007 – Anita Sue Bement Education  
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

## 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 year's Keynote Speaker is:



### Karen Branden

Karen Branden was born in Houston, Texas but spent most of her formative years in Barnesville, Minnesota. Upon graduating from high school she worked for a year before being admitted to MSUM's Corrick Center. She credits the Corrick Center with her academic achievements and success. In 2003 she was honored to receive the Delmar G. Corrick Spirit and Vision Award.

While at MSUM she "found her future" and was immediately seduced by sociology. In 1991 she graduated *cum laude* from MSUM with a B.A. in Sociology and a minor in Women's Studies. She began her academic presentations while at MSUM and gave a formal talk on pornography at a Women's Studies session and at a conference at North Dakota State University.

Upon graduation she received a position in the admissions department at MSUM. Education was constantly calling so she went into a Masters program at NDSU and in 1995 she received her M.S. in Sociology.

In 1997 she lived in Kuala Lumpur, Malaysia with her husband Dennis Jacobs and taught computers to high school students of low income families. During their time in South East Asia they traveled to Indonesia, Thailand, Hong Kong and extensively around Malaysia assessing environmental impacts over time.

In 2002 she received her Ph. D. in Sociology after being hired the previous year by Bemidji State University. While at BSU she gave a number of presentations related to her dissertation topic "Negotiations between Anishinaabe and an Outside University" focusing on the relationship between a Minnesota American Indian tribe and a large land grant university as they discussed "rights" over wild rice.

In 2005 she was hired by Minnesota State University Moorhead as an Assistant Professor in Sociology. Now in her third year at MSUM she is excited to be back home.

In December of 2006 she was honored as the keynote speaker at the Fluid and Thermal Energy Conversion Conference in Jakarta, Indonesia. She spoke about engineers being "hidden heroes" as they work on sustainable energy for the future of the world.

Her research history involves a variety of topics including pornography, wild rice "rights", engineers working on sustainable energy technology, and tribal membership with the Red Lake Anishinaabe tribe. She has recently co-authored a book titled, "From McEnergy to EcoEnergy: Americans Transition to a Sustainable Future" written with her husband Dr. Dennis Jacobs. She and her husband are beginning to offer presentations about sustainable energy in the Northwest region of Minnesota.

Dr. Karen Branden's keynote address will discuss the important role MSUM and the Corrick Center has had in her life over the years. She will also discuss the various research activities she has completed. She will then move on to her excitement at being hired as an Assistant Professor of Sociology at MSUM. She will focus on MSUM's Green Fee and the Sustainable Campus Initiative Committee as part of her passion for environmental issues, the research she has been working on this area, and the recent completion of a book co-authored with Dr. Dennis Jacobs titled *From McEnergy to Ecoenergy: Americas Transition to a Sustainable Energy*. All of Dr. Karen Branden's accomplishments tie back to the foundation built at MSUM. Her keynote address is titled, "Dragons Roar into a Sustainable Future."

## Student Panelists

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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:



**Debbie Pestka** is a junior double majoring in Spanish and chemistry. She has received several scholarships including the Rochester Kiwanis Student of the Year scholarship, the Mayo Clinic Foundation Scholarship, and the MSUM President's honors scholarship. Last spring she was also awarded the CRC Press Chemistry Achievement Award. Debbie is a member of MSUM's Spanish, math, and chemistry clubs. She served as president of the math club her sophomore year and is currently serving as co-president of the Spanish club. Her work with Spanish club involves organizing Hispanic culture events, volunteering within the Hispanic community at the Centro Cultural in Moorhead, and fundraising for hurricane relief for Nicaragua and Honduras. This past fall she was inducted into the National Collegiate Spanish Honors Society, Sigma Delta Pi. This will also be her fourth semester working as a math tutor. Debbie hopes to attend pharmacy school after graduating in May, 2009.



**Casey Swenson** is a senior, majoring in Construction Management. He has been an active member of Construction Management Society for the past three years and is the president of Sigma Lambda Chi Construction Management Honor Society. He is a member of the Dean of Business and Industry's Student Advisory Board and was a recipient of the FM Home Builder's Association scholarship during 2007. He was also involved with the Dragon Baseball Club. He is interning with Manning Mechanical in Fargo, studying mechanical systems.

**Lindsey Swenson** is a senior, double-majoring in Accounting and Finance. She is a recipient of the Honor's Apprentice Scholarship, and has spent four years working in the Small Business Development Center at MSUM. She has been active with Financial Management Association for the past three years, and has been named both secretary and president. She has been the recipient of multiple accounting scholarships and is a member of the Phi Kappa Phi National Honor Society. Lindsey is interning with Northwestern Mutual Financial Network in Fargo and was featured in "Young Money" magazine after being ranked third in the country based on production.



**Sherryse Mayo** is a current Psychology major at MSUM. She has spent much of her undergraduate career focusing on research in the area of child development. Topics of research include the development of motion parallax in infancy, the development of size constancy in childhood, and the development of auditory scene analysis in childhood. During her undergraduate career she has received many awards including a conference presentation award at the Red River Psychology Conference and a research award at the Midwestern Psychological Association Conference in Chicago. In addition, she is the president of the MSUM chapter of Psi Chi, the National Honor Society in Psychology. Sherryse will be graduating Summa Cum Laude in May 2008 and will then continue to her graduate career at the University of Minnesota, Institute of Child Development. Sherryse hopes to receive her Ph.D. in child development psychology and continue on to teach at the University level.



**Krystal Dassinger** is a senior majoring in Speech, Language, Hearing Sciences with an emphasis in Pre-Audiology. She has received several academic scholarships throughout her college career including the MSUM upper-class scholarship her junior year. Krystal is currently the Service to Mankind's (SERTOMA) student representative at MSUM. Through this organization, she is an active volunteer in many community events. She is also a local and national member of National Student Speech Language and Hearing Association (NSSLHA). Krystal will be graduating in May, 2008 with Summa Cum Laude honors. She then plans on attending an Audiology Doctoral Program in the fall of 2008.

## 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 March 28 - April 9 in the gallery, located in the Roland Dille Center for the Arts. The juror for the 2008 Juried Student Art Exhibition at MSUM this year is Nick Cave, installation/Performance Artist, Fashion Designer and associate professor and Chair, Fashion Design, at the School of the Art Institute of Chicago.

Cave grew up in Missouri, and earned a BFA from the Kansas City Art Institute in 1982, and an MFA from the Cranbrook Academy of Art in 1989.

His work has been exhibited in museums and galleries in the United States and Europe, including the American Craft Museum and Studio Museum in Harlem, the Mattress Factory in Pittsburgh, and the Arts Connexion in Amsterdam. He is represented by Jack Shainman Gallery in New York.

Work in the exhibit will include; drawing, painting, sculpture, graphic design, ceramics, printmaking, and photography. Gallery hours are 10-5PM Monday and Friday 10-6PM Tuesday, Wednesday and Thursday Saturday 1-3PM Sunday 2-4PM There is no admission fee.

## Theatre Arts Department Exhibition

Throughout the year the Theatre department at MSUM offers a wide range of classes and activities that are open to all MSUM students and provide opportunities that hone skills, develop professional networks and provide additional educational functions. The MSUM Theatre Department is pleased to present some examples of these offerings during the 2008 Student Academic Conference.

### The Power of Dance

There is a certain mystique to women and men who can move their bodies in amazing and beautiful ways. Dance is as much a part of the world's artistic history as literature, music, or the visual arts, and its beauty is just as varied and complex. MSUM students in Dance for the Stage II will perform "works-in-progress" as they prepare to dance on the upcoming dance showcase.

Wednesday, April 9th  
Type: Demonstration  
Locale: Nemzek 208  
Time: 3:30 p.m.

### The Kennedy Center American College Theatre Festival: The Audition Process

An audition is a sample performance by an actor, singer, musician, dancer or other performing artist. It is used in the casting process to demonstrate the level and range of a performer's talent, and functions as a job interview for the performing arts. MSUM students will showcase audition packages created for the Kennedy Center American College Theatre Festival and the Irene Ryan Acting Competition.

Wednesday, April 9th  
Type: Demonstration  
Location: Fox Recital Hall, CA 150  
Time: 2:00 p.m.

### A Mini-Drama: An Original One-Act Play

A one act play, or more commonly "one act", or "one-act", is a short play which tends to be simpler and have fewer props, scenery and cast members. Although a one-act may be simpler by definition, it does not diminish the dramatic impact or intent of the playwright. The origin of the one act play can be traced back almost to the very beginning of drama. *The Cyclops*, a satyr play by Euripides, is an early example of the one act play. Join MSUM students as they present a concert reading of AN OLD ALBUM, the Kennedy Center American College Theatre Festival Region V's winner of Best Play.

Wednesday, April 9th  
Type: Demonstration  
Location: Fox Recital Hall, CA 150  
Time: 1:30 p.m.

## Session Chairs

<b>1:00 - 2:20 Session</b>	<b>Room Number</b>	<b>2:30 - 3:50</b>	<b>Room Number</b>
Roland Barden .....	CMU 204	James Anderson .....	CMU 200A
Jane Bergland .....	CMU 205	Janet Haak Aramess .....	CMU 200E
Laurie Blunsom .....	CMU 101	Karen Branden .....	CMU 207
Ellen Brisch .....	CMU 207	Edward Choate .....	CMU 200B
Henry Chan .....	CMU 208	Konrad Czyski .....	CMU 200C
Derek Dalhouse .....	CMU 203	Linda Fuselier .....	CMU 207
Travis Dolence .....	CMU 200C	Hardy Koenig .....	CMU 216
Mary Dorsch .....	LI 208	Shawn Ginther .....	CMU 200D
Peter Geib .....	CMU 200B	Adam Goyt .....	CMU 200E
Denise Gorsline .....	LI 222	Martin Grindeland .....	CMU 200F
Dawn Hammerschmidt .....	CMU 200A	Ashish Gupta .....	CMU 205
Stephen Hamrick .....	CMU 101	Doug Hamilton .....	CMU 203
James Hatzenbuhler .....	CMU 227	Dennis Jacobs .....	CMU 204
Jean Hollaar .....	CMU 214	Nina Johnson .....	CMU 101
Patrick Hundley .....	CMU 200A	Paul Kramer .....	CMU 200F
Ronald Jeppson .....	CMU 204	Sara Leigh .....	CMU 101
Daniel Kirk .....	CMU 203	Michael Michlovic .....	CMU 208
Cecilia Mafia-Bustamante .....	CMU 216	Kristi Monson .....	CMU 205
Doug Peters .....	CMU Underground	Sandy Pearce .....	CMU 204
Paul Sando .....	CMU 200B	Regene Radniecki .....	CMU 208
Tammie Schmiess .....	CMU 218	Hazel Retzlaff .....	CMU 214
Barb Seiler .....	CMU 216	Jean Sando .....	CMU 203
Chizuko Shastri .....	CMU 200C	Larry Schwartz .....	CMU 227
Terry Shoptaugh .....	CMU 214	Scott Seltveit .....	LI 222
Benjamin Smith .....	CMU 208	Shawn Soderberg .....	CMU 218
Diane Solinger .....	CMU 205	Lee Vigilant .....	CMU 216
Judith Strong .....	CMU 207	Teri Walseth .....	CMU 200D
William Violet .....	CMU 218	Beverly Wesley .....	CMU 200A
Marsha Weber .....	CMU Underground	Diane Wolter .....	CMU Underground
Pam Were .....	LI 222	Greg Wymer .....	LI 208
Deb White .....	LI 208		
Warren Wiese .....	CMU 227		

# Schedule by Room

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- **CMU 101**

- **Session 1**

- 1:00 16 An in depth study of the style of Wes Montgomery, and how the study of a master improviser can influence a student.
    - 1:20 36 Human Rights and the United Nation: A Wolf in Sheep's Clothing?
    - 1:40 23 Living with ethnic and cultural differences of others
    - 2:00 24 Permutation Statistics and q-Fibonacci Numbers

- **Session 2**

- 2:30 25 Industry Study
    - 2:50 26 St. Augustine: Doctrine of Teaching
    - 3:10 167 The Effects of Geomagnetic Field Alterations on larvae of a migratory dragonfly
    - 3:30 22 The Empress Wu Tse-t'ien: Gaining Legitimate Ground as China's First and Only Female Emperor

- **CMU 121**

- **Session 1**

- 1:20 223 The Problem with School Funding
    - 1:40 45 The Importance of Volunteering in the Lives of the Elderly.
    - 2:00 52 Identity Theft

- **Session 2**

- 3:10 62 Analyzing Crime: A Mathematical Model
    - 3:30 54 Utilizing the 5E Model to teach two lessons in human physiology

- **CMU 200A**

- **Session 1**

- 2:00 230 Searching for cryptic Species within the genus Metzgeria using sequence data and ISSRs

- **Session 2**

- 2:30 169 The Payoff of Self-Directed Work Teams
    - 2:50 170 The Rise of a Russian Francophile: Marie Bashkirtseff
    - 3:10 171 The Art of Song
    - 3:30 185 Artistic Processes in Music Composition

- **CMU 200B**

- **Session 1**

- 2:00 231 The Constitutional Challenges to the Lethal Injection

- **Session 2**

- 2:30 190 the effects of abuse on adolescent teen run-aways
    - 2:50 120 China's Economic Growth
    - 3:10 172 Effect of Wal-Mart Supercenters on Grocery Prices in Minnesota

- **CMU 200C**

- **Session 1**

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- **Session 2**

- 2:30 139 Check Fraud - Learn to Protect Yourself
    - 2:50 183 Martin Smith or Martin Luther? Two in the same?
    - 3:10 207 Gammarus Lacustris chemical alarm cue latency
    - 3:30 212 Free Trade Block Comparison of the North American Free Trade Agreement (NAFTA) and the Association of South East Asian Nations (ASEAN)

- **CMU 200D**

- **Session 2**

- 2:30 222 The Limits of My World
    - 3:10 101 Fuel Efficiency: What's In Your Tank?
    - 3:30 119 Poverty Reduction and Economic Growth in India

- **CMU 200E**

- **Session 2**

- 2:30 140 Understanding the Mormon Church: A Participant Observation
    - 2:50 141 From Ear to Ear the Music I Hear
    - 3:10 143 Effectiveness of Advanced Solar Disinfection on Escherichia coli
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- **CMU 200F**
  - Session 2**
  - 2:30 43 Implementation of the 5E Model of Education on a Genetics Unit
  - 3:00 253 The Revolution of Crack-Cocaine Sentencing
  - 3:30 176 Exploring inquiry with on-line simulations and the 5E model of instruction
  
- **CMU 203**
  - Session 1**
  - 1:00 85 The Digital Tongue: the Causes and Effects of Netspeak and Internet Slang
  - 1:20 15 The Human Factor: The need for human translation in an electronic world
  - 1:40 17 What Are Supermax Prisons All About
  - 2:00 238 Creating Accessible Digital Videos To Help Students Prepare For Microbiology Laboratories And Review Procedures
  - Session 2**
  - 2:30 30 Mothers' Use of Facilitating Techniques Before and After Parent-Child Communication Program Training
  - 2:50 34 Women on the Plains: Identity and Role Development in Leadership
  - 3:10 35 The Potential Impact of a Mass Transit System on Congestion Costs.
  - 3:30 37 Factors Contributing to Smoking Ban in Public Places and the Impacts of Implementing such a Policy.
  
- **CMU 204**
  - Session 1**
  - 1:00 236 Cross-cultural Communication and Its Relation to International Marketing
  - 1:20 64 Tax Fraud: An Analysis on the Effects of Noncompliance within Society.
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  - 2:00 175 Kirk Nugent's Afrocentric speech and Knowles Borishade's Model
  - Session 2**
  - 2:30 32 Preventing Genocide in Our Time
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  - 3:30 234 The Evolution of SCHIP
  
- **CMU 205**
  - Session 1**
  - 1:00 109 Research in Contemporary Art and Design: The Feminist Art of Sarah Lucas
  - 1:15 91 Research in Contemporary Art and Design: The Paintings of Gerhard Richter
  - 1:30 129 Research in Contemporary Art and Design: The Work of Janine Antoni
  - 1:45 59 Research in Contemporary Art and Design: The Use of New Media in the Art of Guo-Quiang
  - 2:00 57 Research in Contemporary Art and Design: Contemporary Practices in Drawing and Printmaking
  - Session 2**
  - 2:30 74 Research in Contemporary Art and Design: Protest Art of the Vietnam War Era and Today
  - 2:45 58 Research in Contemporary Art and Design: The Design Philosophy of Philippe Starck
  - 3:00 48 Research in Contemporary Art and Design: Self-Portraiture in Contemporary Photography
  - 3:15 61 Research in Contemporary Art and Design: Loren Greenfield's Girl Culture and the Role of Consumer Products in Shaping Women's Self-Image
  - 3:30 89 Research in Contemporary Art and Design: Feminism and Cindy Sherman's Photography
  
- **CMU 207**
  - Session 1**
  - 1:00 149 Magnetic Susceptibility Studies at Poverty Point State Historic Site
  - 1:20 53 The Racist Side of Humor
  - 1:40 92 Frida Kahlo: A Mexican Icon
  - 2:00 93 Indigenous Peoples' Rights and The Right to Self-Determination
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  - 2:30 97 Contemporary Hispanic-American Playwrights
  - 2:50 98 Romanticism and Death: A paralleled world
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- **CMU 208**
  - Session 1**
  - 1:00 31 Wage Differentials for Immigrant Women in the United States: Effect of Gender and Ethnicity
  - 1:20 262 Time Travel and the Philosophy of Time: a look at the implications time travel would have for various philosophies of time.
  - 1:40 46 The True Value of the Dollar Menu
  - 2:00 227 Behavioral response of the green darner dragonfly, *Anax junius*, to conspecific and predator chemical signals
  - Session 2**
  - 2:30 63 Heinrich Schliemann: Representative of the 19th Century
  - 2:50 66 Developing Intercommunity Workshops: Process and Collaboration
  - 3:10 83 Health Care Reform
  - 3:30 84 Wuthering Heights' Catherine Earnshaw: Feminist Cautionary Tale or Bronte's Ideal?



- **CMU 214**
  - Session 1**
    - 1:00 213 Sustainability initiatives in the Costa Rican coffee industry in need of reform
    - 1:20 217 A comparison of forest tree diversity between tropical and temperate rainforests.
    - 1:40 163 The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.
    - 2:00 224 The Effects of Tourism on the Nicoya Peninsula, Costa Rica By: Heather, Justin, Renee, Jesse and Julie
  - Session 2**
    - 2:50 122 Vietnamese Refugees and Mental Health: Causes and Treatment for Mental Health Issues
    - 3:10 124 Ultraviolet radiation thresholds for gemmae of three liverwort species, *Marchantia polymorpha*, *Marchantia inflexa*, and *Marchantia paleacea*
    - 3:30 111 Nathaniel Courthope: The Unsung English Hero Who Created An Empire
  
- **CMU 216**
  - Session 1**
    - 1:00 145 Cyber Crimes: Identity Theft
    - 1:20 146 Feasibility Study of Sustainable energy on MSUM campus.
    - 1:40 79 Mirando hacia el sur: Reflections on Language, Literature, and History in Latin America.
  - Session 2**
    - 2:30 99 Urban Growth Boundaries and Housing Prices
    - 2:50 107 An analysis of the international automobile industry
    - 3:10 127 Hildegard a Women Composer in a Man's World
    - 3:30 128 The Interpretive Role of the Shultz Site Ceramic Collection in Northeast Plains Prehistory
  
- **CMU 218**
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    - 1:00 134 A View of Women Administrators in Higher Education
    - 1:20 135 The Neutral Comet Assay for DNA Damage
    - 1:40 187 Forecasting Crude Oil
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    - 3:10 160 Roman Sexuality; The Dynamics of Gender
    - 3:30 69 Searching for Cryptic Species: Assessment of Genetic Variation Among *Marchantia inflexa* Populations Using Inters-Sequence Simple Repeats
    - 3:30 95 The Road through The Lord of The Rings
  
- **CMU 227**
  - Session 1**
    - 1:00 174 Feasibility Study of the Vaisala GMP222 Probe and GMM222 Monitor in the Atmospheric Sounding of Carbon Dioxide.
    - 1:20 137 Credit Card Fraud
    - 1:40 87 The fight against HIV/AIDS
    - 2:00 152 Mothers' use of facilitating techniques before and after Parent-Child Communication Program training
  - Session 2**
    - 2:30 102 US Coal Supply: a Mathematical Projection of Coal Reserves and Why We Need to Search for an Alternative Resource
    - 2:50 157 A Study of Accounting Majors' Ability to Recognize Fraud Risk
    - 3:10 154 The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?
    - 3:30 153 Multinational Corporations and Human Rights
  
- **LI 208**
  - Session 1**
    - 1:00 182 Series of Lessons addressing Global Climate Change
    - 2:00 78 The bombing of Hiroshima and Nagasaki as captured on film
  - Session 2**
    - 2:30 268 Creating the Student Academic Conference Promotional Video
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    - 1:00 215 Don't Ask Don't Tell
    - 1:20 41 The Policy of Same-Sex Marriage
    - 1:40 248 Reauthorization and Improvement [?] Act of 2005: Patriot Act
    - 2:00 235 Endangered Species Act - Still Controversial 35 years Later?
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    - 2:30 247 Climate Security Act
    - 3:00 189 Reforming Health Care
    - 3:20 273 "If the Genes Don't Fit, You Must Acquit:" A Look at Paternity Fraud Legislation in California
    - 3:40 249 Changes in No Child Left Behind

• **CMU Underground**

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2:50	254	Juvenile Justice
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3:30	257	Immigration

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12	Herpes
14	Darfur's Manufacturing Consent
18	Reflections: A Student to Student Service Learning Project
20	Scleroderma
28	Morton's Neuroma
42	Anishinaabe Ethnobotany Part One
44	Decorated Ceramics from the Biesterfeldt Site: A Stylistic Analysis
50	Synthesis of semicarbazide-cyanoborane in ionic liquids
56	Nurses in America
60	Construction Management Capstone project
68	SEC Advisory Committee on Improvements to Financial Reporting
70	Jalapa, Nicaragua: A Transcultural Experience
72	Levels of Love Components in Relationships Based on Sternberg's Triangular Theory of Love
80	Spinal cord injury alters autonomic balance, baroreflex sensitivity resulting in beta-adrenergic receptor activation and changes in calcium regulatory protein expression
86	Aging, Loneliness and Isolation
90	Asymmetric synthesis of novel pyrazolidinone compounds using chiral relay and face shielding
96	Returning to Toy Guns: A Child Soldier after the Conflict Is Over
104	TEEM Construction, Inc.
106	Examining the affects of caffeine on oxidative stress, beta-amyloid production, and mtDNA damage in laboratory mice
110	Financing Long-term Care
113	Protein concentration and heart weight to body weight ratio explain difference in aerobic capacity between Dark Agouti and Copenhagen rats.
116	Treasury Advisory Committee on the Auditing Profession
125	Pyridine-bis-amide complexes of copper(II) as oxidation catalysts
130	Biesterfeldt Ceramics
132	Can You Hear Me Now? Technology and Learning For Deaf Students
138	Belemnite Rostrum used as an Indicator of Marine Flooding Surfaces in the Jurassic Sundance Formation: Seminole Reservoir Wyoming, USA
144	Exploring Business Opportunities in an Online Gaming Environment: A View from Second Life
147	Understanding Email Overload and its implications on Workplaces
148	The effects of 9-hydroxy Xanthene on the erythrocyte membranes of hypertensive and normotensive male rats.
150	An investigation into the abiotic onset of systemic acquired resistance in <i>Cucumis sativus</i>
151	Using NMR to Determine the Relaxation Time of a Hydrogen Nucleus
156	Spanish Exiles in Russia After the Spanish Civil War
159	Estrogenic Activity on Hatching Rates of Medaka Fish Embryos
164	Michelson Interferometer
178	Depression in Young Adults
180	Operations Management at a Casino
188	An experimental approach to characterizing direct ERK-mediated phosphorylation of the dopamine transporter.
192	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass
194	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass
196	The Legalization of Marijuana
198	Movements of Painted Turtles ( <i>Chrysemys picta bellii</i> ) in Relation to Habitat Characteristics in Clay County, Minnesota
200	This Transgression Will Not Stand: A Comparison and Characterization of a High Frequency Sequenced and Flooding Surfaces Using Conodont Distribution Patterns and Sequence Stratigraphy: Iowa Limestone (Upper Pennsylvanian; Iowa and Kansas)
202	Cross-Curricular Mathematics
204	Oxidation of Benzyl Alcohols by Copper(II)-salen Complexes
206	A comparative investigation into the photosynthetic properties of Corn and Switch Grass
208	Introduction to some of the technological changes in the Accounting profession.
210	Estrogen Levels in the Water of the Red River Valley
216	Probing the Pyruvate Phosphate Dikinase Regulatory Protein for Protein Phosphatase Structure
220	Push vs. Pull Supply
228	Examining the Kinase Activity of the PDK Regulatory Protein: In Search of a Functional P-loop
237	Risk Assessment Behavior of Zebrafish with Introduction of Alarm Cue
242	Technology in Sports

244	How to use technology in Accounting
256	Women Unemployment in United States and Europe from the year 1970-1990
258	An Online Digital Portfolio: Constructing a simple but elegant presentation of your work
260	Plant Physiology Laboratory 2008: A Comparative Investigation into the Photosynthetic Properties of Corn and Switch Grass
264	Variation in glucosinolate levels in Brassica rapa (Wisconsin fast plants)
275	Applications of RFID Technology in Healthcare
276	How can IT be used to improve homeland security
114	Large Format Photography: A Lost Art

## Session 2

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19	Rhabdomyolysis
21	Meeting the Needs of An Autistic Children: The Story Of A Kindergarten ELL Leaner
27	Education through Model United Nations
29	The FASB and IASB Conceptual Framework Project
33	Host plant ovipositional preference of Trichoplusia ni moths for wild and commercial varieties of cabbage with varying levels of glucosinolates
39	Manitoba International Marketing Competition 2008
47	XBRL and Its Effects on the Accounting Profession
49	Effects of relatedness and the risk of competition on clutch size decisions in a parasitic wasp
51	Anishinaabe Ethnobotany Part Two
65	Celiac Sprue
67	XBRL - Extensible Business Reporting Language
71	What has been done to end the conflict in Darfur?
73	Conservative Treatment of Disc Herniations
77	Solar Energy
88	Helping People with Disabilities through Art Therapy
94	Atomic Force Microscope To Measure Nanoscale Distances
100	The Biesterfeldt Site: A National Historic Landmark
105	H&S Construction Group Presentation
108	The effects of elevated carbon dioxide on growth and reproduction of maternal families of Brassica rapa plants
112	Native American Eagle Trappings
115	Ancient Egypt's Momentous Change to a Unified State Represented on Pottery
117	Identity Theft in America
118	A technological perspective on Forensic Accounting and Fraud Detection
123	Synthesis of semicarbazide-cyanoborane in ionic liquids
126	Effect Of Carbonmonoxide On Liquidus Temperatures Of Silicate Melts At 1-ATM Pressure
131	Effects of Shared Sound and Spelling on False Word Recognition
133	Advantages and disadvantages of radio frequency identification (RFID) technology
136	An Investigation on MMP-9 mediated cell invasion and metastasis in non-small cell lung cancer
142	Interpretive Explanations of the Depictions of the Origin Myths of the Aztecs
155	X-Rays: Properties and Applications
158	Emotional Impact of Cadaver Dissection on Undergraduate Students
161	Media Representation of Muslims and Islam
165	Nuclear Magnetic Resonance of Solid State Hydrides
173	Risk Management within Financial Institutions
177	Division 1 College Football Ranking Methods
179	Collaboration of International and Financial Accounting Standard Boards on Conceptual Framework project.
181	Enterprise Resource Planning
184	Spectrographic Analyses of Ceramic Sherds from the Sprunk Site, ND
186	Applications and Synthesis of a Pyrazolidinone Chiral Relay System for Asymmetric Alkene Additions
191	Characterizing Magnetic Nodules Recovered from Archaeological Sites
193	A comparative investigation into the photosynthetic properties of Corn and Switch Grass
195	What is the positive/negative impact of social networking websites such as facebook and myspace?
197	Operations Management of Record Company
199	Investigations of Crofton's Formula
201	Power Shift 2007
203	What Else Is Eating Your Salad?
205	A comparative investigation into the photosynthetic properties of Corn and Switch Grass
209	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn versus Switch Grass
211	Significance of the Teocalli Monument
218	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass.
219	Sequence Stratigraphy of the Lower Duperow Formation ( Upper Devonian) in Western North Dakota
225	BNCT: Boron Neutron Capture Therapy
226	The abiotic induction of systematic acquired resistance (SAR) in Cucumis sativus alters cell wall structure and biochemistry: Evidence for interactions between the plant and its environment
229	Using microsatellites to examine two behaviorally divergent populations of Anax junius, a migratory dragonfly
239	Copper(II)-based oxidation catalysts using tethered bis-amino acid ligands
241	How to Manage a Project
243	Operations Management at Casino
263	Effect of Carbon Monoxide on Liquidus Temperatures of Silicate Melts at 1-atm Pressure in Two Compositions.
265	Anishinaabe Ethnobotany Presentation
267	Anishinaabe Culture: An Insight into Daily Living

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Abdullahi, Abdulrahman	37	Factors Contributing to Smoking Ban in Public Places and the Impacts of Implementing such a Policy.	203	3:30
Acharya, Achala	119	Poverty Reduction and Economic Growth in India	200D	3:30
Al-Rifai, Moneer	102	US Coal Supply: a Mathematical Projection of Coal Reserves and Why We Need to Search for an Alternative Resource	227	2:30
Aldentaler, Ross	212	Free Trade Block Comparison of the North American Free Trade Agreement (NAFTA) and the Association of South East Asian Nations (ASEAN)	200C	3:30
Aldinger, Megan	52	Identity Theft		2:00
Andersen, Aliese	57	Research in Contemporary Art and Design: Contemporary Practices in Drawing and Printmaking	205	2:00
Anderson, Antony	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Apiagyei, Thelma	210	Estrogen Levels in the Water of the Red River Valley	Main Lounge	1:00
Arroyo, Elizabeth	79	Mirando hacia el sur: Reflections on Language, Literature, and History in Latin America.	216	1:40
Ayubashev, Ivan	179	Collaboration of International and Financial Accounting Standard Boards on Conceptual Framework project.	Main Lounge	2:30
Bakke, Rosemary	134	A View of Women Administrators in Higher Education	218	1:00
Barbie, Meagan	201	Power Shift 2007	Main Lounge	2:30
Beard, Jessica	149	Magnetic Susceptibility Studies at Poverty Point State Historic Site	207	1:00
Beard, Jessica	191	Characterizing Magnetic Nodules Recovered from Archaeological Sites	Main Lounge	2:30
Becker, Lindsay	173	Risk Management within Financial Institutions	Main Lounge	2:30
Belavina, Natallia	238	Creating Accessible Digital Videos To Help Students Prepare For Microbiology Laboratories And Review Procedures	CMU 203	2:00
Berg, Roxanne	97	Contemporary Hispanic-American Playwrights	207	2:30
Bergenheier, Lindsay	245	Disability and Stratification: Comparing Two Perspectives	Underground	1:40
Bergenheier, Lindsay	34	Women on the Plains: Identity and Role Development in Leadership	203	2:50
Berget, Eric	225	BNCT: Boron Neutron Capture Therapy	Main Lounge	2:30
Bhatta, Anil	209	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn versus Switch Grass	Main Lounge	2:30
Bigelow, Eric	99	Urban Growth Boundaries and Housing Prices	216	2:30
Billman, Joleen	41	The Policy of Same-Sex Marriage	LI 222	1:20
Bishop, Nathaniel	192	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	1:00
Bonkoski, Tyson	229	Using microsatellites to examine two behaviorally divergent populations of Anax junius, a migratory dragonfly	Main Lounge	2:30
Borgen, Matthew	172	Effect of Wal-Mart Supercenters on Grocery Prices in Minnesota	200B	3:10
Boushee, Nicholas	248	Reauthorization and Improvement [?] Act of 2005: Patriot Act	LI 222	1:40
Bouwman, Kristen	131	Effects of Shared Sound and Spelling on False Word Recognition	Main Lounge	2:30
Brandvold, Kristoffer	186	Applications and Synthesis of a Pyrazolidinone Chiral Relay System for Asymmetric Alkene Additions	Main Lounge	2:30

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Branson, Rachel	204	Oxidation of Benzyl Alcohols by Copper(II)-salen Complexes	Main Lounge	1:00
Braton, Kathleen	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Braun, Katherine	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Bristlin, Blake	144	Exploring Business Opportunities in an Online Gaming Environment: A View from Second Life	Main Lounge	1:00
Burdick, Brady	177	Division 1 College Football Ranking Methods	Main Lounge	2:30
Burket, Stephen	141	From Ear to Ear the Music I Hear	200E	2:50
Bury, Susan	213	Sustainability initiatives in the Costa Rican coffee industry in need of reform	214	1:00
Bushaw, Andrew	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Casper, David	208	Introduction to some of the technological changes in the Accounting profession.	Main Lounge	1:00
Caspers, Michael	90	Asymmetric synthesis of novel pyrazolidinone compounds using chiral relay and face shielding	Main Lounge	1:00
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Clements, Mariah	230	Searching for cryptic Species within the genus Metzgeria using sequence data and ISSRs	200A	2:00
Cline, Abbigale	109	Research in Contemporary Art and Design: The Feminist Art of Sarah Lucas	205	1:00
Cole, Ian	274	America as Reflected in African-American Literature	Underground	2:00
Colson, Fenner	94	Atomic Force Microscope To Measure Nanoscale Distances	Main Lounge	2:30
Conroy, Robb	197	Operations Management of Record Company	Main Lounge	2:30
Corrow, Jeffrey	106	Examining the affects of caffeine on oxidative stress, beta-amyloid production, and mtDNA damage in laboratory mice	Main Lounge	1:00
Cota, Avery	184	Spectrographic Analyses of Ceramic Sherds from the Sprunk Site, ND	Main Lounge	2:30
Cota, Avery	182	Series of Lessons addressing Global Climate Change	LI 208	1:00
Cota, Avery	184	Spectrographic Analyses of Ceramic Sherds from the Sprunk Site, ND	Main Lounge	2:30
Cota, Avery	191	Characterizing Magnetic Nodules Recovered from Archaeological Sites	Main Lounge	2:30
Crabtree, Lindsay	73	Conservative Treatment of Disc Herniations	Main Lounge	2:30
Cross, Katherine	78	The bombing of Hiroshima and Nagasaki as captured on film	LI 208	2:00
Daigle, Adonia	61	Research in Contemporary Art and Design: Loren Greenfield's Girl Culture and the Role of Consumer Products in Shaping Women's Self-Image		205
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Dalen, Ashlie	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Dalen, Ashlie	267	Anishinaabe Culture: An Insight into Daily Living	Main Lounge	2:30
Dallakyan, Meri	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Dangol, Rashmi	221	Buddhism	200C	2:00
DeHaan, Angela	179	Collaboration of International and Financial Accounting Standard Boards on Conceptual Framework project.	Main Lounge	2:30
DeSchepper, Leah	210	Estrogen Levels in the Water of the Red River Valley	Main Lounge	1:00
Desrosier, Samantha	68	SEC Advisory Committee on Improvements to Financial Reporting	Main Lounge	1:00
Dewar, Trisha	273	"If the Genes Don't Fit, You Must Acquit:" A Look at PAternity Fraud Legislation in California	LI 222	
Dhakal, Susov	228	Examining the Kinase Activity of the PDK Regulatory Protein: In Search of a Functional P-loop	Main Lounge	1:00
Dobson, Daren	114	Large Format Photography: A Lost Art	Main Lounge	1:40

Presentation			Room	Time
Name	Number	Title		
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Doom, Cody	177	Division 1 College Football Ranking Methods	Main Lounge	2:30
Dowling, Molly	163	The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.	214	1:40
Dowling, Molly	218	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass.	Main Lounge	2:30
Dusoruth, Vaneesha	23	Living with ethnic and cultural differences of others	101	1:40
Eager, Eric	62	Analyzing Crime: A Mathematical Model		3:10
Eagleson, Erin	104	TEEM Construction, Inc.	Main Lounge	1:00
Ebnet, Tyler	39	Manitoba International Marketing Competition 2008	Main Lounge	2:30
Eckland, Anna	29	The FASB and IASB Conceptual Framework Project	Main Lounge	2:30
Ehrmantraut, Craig	83	Health Care Reform	208	3:10
Eichhorn, Tara	210	Estrogen Levels in the Water of the Red River Valley	Main Lounge	1:00
Elfelt, Morgan	198	Movements of Painted Turtles ( <i>Chrysemys picta bellii</i> ) in Relation to Habitat Characteristics in Clay County, Minnesota	Main Lounge	1:00
Ellsworth, Erin	180	Operations Management at a Casino	Main Lounge	1:00
Enniful, Shirley-Nita	86	Aging, Loneliness and Isolation	Main Lounge	1:00
Erickson, Amber	173	Risk Management within Financial Institutions	Main Lounge	2:30
Erie, Benjamin	154	The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?	227	3:10
Failing, Christopher	106	Examining the affects of caffeine on oxidative stress, beta-amyloid production, and mtDNA damage in laboratory mice	Main Lounge	1:00
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Fischer, Justine	171	The Art of Song	200A	3:10
Fischer, Justin	241	How to Manage a Project	Main Lounge	2:30
Fitzner, Carly	220	Push vs. Pull Supply	Main Lounge	1:00
Flickinger, Michael	95	The Road through The Lord of The Rings	218	3:30
Fluto, Tyler	260	Plant Physiology Laboratory 2008: A Comparative Investigation into the Photosynthetic Properties of Corn and Switch Grass	Main Lounge	1:00
Fluto, Tyler	150	An investigation into the abiotic onset of systemic acquired resistance in <i>Cucumis sativus</i>	Main Lounge	1:00
Fosmark, Renee	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Fraser, Bernard	174	Feasibility Study of the Vaisala GMP222 Probe and GMM222 Monitor in the Atmospheric Sounding of Carbon Dioxide.	227	1:00
Freed, Alexander	199	Investigations of Crofton's Formula	Main Lounge	2:30
Frie, Stacy	29	The FASB and IASB Conceptual Framework Project	Main Lounge	2:30
Fuentes, Evelyn	113	Protein concentration and heart weight to body weight ratio explain difference in aerobic capacity between Dark Agouti and Copenhagen rats.	Main Lounge	1:00
Garcia, Lourdes	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Geniusz, Errol	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Geston, Andrew	265	Anishinaabe Ethnobotany Presentation	Main Lounge	2:30
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Goodenbour, Joel	241	How to Manage a Project	Main Lounge	2:30

Presentation				
Name	Number	Title	Room	Time
Gorackowski, Amber	50	Synthesis of semicarbazide-cyanoborane in ionic liquids	Main Lounge	1:00
Gorackowski, Amber	50	Synthesis of semicarbazide-cyanoborane in ionic liquids	Main Lounge	1:00
Grabinger, Jeremy	176	Exploring inquiry with on-line simulations and the 5E model of instruction	200F	3:30
Gracyk, Tatiana	113	Protein concentration and heart weight to body weight ratio explain difference in aerobic capacity between Dark Agouti and Copenhagen rats.	Main Lounge	1:00
Grant, Amanda	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Grim, Jonathan	243	Operations Management at Casino	Main Lounge	2:30
Grussendorf, Shannon	254	Juvenile Justice	Underground	2:50
Gurung, Bidya	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Haas, Robert	107	An analysis of the international automobile industry	216	2:50
Hagen, John	241	How to Manage a Project	Main Lounge	2:30
Hamal, Barsha	37	Factors Contributing to Smoking Ban in Public Places and the Impacts of Implementing such a Policy.	203	3:30
Hamm, Margaret	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Hanson, Eric	218	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass.	Main Lounge	2:30
Hanson, Eric	227	Behavioral response of the green darner dragonfly, <i>Anax junius</i> , to conspecific and predator chemical signals	208	2:00
Hanson, Kerin	176	Exploring inquiry with on-line simulations and the 5E model of instruction	200F	3:30
Hanson, Matthew	189	Reforming Health Care	LI 222	
Hauck, Sean	177	Division 1 College Football Ranking Methods	Main Lounge	2:30
Hauck, Sean	118	A technological perspective on Forensic Accounting and Fraud Detection	Main Lounge	2:30
Haugen, Alisha	220	Push vs. Pull Supply	Main Lounge	1:00
Haugrud, Philip	226	The abiotic induction of systematic acquired resistance (SAR) in <i>Cucumis sativus</i> alters cell wall structure and biochemistry: Evidence for interactions between the plant and its environment	Main Lounge	2:30
Haugrud, Philip	213	Sustainability initiatives in the Costa Rican coffee industry in need of reform	214	1:00
Haverland, Nicole	143	Effectiveness of Advanced Solar Disinfection on <i>Escherichia coli</i>	200E	3:10
Hay, Elicia	263	Effect of Carbon Monoxide on Liquidus Temperatures of Silicate Melts at 1-atm Pressure in Two Compositions.	Main Lounge	2:30
Heaton, Leshel	173	Risk Management within Financial Institutions	Main Lounge	2:30
Hebert, Kelly	163	The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.	214	1:40
Herath, Bodini	229	Using microsatellites to examine two behaviorally divergent populations of <i>Anax junius</i> , a migratory dragonfly	Main Lounge	2:30
Herath, Hashini	205	A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	2:30
Herfindahl, Erica	213	Sustainability initiatives in the Costa Rican coffee industry in need of reform	214	1:00
Hermanson, Derick	276	How can IT be used to improve homeland security	Main Lounge	1:00
Hieb, Kyla	194	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	1:00
Hill, Thomas	15	The Human Factor: The need for human translation in an electronic world	203	1:20
Hingley, Christine	261	Our Process, Our Writing: MFA Students Share Their Thoughts About The Writing Process	LI 208	
Hinz, Michelle	102	US Coal Supply: a Mathematical Projection of Coal Reserves and Why We Need to Search for an Alternative Resource	227	2:30

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Hoban, Eric	214	Energy Policy Act 2005	204	3:10
Hoffman, Jescia	74	Research in Contemporary Art and Design: Protest Art of the Vietnam War Era and Today	205	2:30
Hogness, Lacey	181	Enterprise Resource Planning	Main Lounge	2:30
Holland, Heather	179	Collaboration of International and Financial Accounting Standard Boards on Conceptual Framework project.	Main Lounge	2:30
Hollands, Jared	147	Understanding Email Overload and its Implications on Workplaces	Main Lounge	1:00
Hollands, Jared	197	Operations Management of Record Company	Main Lounge	2:30
Horning, Kristjen	89	Research in Contemporary Art and Design: Feminism and Cindy Sherman's Photography	205	3:30
Jacobson, Whitney	139	Check Fraud - Learn to Protect Yourself	200C	2:30
Jacobson, Julie	29	The FASB and IASB Conceptual Framework Project	Main Lounge	2:30
Jacobson, Julie	64	Tax Fraud: An Analysis on the Effects of Noncompliance within Society.	204	1:20
Jagol, Elizabeth	264	Variation in glucosinolate levels in Brassica rapa (Wisconsin fast plants)	Main Lounge	1:00
Jahangirova, Nazrin	156	Spanish Exiles in Russia After the Spanish Civil War	Main Lounge	1:00
Jallah, Dadeh	175	Kirk Nugent's Afrocentric speech and Knowles Borishade's Model	204	2:00
Jensen, Cole	77	Solar Energy	Main Lounge	2:30
Jensen, Jacob	237	Risk Assessment Behavior of Zebrafish with Introduction of Alarm Cue	Main Lounge	1:00
Jepson, Elizabeth	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Johanson, Elizabeth	160	Roman Sexuality; The Dynamics of Gender	218	3:10
Johnson, Brad	247	Climate Security Act	LI 222	2:30
Johnson, Kayleigh	232	Proposal on Domestic Energy Development Policy	204	1:40
Johnson, Lysie	13	Spina Bifida: Mylomenigocele	Main Lounge	2:30
Johnson, Stephan	14	Darfur's Manufacturing Consent	Main Lounge	1:00
Johnson, Matthew	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Johnson, Jason	180	Operations Management at a Casino	Main Lounge	1:00
Johnson, Charles	169	The Payoff of Self-Directed Work Teams	200A	2:30
Johnson, Susan	131	Effects of Shared Sound and Spelling on False Word Recognition	Main Lounge	2:30
Johnston, Brianna	72	Levels of Love Components in Relationships Based on Sternberg's Triangular Theory of Love	Main Lounge	1:00
Jones, Tessie	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Joshi, Gyan	150	An investigation into the abiotic onset of systemic acquired resistance in Cucumis sativus	Main Lounge	1:00
Jost, Luke	60	Construction Management Capstone project	Main Lounge	1:00
Joyner, Patrick	268	Creating the Student Academic Conference Promotional Video	LI 208	2:30
Karki, Dipesh	67	XBRL - Extensible Business Reporting Language	Main Lounge	2:30
Karls, Kristopher	275	Applications of RFID Technology in Healthcare	Main Lounge	1:00
Kasper, Devin	165	Nuclear Magnetic Resonance of Solid State Hydrides	Main Lounge	2:30
Kelbert, Rebecca	275	Applications of RFID Technology in Healthcare	Main Lounge	1:00
Kelbert, Rebecca	133	Advantages and disadvantages of radio frequency identification (RFID) technology	Main Lounge	2:30
Kelley, Penny	258	An Online Digital Portfolio: Constructing a simple but elegant presentation of your work	Main Lounge	1:00
Kensinger, Emily	144	Exploring Business Opportunities in an Online Gaming Environment: A View from Second Life	Main Lounge	1:00

*Numbers correspond with abstract listings beginning on page 32*



Presentation				
Name	Number	Title	Room	Time
Kiawoin, Massa	110	Financing Long-term Care	Main Lounge	1:00
Kimirei, Esupat	195	What is the positive/negative impact of social networking websites such as facebook and myspace?	Main Lounge	2:30
Kleckner, Peter	132	Can You Hear Me Now? Technology and Learning For Deaf Students	Main Lounge	1:00
Klever, Autumn	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Knoll, Kristine	237	Risk Assessment Behavior of Zebrafish with Introduction of Alarm Cue	Main Lounge	1:00
Kochmann, Karen	144	Exploring Business Opportunities in an Online Gaming Environment: A View from Second Life	Main Lounge	1:00
Kochmann, Karen	173	Risk Management within Financial Institutions	Main Lounge	2:30
Kopiasz, Nick	138	Belemnite Rostrum used as an Indicator of Marine Flooding Surfaces in the Jurassic Sundance Formation: Seminoe Reservoir Wyoming, USA	Main Lounge	1:00
Kowalski, Brandon	33	Host plant ovipositional preference of Trichoplusia ni moths for wild and commercial varieties of cabbage with varying levels of glucosinolates	Main Lounge	2:30
Kragnes, Kevin	68	SEC Advisory Committee on Improvements to Financial Reporting	Main Lounge	1:00
Kramer, Cassie	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Kritzberger, Stephanie	70	Jalapa, Nicaragua: A Transcultural Experience	Main Lounge	1:00
Kurilo, Olesya	256	Women Unemployment in United States and Europe from the year 1970-1990	Main Lounge	1:00
Kurtz, Tracy	239	Copper(II)-based oxidation catalysts using tethered bis-amino acid ligands	Main Lounge	2:30
LaPlante, Amanda	10	Survey Results (2003-2007) of Wild Turkey (Meleagris gallopavo) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
LaPlante, Ashley	10	Survey Results (2003-2007) of Wild Turkey (Meleagris gallopavo) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Larson, Katie	101	Fuel Efficiency: What's In Your Tank?	200D	3:10
Larson, Anthony	126	Effect Of Carbonmonoxide On Liquidus Temperatures Of Silicate Melts At 1-ATM Pressure	Main Lounge	2:30
Ledezma, Abraham	130	Biesterfeldt Ceramics	Main Lounge	1:00
Lee, Marie	98	Romanticism and Death: A paralleled world	207	2:50
Lee, Eun Kyung	79	Mirando hacia el sur: Reflections on Language, Literature, and History in Latin America.	216	1:40
Lee, Jackson	16	An in depth study of the style of Wes Montgomery, and how the study of a master improviser can influence a student.	101	1:00
Leyendecker, Heather	68	SEC Advisory Committee on Improvements to Financial Reporting	Main Lounge	1:00
Lindsay, Maria	148	The effects of 9-hydroxy Xanthene on the erythrocyte membranes of hypertensive and normotensive male rats.	Main Lounge	1:00
Lisburg, Megan	198	Movements of Painted Turtles (Chrysemys picta bellii) in Relation to Habitat Characteristics in Clay County, Minnesota	Main Lounge	1:00
Lohse, Jason	225	BNCT: Boron Neutron Capture Therapy	Main Lounge	2:30
Lovcik, Mikan	71	What has been done to end the conflict in Darfur?	Main Lounge	2:30
Love, Ashley	190	the effects of abuse on adolescent teen run-aways	200B	2:30
Lowe, Julianne	253	The Revolution of Crack-Cocaine Sentencing	200F	
Lynn, Mychal	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Mack, Nathan	14	Darfur's Manufacturing Consent	Main Lounge	1:00
MacRae, Katie	147	Understanding Email Overload and its Implications on Workplaces	Main Lounge	1:00
Manandhar, Lumu	209	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn versus Switch Grass	Main Lounge	2:30

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Marsh, Colleen	211	Significance of the Teocalli Monument	Main Lounge	2:30
Mathiason, Danielle	67	XBRL - Extensible Business Reporting Language	Main Lounge	2:30
Mathisen, David	24	Permutation Statistics and q-Fibonacci Numbers	101	2:00
Mathison, Tarver	85	The Digital Tongue: the Causes and Effects of Netspeak and Internet Slang	203	1:00
Mathison, Tarver	66	Developing Intercommunity Workshops: Process and Collaboration	208	2:50
Mattis, Douglas	255	The Meiji Era: A Turning Point in Japanese Culture	Underground	3:10
Mavis, Jessica	202	Cross-Curricular Mathematics	Main Lounge	1:00
Maxwell, Kathryn	100	The Biesterfeldt Site: A National Historic Landmark	Main Lounge	2:30
Meehlhause, Kellie	84	Wuthering Heights' Catherine Earnshaw: Feminist Cautionary Tale or Bronte's Ideal?	208	3:30
Miller, Shane	197	Operations Management of Record Company	Main Lounge	2:30
Miller, Tina	104	TEEM Construction, Inc.	Main Lounge	1:00
Mingo, Heidi	162	Communicative Strategies when Interpreting a Foreign Language	Underground	1:00
Miske, FeMarie	68	SEC Advisory Committee on Improvements to Financial Reporting	Main Lounge	1:00
Moen, Justin	250	The Carbon Tax	204	2:50
Mohamed, Abdullahi	31	Wage Differentials for Immigrant Women in the United States: Effect of Gender and Ethnicity	208	1:00
Morgan, Meridyth	44	Decorated Ceramics from the Biesterfeldt Site: A Stylistic Analysis	Main Lounge	1:00
Morgan, Meridyth	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Mork, Margaret	30	Mothers' Use of Facilitating Techniques Before and After Parent-Child Communication Program Training	203	2:30
Musselman, Ellie	274	America as Reflected in African-American Literature	Underground	2:00
Musselman, Anna	66	Developing Intercommunity Workshops: Process and Collaboration	208	2:50
Nagle, Kayla	159	Estrogenic Activity on Hatching Rates of Medaka Fish Embryos	Main Lounge	1:00
Ndungu, Alfred	62	Analyzing Crime: A Mathematical Model	3:10	
Nelson, Trevor	208	Introduction to some of the technological changes in the Accounting profession.	Main Lounge	1:00
Nelson, Trevor	47	XBRL and Its Effects on the Accounting Profession	Main Lounge	2:30
Nelson, Evan	242	Technology in Sports	Main Lounge	1:00
Nelson, Matthew	241	How to Manage a Project	Main Lounge	2:30
Ness, Kimberly	56	Nurses in America	Main Lounge	1:00
Neuberger, Jenny	103	Recovery following UVR exposure in <i>Marchantia polymorpha</i> , <i>M. paleacea</i> , and <i>M. inflexa</i>	207	3:30
Neuberger, Jenny	163	The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.	214	1:40
Neumann, Alexandra	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Nies, Kendra	87	The fight against HIV/AIDS	227	1:40
Nordick, Tiffany	129	Research in Contemporary Art and Design: The Work of Janine Antoni	205	
Norris, Justin	234	The Evolution of SCHIP	204	3:30
Novak, Nicole	87	The fight against HIV/AIDS	227	1:40
Noyes, Kyle	49	Effects of relatedness and the risk of competition on clutch size decisions in a parasitic wasp	Main Lounge	2:30
Obebeduo, Aghogho	195	What is the positive/negative impact of social networking websites such as facebook and myspace?	Main Lounge	2:30
Och, Nathan	35	The Potential Impact of a Mass Transit System on Congestion Costs.	203	3:10

*Numbers correspond with abstract listings beginning on page 32*

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Olson, Troy	32	Preventing Genocide in Our Time	204	2:30
Olson, Justin	224	The Effects of Tourism on the Nicoya Peninsula, Costa Rica By: Heather, Justin, Renee, Jesse and Julie	214	2:00
Olson, Erin	87	The fight against HIV/AIDS	227	1:40
Olson, Ashley	133	Advantages and disadvantages of radio frequency identification (RFID) technology	Main Lounge	2:30
Olson, Anthony	196	The Legalization of Marijuana	Main Lounge	1:00
Olson, Sadie	117	Identity Theft in America	Main Lounge	2:30
Olson, Sadie	116	Treasury Advisory Committee on the Auditing Profession	Main Lounge	1:00
Olson, Rhonda	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Opitz, Jason	17	What Are Supermax Prisons All About	203	1:40
Opp, Jeffrey	48	Research in Contemporary Art and Design: Self-Portraiture in Contemporary Photography	205	
Opp, Jeffrey	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Orgaard, Alison	223	The Problem with School Funding		1:20
Orme, Marisa	12	Herpes	Main Lounge	1:00
Osborne, Sarah	45	The Importance of Volunteering in the Lives of the Elderly.		1:40
Oxton, Rory	218	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass.	Main Lounge	2:30
Pary, Fay	18	Reflections: A Student to Student Service Learning Project	Main Lounge	1:00
Peak, Bryce	36	Human Rights and the United Nation: A Wolf in Sheep's Clothing?	101	1:20
Pearson, Nathaniel	133	Advantages and disadvantages of radio frequency identification (RFID) technology	Main Lounge	2:30
Peper, Jenna	135	The Neutral Comet Assay for DNA Damage	218	1:20
Pestel, Nicholas	111	Nathaniel Courthope: The Unsung English Hero Who Created An Empire	214	3:30
Pestka, Deborah	193	A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	2:30
Peterson, Nicholas	157	A Study of Accounting Majors' Ability to Recognize Fraud Risk	227	2:50
Picka, Craig	128	The Interpretive Role of the Shultz Site Ceramic Collection in Northeast Plains Prehistory	216	3:30
Pitcher, Nathan	197	Operations Management of Record Company	Main Lounge	2:30
Potocki, Bridget	26	St. Augustine: Doctrine of Teaching	101	2:50
Powers, Meghan	96	Returning to Toy Guns: A Child Soldier after the Conflict Is Over	Main Lounge	1:00
Powlish, Melissa	21	Meeting the Needs of An Autistic Children: The Story Of A Kindergarten ELL Learner	Main Lounge	2:30
Price, Kyle	151	Using NMR to Determine the Relaxation Time of a Hydrogen Nucleus	Main Lounge	1:00
Prissel, Tabb	200	This Transgression Will Not Stand: A Comparison and Characterization of a High Frequency Sequenced and Flooding Surfaces Using Conodont Distribution Patterns and Sequence Stratigraphy: Iola Limestone (Upper Pennsylvanian; Iowa and Kansas)	Main Lounge	1:00
Przekwas, Julie	131	Effects of Shared Sound and Spelling on False Word Recognition	Main Lounge	2:30
Punderson, Molly	92	Frida Kahlo: A Mexican Icon	207	1:40
Rangel, Ellie	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Rangel, Alonzo	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Rassier, Jessica	30	Mothers' Use of Facilitating Techniques Before and After Parent-Child Communication Program Training	203	2:30
Rausch, Sandra	127	Hildegard a Women Composer in a Man's World	216	3:10

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Rehling, Ashley	142	Interpretive Explanations of the Depictions of the Origin Myths of the Aztecs	Main Lounge	2:30
Reichel, Amanda	28	Morton's Neuroma	Main Lounge	1:00
Reinke, Samuel	79	Mirando hacia el sur: Reflections on Language, Literature, and History in Latin America.	216	1:40
Reisdorf, Nicole	115	Ancient Egypt's Momentous Change to a Unified State Represented on Pottery	Main Lounge	2:30
Rieniets, Cole	197	Operations Management of Record Company	Main Lounge	2:30
Rieniets, Cole	177	Division 1 College Football Ranking Methods	Main Lounge	2:30
Ritchie, Jason	220	Push vs. Pull Supply	Main Lounge	1:00
Roberts, Alissa	29	The FASB and IASB Conceptual Framework Project	Main Lounge	2:30
Roberts, Valerie	274	America as Reflected in African-American Literature	Underground	2:00
Robertson, Alexandra	215	Don't Ask Don't Tell	LI 222	1:00
Rohla, William	93	Indigenous Peoples' Rights and The Right to Self-Determination	207	2:00
Rolando, Dominique	23	Living with ethnic and cultural differences of others	101	1:40
Rosenau, Kristin	164	Michelson Interferometer	Main Lounge	1:00
Ross, Andrew	69	Searching for Cryptic Species: Assessment of Genetic Variation Among Marchantia inflexa Populations Using Inters-Sequence Simple Repeats	218	3:30
Ross, Andrew	217	A comparison of forest tree diversity between tropical and temperate rainforests.	214	1:20
Rugg, Mathew	206	A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	1:00
Rugg, Mathew	207	Gammarus Lacustris chemical alarm cue latency	200C	3:10
Salas, Daniel	112	Native American Eagle Trappings	Main Lounge	2:30
Sanden, Heather	146	Feasibility Study of Sustainable energy on MSUM campus.	216	1:20
Sang, Rebecca	235	Endangered Species Act - Still Controversial 35 years Later?	LI 222	2:00
Samey, Elizabeth	153	Multinational Corporations and Human Rights	227	3:30
Savord, Jessalyn	258	An Online Digital Portfolio: Constructing a simple but elegant presentation of your work	Main Lounge	1:00
Sazama, Christopher	105	H&S Construction Group Presentation	Main Lounge	2:30
Scherr, Andrew	39	Manitoba International Marketing Competition 2008	Main Lounge	2:30
Schindler, Macy	88	Helping People with Disabilities through Art Therapy	Main Lounge	2:30
Schlichting, Megan	65	Celiac Sprue	Main Lounge	2:30
Schmidt, Jennifer	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Schmidt, Jordan	165	Nuclear Magnetic Resonance of Solid State Hydrides		
Schoenecker, Daniel	39	Manitoba International Marketing Competition 2008	Main Lounge	2:30
Schoenecker, Daniel	46	The True Value of the Dollar Menu	208	1:40
Schrader, Jessica	53	The Racist Side of Humor	207	1:20
Schroeder, Shane	206	A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	1:00
Schuetz, Patrick	219	Sequence Stratigraphy of the Lower Duperow Formation ( Upper Devonian) in Western North Dakota	Main Lounge	2:30
Schultz, Dustin	185	Artistic Processes in Music Composition	200A	3:30
Schultze, Kevin	125	Pyridine-bis-amide complexes of copper(II) as oxidation catalysts	Main Lounge	1:00
Schultze, Kevin	155	X-Rays: Properties and Applications	Main Lounge	2:30
Schumacher, Cory	145	Cyber Crimes: Identity Theft	216	1:00

Presentation				
Name	Number	Title	Room	Time
Schumann, James	240	Genre and Gender: Negotiating Gender Identity in Spaces In Extremis through Speech Acts.	Underground	1:20
Schwan, Garrett	181	Enterprise Resource Planning	Main Lounge	2:30
Self, Patrick	80	Spinal cord injury alters autonomic balance, baroreflex sensitivity resulting in beta-adrenergic receptor activation and changes in calcium regulatory protein expression	Main Lounge	1:00
Self, Patrick	158	Emotional Impact of Cadaver Dissection on Undergraduate Students	Main Lounge	2:30
Serie, Kayla	51	Anishinaabe Ethnobotany Part Two	Main Lounge	2:30
Sharma, Sumi	120	China's Economic Growth	200B	2:50
Shorma, Kathryn	168	The Highways and Byways of Language: A Comparative Study between Spanish and English	218	2:30
Shrestha, Subhechhaya	256	Women Unemployment in United States and Europe from the year 1970-1990	Main Lounge	1:00
Shrestha, Prashant	187	Forecasting Crude Oil	218	1:40
Sievers, Jessica	262	Time Travel and the Philosophy of Time: a look at the implications time travel would have for various philosophies of time.	208	1:20
Simonson, Stephanie	166	English, A Dying Language?	218	2:00
Smith, Jeremiah	123	Synthesis of semicarbazide-cyanoborane in ionic liquids	Main Lounge	2:30
Smith, Robin	155	X-Rays: Properties and Applications	Main Lounge	2:30
Smith, Jonathan	182	Series of Lessons addressing Global Climate Change	LI 208	1:00
Smith, Ross	151	Using NMR to Determine the Relaxation Time of a Hydrogen Nucleus	Main Lounge	1:00
Sobolik, Eric	25	Industry Study	101	2:30
Sorensen, Whitney	230	Searching for cryptic Species within the genus Metzgeria using sequence data and ISSRs	200A	2:00
Sorenson-Krueger, Megan	22	The Empress Wu Tse-t'ien: Gaining Legitimate Ground as China's First and Only Female Emperor	101	3:30
Sorgert, Rebecca	251	Queer American Literature	207	3:10
Spencer, Megan	154	The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?	227	3:10
Stalboerger, Kristen	58	Research in Contemporary Art and Design: The Design Philosophy of Philippe Starck	205	
Stangel, Jennifer	67	XBRL - Extensible Business Reporting Language	Main Lounge	2:30
Staves, Allison	152	Mothers' use of facilitating techniques before and after Parent-Child Communication Program training	227	2:00
Stein, Krystal	133	Advantages and disadvantages of radio frequency identification (RFID) technology	Main Lounge	2:30
Stein, Krystal	275	Applications of RFID Technology in Healthcare	Main Lounge	1:00
Stessen, Cory	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Stewart, Marissa	178	Depression in Young Adults	Main Lounge	1:00
Stoltenburg, Ryan	194	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass	Main Lounge	1:00
Stoltman, Blake	177	Division 1 College Football Ranking Methods	Main Lounge	2:30
Stoltman, Blake	242	Technology in Sports	Main Lounge	1:00
Stowman, Geraldine	261	Our Process, Our Writing: MFA Students Share Their Thoughts About The Writing Process	LI 208	
Stribling, Chance	249	Changes in No Child Left Behind	LI 222	
Suleiman, Natalie	122	Vietnamese Refugees and Mental Health: Causes and Treatment for Mental Health Issues	214	2:50
Sundby, Joshua	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Swanberg, Bonnie	205	A comparative investigation into the photosynthetic properties of Com and Switch Grass	Main Lounge	2:30

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Swenson, Lindsey	29	The FASB and IASB Conceptual Framework Project	Main Lounge	2:30
Swol, Kimberly	236	Cross-cultural Communication and Its Relation to International Marketing	204	1:00
Syvertson, John	243	Operations Management at Casino	Main Lounge	2:30
Tan, Jason	228	Examining the Kinase Activity of the PDK Regulatory Protein: In Search of a Functional P-loop	Main Lounge	1:00
Taves, Jennifer	80	Spinal cord injury alters autonomic balance, baroreflex sensitivity resulting in beta-adrenergic receptor activation and changes in calcium regulatory protein expression	Main Lounge	1:00
Teige, David	209	Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn versus Switch Grass	Main Lounge	2:30
Thapa, Shyam	136	An Investigation on MMP-9 mediated cell invasion and metastasis in non-small cell lung cancer	Main Lounge	2:30
Thomas, Stephanie	59	Research in Contemporary Art and Design: The Use of New Media in the Art of Guo-Quiang	205	
Thomas-Goddard, Melissa	203	What Else Is Eating Your Salad?	Main Lounge	2:30
Thompson, Kristin	63	Heinrich Schliemann: Representative of the 19th Century	208	2:30
Thon, Elizabeth	19	Rhabdomyolysis	Main Lounge	2:30
Titze, Eric	47	XBRL and Its Effects on the Accounting Profession	Main Lounge	2:30
Tofte, Sara	68	SEC Advisory Committee on Improvements to Financial Reporting	Main Lounge	1:00
Triebold, Stacey	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00
Tronnes, Levi	170	The Rise of a Russian Francophile: Marie Bashkirtseff	200A	2:50
Turman, Naomi	231	The Constitutional Challenges to the Lethal Injection	200B	2:00
Turman, Naomi	252	An Examination of "Glass-Ceiling" Barriers by White Women and African-American Women in Corporate America	Underground	2:30
Valdez, David	91	Research in Contemporary Art and Design: The Paintings of Gerhard Richter	205	
Vancura, Julie	62	Analyzing Crime: A Mathematical Model	3:10	
Vattaks, Jennifer	181	Enterprise Resource Planning	Main Lounge	2:30
Vieweg, Emily	261	Our Process, Our Writing: MFA Students Share Their Thoughts About The Writing Process	LI 208	
Virmala, Jon-Erik	38	Unification of the Korean Peninsula	200E	3:30
Voels, Brent	150	An investigation into the abiotic onset of systemic acquired resistance in Cucumis sativus	Main Lounge	1:00
Wagendorf, Jenna	154	The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?	227	3:10
Wallner, McKensie	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Walton, Shane	60	Construction Management Capstone project	Main Lounge	1:00
Wanawasa, Ruhunage Guthth	221	Buddhism	200C	2:00
Warraich, Zia	137	Credit Card Fraud	227	1:20
Wavra, Jill	124	Ultraviolet radiation thresholds for gemmae of three liverwort species, Marchantia polymorpha, Marchantia inflexa, and Marchantia paleacea	214	3:10
Wavra, Jill	198	Movements of Painted Turtles (Chrysemys picta bellii) in Relation to Habitat Characteristics in Clay County, Minnesota	Main Lounge	1:00
Weber-Trainor, India	238	Creating Accessible Digital Videos To Help Students Prepare For Microbiology Laboratories And Review Procedures	CMU 203	2:00
Wendroth, Shannon	228	Examining the Kinase Activity of the PDK Regulatory Protein: In Search of a Functional P-loop	Main Lounge	1:00
Wheelden, Margaret	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00

<b>Name</b>	<b>Presentation Number</b>	<b>Title</b>	<b>Room</b>	<b>Time</b>
Whitmore, Ross	47	XBRL and Its Effects on the Accounting Profession	Main Lounge	2:30
Whitmore, Ross	181	Enterprise Resource Planning	Main Lounge	2:30
Wicker, Evan	163	The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.	214	1:40
Wickersham, Amanda	108	The effects of elevated carbon dioxide on growth and reproduction of maternal families of Brassica rapa plants	Main Lounge	2:30
Wiederholt, Peter	118	A technological perspective on Forensic Accounting and Fraud Detection	Main Lounge	2:30
Wiederholt, Peter	220	Push vs. Pull Supply	Main Lounge	1:00
Williams, Maggie	154	The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?	227	3:10
Williams, Kent	43	Implementation of the 5E Model of Education on a Genetics Unit	200F	2:30
Wolff, Maggie	180	Operations Management at a Casino	Main Lounge	1:00
Wolsky, Catherine	114	Large Format Photography: A Lost Art	Main Lounge	1:40
Wolter, Kory	183	Martin Smith or Martin Luther? Two in the same?	200C	2:50
Wood, Nathan	222	The Limits of My World	200D	2:30
Wright, Nathan	200	This Transgression Will Not Stand: A Comparison and Characterization of a High Frequency Sequenced and Flooding Surfaces Using Conodont Distribution Patterns and Sequence Stratigraphy: Iola Limestone (Upper Pennsylvanian; Iowa and Kansas)	Main Lounge	1:00
Wysocki, Candace	181	Enterprise Resource Planning	Main Lounge	2:30
Yesilnur, Goerkem	161	Media Representation of Muslims and Islam	Main Lounge	2:30
Zadach, Megan	10	Survey Results (2003-2007) of Wild Turkey (Meleagris gallopavo) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zadach, Megan	54	Utilizing the 5E Model to teach two lessons in human physiology		3:30
Zielinski, Todd	10	Survey Results (2003-2007) of Wild Turkey (Meleagris gallopavo) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties	Main Lounge	1:00
Zielinski, Todd	54	Utilizing the 5E Model to teach two lessons in human physiology		3:30
Zieske, Lynne	20	Scleroderma	Main Lounge	1:00
Zimmerman, Margaret	216	Probing the Pyruvate Phosphate Dikinase Regulatory Protein for Protein Phosphatase Structure	Main Lounge	1:00
Zorich, Michael	276	How can IT be used to improve homeland security	Main Lounge	1:00
Zuehlsdorff, Brent	276	How can IT be used to improve homeland security	Main Lounge	1:00
Zupke, Matthew	42	Anishinaabe Ethnobotany Part One	Main Lounge	1:00

# Abstracts

10

**Title:** Survey Results (2003-2007) of Wild Turkey (*Meleagris gallopavo*) Distribution and Human-Turkey Interactions in Cass (ND) and Clay (MN) Counties

**Presenter(s):** Amanda LaPlante, Ashley LaPlante, Megan Zadach, Todd Zielinski

**Department:** BIOL

**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, North Dakota/Moorhead, Minnesota, area. The RRV offers suitable turkey habitat in a relatively narrow corridor surrounded by a dense human population. In 2004, urban human-turkey interactions were monitored as well, adding in 2005, a survey to assess public opinion on wild turkey management options in the event abatement measures were necessary due to problematic urban turkeys. A follow-up survey was created in 2006, to see if changes in survey respondents opinions occurred. In 2007, we did a slightly different follow-up survey which was mailed only to former respondents. Turkey observations reported from 2003 through 2007 show a strong turkey population thriving in the RRV, with a steady increase in numbers and sightings. 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 human-turkey interactions dropped to 7% (respondents = 190, out of 537 mailed surveys). In 2007, negative human-turkey interactions increased to 10% (respondents = 115, out of 220 mailed surveys). Negative interactions included such things as turkeys blocking traffic routes, entering yards, eating from bird feeders/gardens, and aggressive behaviors. Public opinion surveys of management options for abatement indicated that in 2005, 2006, and 2007 that 61.3% (46 out of 75 respondents), 57% (85 out of 149 respondents), and 63% (30 out of 115 respondents), respectively, agreed or strongly agreed with a turkey hunting season to reduce potential problems.

12

**Title:** Herpes

**Presenter(s):** Marisa Orme

**Department:** AT

**Advisor:** Dawn Hammerschmidt

**Abstract:** Herpes has a high prevalence in wrestling and this specific disease is a concern for some athletes. Herpes is a viral infection that cannot be killed once inside the body. A symptom of the herpes viruses is a skin lesion that usually has this creeping or spreading nature. The Herpes viruses are unique in their biologic properties. Once the virus is inside the body it invades and replicates in the nervous system and then establishes a site of latent infection. We will focus on three of the most common herpes viruses, Herpes Simplex 1, Herpes Simplex 2 and Herpes Gladiatorum. Specifically on common signs and symptoms, treatment, transmission, and how it affects athletes.

13

**Title:** Spina Bifida: Myelomeningocele

**Presenter(s):** Lynsie Johnson

**Department:** AT

**Advisor:** Dawn Hammerschmidt

**Abstract:** Spina bifida is a neural tube defect that occurs within the first twenty eight days of a women's pregnancy. This particular neural tube defect occurs in 1 in every 1,000 births in the United States. The third and most serious type of Spina Bifida is myelomeningocele, the type where the vertebrae fail to fuse and the meninges and the spinal cord protrude which in turn causes improper development of the spine and damage to the spinal nerves. There are many impairments involved with this neural tube defect disorder that in return causes individuals with spina bifida to have many orthopedic needs and different types of treatments to maintain a good quality of life. Spina Bifida is a type of neural tube defect that we must be aware of and educated on.

14

**Title:** Darfur's Manufacturing Consent

**Presenter(s):** Stephan Johnson, Nathan Mack

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** In the southern part of Sudan highlights the new Cold War over oil. The rise in oil demand in China has led Beijing to embark on a policy the 'dollar diplomacy'. Africa is a major focus particularly the region between Sudan and Chad. Darfur is a major battleground for a contest for control of oil. China has been more successful so far at securing the oil at the source. However the USA is lowly manufacturing consent of its nation state through its media outlets and Washington is covertly making arrangements. Energy resources are reshaping the geopolitical map. Is a new conflict beginning to emerge?

15

**Title:** The Human Factor: The need for human translation in an electronic world

**Presenter(s):** Thomas Hill

**Department:** SPAN

**Advisor:** Benjamin Smith

**Abstract:** In today's world of instant information, the skill of translation is increasingly dealt with by machines. This presentation examines the need for human translation and interpretation, what it entails, problems with machine translation and the ethics of proper translation and interpretation.

16

**Title:** An in depth study of the style of Wes Montgomery, and how the study of a master improviser can influence a student.

**Presenter(s):** Jackson Lee

**Department:** MUS

**Advisor:** Daniel Phillips

**Abstract:** This presentation will focus the style of one of the great jazz guitar players, Wes Montgomery. I will demonstrate how through the process of transcribing and learning one of his solos, I was able to learn from how he plays. I will show how I incorporated some of his style into my own by constructing my own solo, as well as speaking about his life and experiences.

17

**Title:** What Are Supermax Prisons All About

**Presenter(s):** Jason Opitz

**Department:** LGST

**Advisor:** Paul Kramer

**Abstract:** Supermax prison facilities deal with the worst of the worst criminals. These facilities are positioned all over the United States with the intention to bring about improvements for individuals that are in need of rehabilitation. The question that needs to be asked here is whether or not this goal or similar ones are ever achieved. This article will reveal just what happens to inmates that are rehabilitated in supermax prisons.

18

**Title:** Reflections: A Student to Student Service Learning Project

**Presenter(s):** Fay Pary

**Department:** ED

**Advisor:** Steven Grineski

**Abstract:** This poster reflects an incredible learning experience between Minnesota State University Moorhead (MSUM) education students and the Red River Area Learning Center (RRALC) students. These photographs were created by "Aly" a RRALC student and me during our Student to Student Service Learning Project. The commentaries are my reflections and expressions of my questioning, thinking, learning and personal growth gained from my interactions with "Aly".



19

**Title:** Rhabdomyolysis

**Presenter(s):** Elizabeth Thon

**Department:** AT

**Advisor:** Christopher Huot

**Abstract:** In Seattle Washington, 33 year old Tanya Rider got into a car accident that left her trapped in her vehicle for eight days. Once located and safely removed from her SUV she was immediately taken to Seattle's Harborview Medical Center where she was listed in critical condition. Rider suffered severe injuries possibly resulting in amputation of one of her legs. She also experienced kidney failure due to toxins being released into her blood caused by her muscle injuries and dehydration. The condition Tanya Rider suffered from is known as rhabdomyolysis. I believe that if this disease is relevant to the athletic world and can lead to death we, as medical professionals, should become more familiar with this almost unheard of condition, rhabdomyolysis.

20

**Title:** Scleroderma

**Presenter(s):** Lynne Zieske

**Department:** AT

**Advisor:** Christopher Huot

**Abstract:** Scleroderma is a rheumatological disease of unknown cause. It presents itself as calcifications in the extremities and joints. It also affects internal organs such as the heart, lungs, kidneys, and gastrointestinal tract. Severity of affected organs can lead to death because there is no cure.

21

**Title:** Meeting the Needs of An Autistic Children: The Story Of A Kindergarten ELL Leaner

**Presenter(s):** Melissa Powlish

**Department:** EECE

**Advisor:** Doris Walker-Dalhouse

**Abstract:** A case study was conducted on a kindergarten ELL student with autism. Findings from a series of assessments to determine his strengths and weaknesses in various subject areas will be shared, as well as, a comprehensive instructional plan to address his needs by providing instructional strategies that build upon his academic and linguistic needs.

22

**Title:** The Empress Wu Tse-t'ien: Gaining Legitimate Ground as China's First and Only Female Emperor

**Presenter(s):** Megan Sorenson-Krueger

**Department:** HIST

**Advisor:** Henry Chan

**Abstract:** The purpose of this presentation is to examine the political career of China's first and only female emperor. Wu Tse-t'ien ruled over the T'ang Dynasty for nearly forty years during the latter portion of the 7th century C. E. Historians have filled the story of Empress Wu with accounts of malicious actions taken to satisfy her own selfish political endeavors. In responding to these remarks my intent is not to deny or try to disprove the empress' involvement in any of the things; rather, it is important to realize that actions such as ridding yourself of opponents and squashing rebellions are habitual occurrences throughout the world's political history. It is also true that the same histories that complain of a woman who overstepped her political bounds to usurp the T'ang throne also contain evidence that clearly points to a peaceful and prosperous dynasty that accepted their empress as their legitimate sovereign. The bulk of my research focused on the devices by which Wu Tse-t'ien was able to gain and maintain her legitimate claim to the throne until her death in 705.

23

**Title:** Living with ethnic and cultural differences of others

**Presenter(s):** Vaneesha Duseruth, Dominique Rolando

**Department:** CMST

**Advisor:** Theresa Hest

**Abstract:** The presentation will be an informative exposé on living with ethnic and cultural differences of others. We will explain the importance in our current world to be able to cope with difference. We will talk on globalization and international connections to any job in our modern world. We will then explain how the image of different cultures should not be a stigmatized one anymore. We will talk about the concept of respect and the acceptance of difference. Then, we will extrapolate on difference as something that might benefit anybody and

provide them with a better knowledge of the world and various school of thoughts. The presentation will also include some examples of how and why culture clashes occur and how they should be avoided. Outline: Intro: The reason why everyone is concerned Point 1: An explanation why this question must be asked and why it is important to get used to it Point 2: What are culture clashes? Why do they arise? Point 3: Why is it that some people cannot cope with it? Point 4: An explanation of how people should see difference in ethnicity, culture or any other - Importance and benefits of accepting difference Point 5 : Respect (not to accept people in spite of their difference but because of this difference) Conclusion: Summary of main points and general thoughts

24

**Title:** Permutation Statistics and q-Fibonacci Numbers

**Presenter(s):** David Mathisen

**Department:** MATH

**Advisor:** Adam Goyt

**Abstract:** We consider the distributions of permutation statistics on restricted sets of permutations. We shall focus on the distribution of the inv statistic over reverse layered permutations. This distribution will give us a q-analogue of the Fibonacci numbers,  $F_n(q)$ . We will use these q-Fibonacci numbers to bijectively prove a q-analogue of the following Fibonacci identity,  $F_{m+n} = F_m F_n + F_{m-1} F_{n-1}$ .

25

**Title:** Industry Study

**Presenter(s):** Eric Sobolik

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** A thorough study of an industry is presented using economics. The industry is viewed using economic theory and models. The collection of data on trade and pricing for the selected product allows insight into the topics of international trade and market demand. Any industry shocks or trade policies that greatly effected the products availability and demand are covered.

26

**Title:** St. Augustine: Doctrine of Teaching

**Presenter(s):** Bridget Potocki

**Department:** HON

**Advisor:** Annette Morrow

**Abstract:** St. Augustine is the founder of modern theology; however, many of his ideas were not original. St. Augustine borrowed heavily from the philosophers and politicians of ancient Rome and Greece. Augustine borrowed heavily from the Plato and from Cicero; Plato provided a framework for religious doctrine while Cicero provided structure for how sermons should be composed and delivered. Augustine's two texts, On Christian Doctrine and the City of God, helped to establish a new Christian-Roman culture by melding the tenets of classic Hellenistic cultures to the relatively young religion of Christianity.

27

**Title:** Education through Model United Nations

**Presenter(s):** Katherine Dolney

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** As an organization, Model United Nations offers numerous benefits. Students gain a unique understanding of the goals and operations of the United Nations through participating in mock committees with their peers. Not only does this experience educate students on the U.N. and current world issues, but also helps to develop writing, speech, and debate skills.

28

**Title:** Morton's Neuroma

**Presenter(s):** Amanda Reichel

**Department:** AT

**Advisor:** Christopher Huot

**Abstract:** Identify Morton's Neuroma Signs and Symptoms Special Tests Prevention Observation Treatment Most common Population

29

**Title:** The FASB and IASB Conceptual Framework Project

**Presenter(s):** Anna Eckland, Stacy Frie, Julie Jacobson, Alissa Roberts, Lindsey Swenson

**Department:** ACCT

**Advisor:** Joann Segovia

**Abstract:** We will discuss updates on the IASB and FASB Conceptual Framework Project, its status, and its perceived effect on the accounting profession.

30

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

**Presenter(s):** Margaret Mork, Jessica Rassier

**Department:** SLHS

**Advisor:** Louis DeMaio

**Abstract:** The Purpose of our study was to determine if the use of facilitating techniques increased in mothers' interactions with their children after Parent Child Communication Program (PCCP) training. This study consisted of mothers being videotaped interacting with their child for approximately 15 minutes before and after PCCP training. After the first taped interaction, the mothers received a 50-page illustrated instruction manual and they viewed a demonstration video describing PCCP components and techniques. Mothers were then instructed in two separate sessions followed by demonstration and practice sessions. Another 15 minute mother-child interaction was videotaped after sufficient training and practice to ensure that the mothers were comfortable with the program. After reviewing the data, we found that there was a significant difference in mothers' use of facilitating techniques before and after PCCP training. All of our research revealed that parent language training programs can be very effective in aiding in the development of their child's speech and language skills. Our results showed that PCCP training increased the facilitating techniques of feedback, input, and revision and all of the mothers successfully reached the program goals proving its effectiveness.

31

**Title:** Wage Differentials for Immigrant Women in the United States: Effect of Gender and Ethnicity

**Presenter(s):** Abdullahi Mohamed

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** The United States is one of the few countries in which the numbers of immigrant women may outnumber their male counterpart from increasingly diverse regions with different skills to the U.S. labor force, but does gender and ethnicity affect their economic performance? An area which is understudied hence, this paper aims at providing insight into this formerly neglected dimension of immigrant women. Paying particular attention to earning inequality, created by gender and ethnicity. OLS regressions are used to carry out the analysis. A random sample of 4,600 immigrants and 2,000 natives is drawn from a tiny 2005 IPUMS data set. Their wages and salary is used as dependent variable accounting for differences in human capital, gender, nationality, education and interactions between gender and ethnicity. the outcome of their gender and place of birth. Gender and ethnicity are found to be significant determinants of wages.

32

**Title:** Preventing Genocide in Our Time

**Presenter(s):** Troy Olson

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** An analysis of the issues dealing with the prevention of genocide in the world, breaking issues in the prevention of genocide into two categories; short term solutions and long term solutions to the crime of genocide. The short term solutions are characterized as issues dealing with genocide that have modern day solutions that can be reached either presently or in the near-future. The more complex, long term solutions are categorized that way because of their difficulty in implementing and realizing for a variety of reasons that will be discussed in this analysis. The conclusions arrived at based on the research is that thus far, the international community has been reacting to genocide instead of being proactive and preventing imminent genocides from occurring.

33

**Title:** Host plant ovipositional preference of *Trichoplusia ni* moths for wild and commercial varieties of cabbage with varying levels of glucosinolates

**Presenter(s):** Brandon Kowalski

**Department:** BIOL

**Advisor:** Meena Balgopal

**Abstract:** Plants in the family Brassicaceae produce a broad array of defensive compounds called glucosinolates. It is broadly accepted that plants evolve higher glucosinolate levels as a means of pest resistance. In this study we worked with varieties of *B. oleraceae* (cabbage) for which the glucosinolate profiles varied. A pair-wise comparison was conducted to observe the female cabbage loopers (*Trichoplusia ni*) host preference for oviposition to the various levels of glucosinolates. The differing ovipositional behaviors will be presented along with the implications for understanding host plant-herbivore interactions.

34

**Title:** Women on the Plains: Identity and Role Development in Leadership

**Presenter(s):** Lindsay Bergenheier

**Department:** SOC

**Advisor:** Lee Vigilant

**Abstract:** This original qualitative research examines the narratives of women leaders living in the F-M area. This study finds that, for these women, the work they do is an integral part of how they form a sense of identity. The roles they hold as leaders are interwoven within their identities as women. The need to balance their schedules and find time to finish everything they want to accomplish is a crucial part of their experience as leaders. The role of spousal participation is also examined.

35

**Title:** The Potential Impact of a Mass Transit System on Congestion Costs.

**Presenter(s):** Nathan Och

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** This is a study of the effects a mass transit system would have on a densely populated area. It will go through the problem our nation has with traffic congestion and how our cities may or may not be trying to counter this problem, plus I will take a look at Europe and some of the mass transit systems the cities have installed into their infrastructure. This study will include an econometric look at how a mass transit system would benefit the citizens financially, through their daily commute, and the economic impact of having such a system. I will also evaluate the impact of a mass transit system on other markets directly affected by its existence. The goal of this study is to illustrate that the need for a mass transit system, or an improved mass transit system, isn't just for the rest of the world, but Americans can benefit from what a mass transit has to offer.

36

**Title:** Human Rights and the United Nation: A Wolf in Sheep's Clothing?

**Presenter(s):** Bryce Peak

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** Historically, the United Nations as a multi-national organization has done a great deal to further the advancement of human rights in all parts of the world. But, instances do exist where the rights of individual groups have been disregarded, infringed upon, or blatantly violated by various sub-organizations or committees within the United Nations structure. From a philosophical viewpoint, it is difficult to accept that the United Nations as a whole has adopted the maxim to promote and protect universal human rights while various aspects of that organization initiate actions which are contradictory to its propagated intentions. This essay attempts to highlight the periodic inadequacy of the United Nations with regards to its primary function as a promoter and protector of universal human rights. In doing so, this essay strives to demonstrate that the United Nations, much like the individual sovereign states which comprise it, is susceptible to the same negative influences and shortcomings that can inhibit the realization and steadfast application of a global standard for the promotion and protection of human rights.

37

**Title:** Factors Contributing to Smoking Ban in Public Places and the Impacts of Implementing such a Policy.

**Presenter(s):** Abdulrahman Abdullahi, Barsha Hamal

**Department:** SOC

**Advisor:** Deborah White

**Abstract:** Tobacco has been a lucrative business since its discovery in ancient Americas by the Europeans; from then on, it has grown into a billion dollar business. The tobacco industry had a cultural norm in most societies until the announcement by the U.S. Surgeon General associating tobacco smoke to lung cancer and other health complications in 1964. Tobacco use is one of the leading public health problems facing the world as it enters the twenty-first century. It is the chief preventable cause of premature death in the United States and has posed itself as one of the biggest threats to the current and future health problem in the world. The main reason behind banning cigarette smoking in public places is to encourage no-smoking policy in community areas. Factors such as public attitudes toward smoking, economic issues, and health issues significantly contribute to the smoking ban in public areas. In our presentation, we will be looking at these factors. There are both positive and negative consequences associated with implementing smoking ban. We will also be talking about the consequences related. Our research for the presentation will be based on literature review of recently published scholarly journals on the subject. Besides talking about factors contributing to smoking ban and impacts of the policy, we will also be talking about some of the limitations we came across while conducting the literature review and also, we will be identifying areas for future research on the subject that we think would be effective.

38

**Title:** Unification of the Korean Peninsula

**Presenter(s):** Jon-Erik Virnala

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** The two Koreas have been divided for over fifty years and have been in a state of declared war for much of that time. Reunification has been a dream for all Koreans since the Korean War of 1950-53. The Juche ideology in the North has embedded an isolationist and fiercely independent mindset in the leadership of Pyongyang that has been the primary obstacle to reunification even in the face of economic and social collapse. Although there has been recent progress towards reunification with both sides appearing together during the Olympics and a recent summit in 2007 between the two Korean leaders allowing for a joint railroad service, commercial fishing zone, and industrial complex, the ideology of the North is still the negating factor in reunification talks. Weakening the influence of the Juche ideology over the North Korean regime is key to moving the reunification process forward.

39

**Title:** Manitoba International Marketing Competition 2008

**Presenter(s):** Tyler Ebnet, Andrew Scherr, Daniel Schoenecker

**Department:** MKTG

**Advisor:** Ruth Lumb

**Abstract:** We would like to display a poster board from our experience with the 2008 Manitoba International Marketing Competition.

41

**Title:** The Policy of Same-Sex Marriage

**Presenter(s):** Joleen Billman

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** While same-sex marriage is a controversial topic it does not differ from any other public policy issue. The policy of gay marriage has the same irrefutable characteristics, such as: its policy originates from conflicting views, has multiple players, who represent the contradictory sides of the issue, a reason as to why it is being debated, and the policy's standing and its prospects for the future.

42

**Title:** Anishinaabe Ethnobotany Part One

**Presenter(s):** Kathleen Braton, Katherine Braun, Andrew Bushaw, Errol Geniusz, Bidya Gurung, Elizabeth Jepson, Autumn Klever, Cassie Kramer, Rhonda Olson, Cory Stessen, Stacey Triebold, Margaret Wheelden, Matthew Zupke

**Department:** AMCS

**Advisor:** Wendy Geniusz

**Abstract:** This is an exhibit of the final projects of the students of the Anishinaabe Ethnobotany class, AMCS 390. It will show examples and offer explanations of the many uses that the Anishinaabe, the Ojibwe or Chippewa, the Potawatomi and the Ottawa, Indians have and had for the plants. The displays will explore the plants that Anishinaabe use for food, clothing, housing, crafts with which they enriched their homes and their lives, as well as medicines for both bodily ills and spiritual medicines to connect the people with Spirit. The students will exhibit crafts, medicines, and foods that they have made from indigenous plants.

43

**Title:** Implementation of the 5E Model of Education on a Genetics Unit

**Presenter(s):** Amanda Aardahl, Kent Williams

**Department:** BIOL

**Advisor:** Richard Lahti

**Abstract:** We will be presenting two lessons from a unit on genetics using the 5E model of teaching. Using simulations, we will explore Mendelian genetics and how meiosis and mitosis play a vital role in this process. In doing this, we hope to show how the 5E model can be improved by using simulations.

44

**Title:** Decorated Ceramics from the Biesterfeldt Site: A Stylistic Analysis

**Presenter(s):** Meridyth Morgan

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** I am conducting a stylistic analysis of decorated pottery sherds from the Biesterfeldt Site, an archaeological site in southeast North Dakota. My main goal is to identify a stylistic template for this material. Through comparison with ceramics from three other Plains sites, separated from Biesterfeldt by time as well as location, I will trace the evolution of design motifs and explain the cultural significance implied by the similarities and differences. This analysis will show how Biesterfeldt incised ceramics fit developmentally with other Plains sites and will allow me to place this important yet poorly understood aspect of the Biesterfeldt Site into our conceptualization of the archaeology of the Plains.

45

**Title:** The Importance of Volunteering in the Lives of the Elderly.

**Presenter(s):** Sarah Osborne

**Department:** SOC

**Advisor:** Susan Humphers-Ginther

**Abstract:** This presentation will bring attention to the importance of volunteering with the elderly, the rewards that result from the experience, and gaining a better understanding of the growing elderly population.

46

**Title:** The True Value of the Dollar Menu

**Presenter(s):** Daniel Schoenecker

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** This presentation explains how the time-cost of food has decreased over the years, especially within a specific sector of the food industry (i.e. the fast food industry) and how it relates to the growing concern of obesity within America. Due to significant changes that have occurred over the years, people are relying on these low time-cost food choices, which in turn has had a negative affect their health. It will also be revealed that due to fast food marketing tactics, certain demographic groups (i.e. African Americans and Hispanic Americans) and low income families, have been the targets for a majority of the obesity dilemma. Furthermore with our increasing reliance on the fast food industry, antagonism among competing fast food franchises have led to increases in food portion sizing and the introduction of the "dollar menu" which has escalated the obesity crisis.

**47**  
**Title:** XBRL and Its Effects on the Accounting Profession  
**Presenter(s):** Trevor Nelson, Eric Titze, Ross Whitmore  
**Department:** ACCT  
**Advisor:** Joann Segovia

**Abstract:** eXtensible Business Reporting Language (XBRL) is an up and coming way for accountants to more easily and effectively create and interpret financial information. We believe XBRL will completely change the way we and other new accountants will report, share, and analyze financial data. There are many areas of accounting that may be affected by XBRL, including filing with the SEC, auditing, and international accounting. We will discuss the SEC's XBRL voluntary filing program, the effects of XBRL on auditing, as well as international and other areas of accounting.

**48**  
**Title:** Research in Contemporary Art and Design: Self-Portraiture in Contemporary Photography  
**Presenter(s):** Jeffrey Opp  
**Department:** ART  
**Advisor:** Anna Arnar

**Abstract:** I plan to investigate the self portrait in contemporary photography by studying the work of Elinor Curucci, Arno Raphael Minkinen, Walead Beshty, and Antony Goicolea. Each of the four photographers uses the self portrait as a subject in a large part of their work. I aim to find out why the self image frames their work. My presentation will ask whether the work is autobiographical in nature. If not, who does the self portrait represent? Are these works narcissistic in origin? Are they drawing basic human connections by using themselves as a stand in for another human being? Is it a vehicle to project or extend new identities?

**49**  
**Title:** Effects of relatedness and the risk of competition on clutch size decisions in a parasitic wasp  
**Presenter(s):** Kyle Noyes  
**Department:** BIOL  
**Advisor:** Meena Balgopal

**Abstract:** Kin selection theory suggests that individual organisms will display more altruistic behavior towards relatives to indirectly increase their fitness, and more competitive behavior towards non-relatives. In this experiment the clutch size decisions of the ectoparasitoid wasp, *Habrobracon hebetor*, on its host, the common Indian meal moth, *Plodia interpunctella*, larvae were examined to determine how clutch size, and sex ratio are affected by the pre-ovipositional experience to relatives, non-relatives, and solitary life. We will discuss how total clutch size, overall sex ratio, and primary sex ratio differend in the three treatment groups. Female body size, a fitness correlate, will also be presented.

**50**  
**Title:** Synthesis of semicarbazide-cyanoborane in ionic liquids  
**Presenter(s):** Amber Gorackzkowski  
**Department:** CHEM  
**Advisor:** Gary Edverson

**Abstract:** The reaction of sodium cyanoborohydride and semicarbazide hydrochloride in ionic liquids has been studied. The extent of reaction and the ability to isolate the semicarbazide-cyanoborane product will be compared to when the reaction is carried out in THF. Characterization will be done by boron-11 and proton NMR spectroscopy.

**51**  
**Title:** Anishinaabe Ethnobotany Part Two  
**Presenter(s):** Ashlie Dalen, Julie Dalen, Meri Dallakyan, Renee Fosmark, Lourdes Garcia, Mychal Lynn, Meridyth Morgan, Alonzo Rangel, Ellie Rangel, Jennifer Schmidt, Kayla Serie  
**Department:** AMCS  
**Advisor:** Wendy Geniusz  
**Abstract:** This is an exhibit of the final projects of the students of the Anishinaabe Ethnobotany class, AMCS 390. It will show examples and offer explanations of the many uses that the Anishinaabe, the Ojibwe or Chippewa, the Potawatomi and the Ottawa, Indians have and had for the plants. The displays will explore the plants that Anishinaabe use for food, clothing, housing, crafts with which they enriched their homes and their lives, as well as medicines for both bodily ills and spiritual medicines to connect the people with Spirit. The students will exhibit crafts, medicines, and foods that they have made from indigenous plants.

**52**  
**Title:** Identity Theft  
**Presenter(s):** Megan Aldinger  
**Department:** ACCT  
**Advisor:** James Hansen

**Abstract:** Do you feel safe living in North Dakota? What if I were to tell you that three North Dakota cities were named as three of the top ten cities of the United States targeted by a certain crime. In fact, one out of every twenty three people will be affected by this crime. What is this crime? Identity Theft. In this presentation I will cover ways identity thieves get your personal information, how to minimize your risk, and also what to do if you find yourself a victim of identity theft.

**53**  
**Title:** The Racist Side of Humor  
**Presenter(s):** Jessica Schrader  
**Department:** ENGL  
**Advisor:** Hazel Retzlaff

**Abstract:** How does our culture view racism? Episodes from a popular adult cartoon, *Drawn Together*, make a point to call out racism by making jokes about it. The problem is that the jokes seem to fuel racism, rather than combat it. Especially in some of the "graphic" scenes referring to slavery, the material seems included for shock value, and little else. The argument exists that humor can make a complicated issue more comfortable to think about, and easier to discuss — but what happens when no one laughs? Do shows like *Drawn Together* indicate that our culture is content to accept racism and offensive material so long as it's humorous?

**54**  
**Title:** Utilizing the 5E Model to teach two lessons in human physiology  
**Presenter(s):** Megan Zadach, Todd Zielinski  
**Department:** BIOL  
**Advisor:** Richard Lahti

**Abstract:** Education is a vast field. To become an educator, one must decide what tools and resources are the most effective. An excellent model that can be used is the 5E Model. It can be molded to fit all content areas and a wide range of subjects. Engagement-Exploration-Explanation-Elaboration-Evaluation are the five components. This talk will use the 5E Model to integrate inquiry into lessons on human physiology and how it relates to homeostasis. Because free inquiry can be unpredictable in the classroom, computer simulations will be incorporated into the lesson to direct thought and construct a framework of knowledge. This allows the teacher to either build upon this framework with further knowledge, reinforce it with other ideas and concepts, or break it down completely and restructure it to reach the right conclusion.

**56**  
**Title:** Nurses in America  
**Presenter(s):** Kimberly Ness  
**Department:** HLTH  
**Advisor:** Merle Johnson

**Abstract:** Since there is such a shortage of Nurses in the United States today, I will be presenting on the different types of Nurses and what they do. It will help people to better understand the different nurses and why there is such a high demand for their help.

**57**  
**Title:** Research in Contemporary Art and Design: Contemporary Practices in Drawing and Printmaking  
**Presenter(s):** Aliese Andersen  
**Department:** ART  
**Advisor:** Anna Arnar  
**Abstract:** My presentation for the 2008 Student Academic Conference will investigate the fusion of traditional art techniques and media with contemporary imagery in drawings and prints from 1975 to the present. I will give a brief overview of the history of several printmaking techniques such as mezzotint, etching, and lithography, and describe how recent artists have modified these traditional techniques to suit post-modern imagery. I will also explore how artists working with conventional drawing mediums such as pastel, charcoal, graphite, and watercolor have adapted traditional techniques to communicate contemporary themes.

58

**Title:** Research in Contemporary Art and Design: The Design Philosophy of Philippe Starck

**Presenter(s):** Kristen Stalboerger

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** French designer Philippe Starck creates products that have strong concepts. In my paper I want to explore his ideas and philosophies of design. Product design, interior design and architecture are the three main areas that I intended to investigate in my presentation. In particular, I will analyze his "Good Goods" line which reflects his ideas on non-products for the "non-consumers".

59

**Title:** Research in Contemporary Art and Design: The Use of New Media in the Art of Guo-Qiang

**Presenter(s):** Stephanie Thomas

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** In this presentation, I plan to discuss common questions on the basis of contemporary art and design through the work of Chinese born artist, Cai Guo-Qiang. I will discuss the use of new media in Guo-Qiang's work, including gunpowder and explosives in relation to the confines of traditional classifications of art. In addition, I will discuss the use of symbols and narratives within his work and how this practice may open the door for many other new media in art.

60

**Title:** Construction Management Capstone project

**Presenter(s):** Luke Jost, Shane Walton

**Department:** CM

**Advisor:** Norma Andersen

**Abstract:** We will be presenting our senior Capstone project on the redevelopment of the Moorhead city powerplant.

61

**Title:** Research in Contemporary Art and Design: Loren Greenfield's Girl Culture and the Role of Consumer Products in Shaping Women's Self-Image

**Presenter(s):** Adonia Daigle

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** My topic of interest is Lauren Greenfield's photography, in particular I will examine her book Girl Culture, that addresses the body image of young girls and women. Some of the areas that I would like to pay special attention to is how has consumer products made so many women feel they need to look a certain way? Another question I would like to investigate is the role that toys play in shaping a young girl's self-image. How can we learn from this kind of investigation and suggest ways to generate and products that are more empowering?

62

**Title:** The U.S.'s fight against HIV/AIDS, a mathematical model

**Presenter(s):** Eric Eager, Alfred Ndungu, Julie Vancura

**Department:** MATH

**Advisor:** Ellen Hill

**Abstract:** Crime is an important aspect in choosing a place to live and work. We will construct a mathematical model to predict the future behavior of crime in the states of North Dakota, South Dakota and Minnesota. We hope that this time series model will allow for a more thorough evaluation of the various places people live.

63

**Title:** Heinrich Schliemann: Representative of the 19th Century

**Presenter(s):** Kristin Thompson

**Department:** HIST

**Advisor:** Margaret Sankey

**Abstract:** file:///G:/Heinrich%20Schliemann.doc

64

**Title:** Tax Fraud: An Analysis on the Effects of Noncompliance within Society.

**Presenter(s):** Julie Jacobson

**Department:** ACCT

**Advisor:** James Hansen

**Abstract:** Breaking news: \$300 billion stolen from the U.S. government! Surprised that you didn't see this headline back in 2001? What happened? Two words: tax fraud. In this presentation, I will address the consequences of tax fraud, what types of individuals are responsible for the fraudulent activity, and what is being done to bridge the gap between what should and what is being collected.

65

**Title:** Celiac Sprue

**Presenter(s):** Megan Schlichting

**Department:** AT

**Advisor:** Christopher Huot

**Abstract:** An overview of celiac sprue, how it affects the body and lifestyle of people who are suffering from the disease.

66

**Title:** Developing Intercommunity Workshops: Process and Collaboration

**Presenter(s):** Tarver Mathison, Anna Musselman

**Department:** ENGL

**Advisor:** Thomas Tammaro

**Abstract:** There is untapped opportunity for interaction between colleges and high schools in the Fargo-Moorhead area. This presentation will explain the purpose and process of creating an intercommunity workshop, using the writer's workshop developed by MSUM's Sigma Tau Delta, English Honors Society, as an example. The determination and adaptability necessary to complete the project will be emphasized, and we will discuss how projects like these will benefit the larger F-M community.

67

**Title:** XBRL - Extensible Business Reporting Language

**Presenter(s):** Dipesh Karki, Danielle Mathiason, Jennifer Stangel

**Department:** ACCT

**Advisor:** Joann Segovia

**Abstract:** XBRL - Extensible Business Reporting Language

68

**Title:** SEC Advisory Committee on Improvements to Financial Reporting

**Presenter(s):** Samantha Desrosier, Kevin Kragnes, Heather Leyendecker, FeMarie Miske, Sara Tofte

**Department:** ACCT

**Advisor:** Joann Segovia

**Abstract:** Information about improvements and progress the SEC Advisory Committee for Improvements on Financial Reporting has contributed the business world and people that are interested in the stock market.

69

**Title:** Searching for Cryptic Species: Assessment of Genetic Variation Among *Marchantia inflexa* Populations Using Inters-Sequence Simple Repeats

**Presenter(s):** Andrew Ross

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Quantification of biodiversity is of primary importance in the face of the large number of extinctions occurring globally. Nonvascular plants are understudied and human impact on their biodiversity is not well understood. Accurate quantification of biodiversity of plants is dependent upon genetically distinguishing among taxa that may be quite similar morphologically. Our study focused on a thallose liverwort, *Marchantia inflexa* that ranges from South America to the southern United States. *Marchantia inflexa* exhibits two growth forms that are retained when plants are grown in a common garden. Further, populations in Florida and Oklahoma are more similar to one another than to all other populations in the species' range. The existence of clustered, different, growth forms begs the question "does *M. inflexa* harbor cryptic species?" Our research goals were to assess genetic variation within and among *Marchantia inflexa* populations to determine if the species harbors cryptic species, and to assess the degree to which genetic differences correlate with growth forms observed in

previous experiments and follow predicted patterns of population divergence. We used inter-sequence simple repeats (ISSR's) to genotype *M. inflexa* from four populations in the Southern United States. ISSR's bind to simple repeats on the plants genome, allowing the variable areas between them to be copied in a standard PCR process. Two primers were sufficient to genotype individual plants. Although we are still collecting data on genotypes, we will use analyses of molecular variance to assess genetic differences among populations and F-statistics to quantify the degree of population substructuring. We expect *M. inflexa* to harbor cryptic species and plan to use the genetic fingerprints obtained in this study in an assessment of phylogenetic divergence among populations.

## 70

**Title:** Jalapa, Nicaragua: A Transcultural Experience

**Presenter(s):** Stephanie Kritzberger

**Department:** NURS

**Advisor:** Jane Bergland

**Abstract:** This poster will provide a description of Campinha-Bacote's Transcultural Theory and how it was applied to our mission trip to Jalapa, Nicaragua.

## 71

**Title:** What has been done to end the conflict in Darfur?

**Presenter(s):** Mikan Lovcik

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** The goal of this presentation is to answer the following questions: What is the conflict in Darfur? What has been done to solve this conflict? What preventative measures can be taken to avoid a similar conflict? I will address some of the reasons why the conflict began and what has transcribed in the mean time. I will focus on the efforts of the United Nations, the African Union, the United States and the hybrid UN and AU mission in Darfur. The paper concludes by turning the attention to conflict prevention. We will look at different mechanisms that can be taken advantage of by the international community in preventing a future Darfur.

## 72

**Title:** Levels of Love Components in Relationships Based on Sternberg's Triangular Theory of Love

**Presenter(s):** Brianna Johnston

**Department:** PSY

**Advisor:** Ernest Hallford

**Abstract:** This study is concerned with the study of partner relationships based on Robert Sternberg's Triangular Theory of Love. Undergraduate participants, who were currently involved in relationships, completed a modified version of Sternberg's Love Scale and ratings were compared to their relationship stage. Main effects were not significant, however, interactions between relationship status and love components were found to be showing that relationship category has an effect on component ratings.

## 73

**Title:** Conservative Treatment of Disc Herniations

**Presenter(s):** Lindsay Crabtree

**Department:** AT

**Advisor:** Dawn Hammerschmidt

**Abstract:** Disc herniations, sometimes referred to as "bulged discs" are often difficult to treat, due to the cause and effect of the mechanism of injury. A differentiation of acute vs. chronic must be made along with the diagnosis, and the mechanism of injury must be scrutinized to develop an effective treatment plan. Although surgery for disc herniations has developed and become less invasive over time, there are always risks associated with the procedures. Conservative treatment by means of therapeutic modalities, rehabilitation, reconditioning, and lifestyle modifications are safer and can prevent future reoccurrences.

## 74

**Title:** Research in Contemporary Art and Design: Protest Art of the Vietnam War Era and Today

**Presenter(s):** Jescia Hoffman

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** For my presentation, I would like to compare and contrast the protest art of the Vietnam War to that of the current post-9/11 era. I will pose the following questions: Was there more of a political and

artistic movement in the early 1970s? Has the advance of technology caused people be be more isolated, leading the idea of a group effort (protests, events, collaborations, etc...) to be lost? Have the themes of war, dissent and peace changed in any way over the past few decades, or are artists finding new ways to express these views?

## 77

**Title:** Solar Energy

**Presenter(s):** Cole Jensen

**Department:** PHYS

**Advisor:** Stephen Lindaas

**Abstract:** Increasing clean energy is becoming more of a concern as global warming increases and fossil fuels diminish. Many people are looking to alternative methods of energy. Passive and active solar energy are the techniques we use to collect the energy of the sun. Passive energy is typically created by the positioning of windows and glass to heat water or other substances. Active solar energy is essentially the use of silicon chips to convert sunlight or Ultra Violet light into electricity. This research project is part of an ongoing study of comparing active vs. passive energy. With the same footprint can you harvest more energy with active or passive solar cells. The focus of this presentation would be the effects of normal weather conditions and angles of solar panels on the energy produced by the sun.

## 78

**Title:** The bombing of Hiroshima and Nagasaki as captured on film

**Presenter(s):** Katherine Cross

**Department:** JAPN

**Advisor:** Chizuko Shastri

**Abstract:** A picture is worth a thousand words. The horrors of the atomic bombings should never be forgotten. Because of the photographers that captured the events on film the sufferings never will be. The presentation will begin with video of the bombings. I will then flashback to the events leading upto the releases. Brief details will accompany the photos to aid in the telling of the events as they happened. The aftermath is very well documented by both video and stills. The aftermath will be the heart of the presentation. As the photos unfold so will the story of the horrors that people faced in the wake. A brief description with photos/video ,will detail the ending of the war where the cities and the people are now, and the efforts of peace. It will be presented as a powerpoint.

## 79

**Title:** Mirando hacia el sur: Reflections on Language, Literature, and History in Latin America.

**Presenter(s):** Elizabeth Arroyo, Eun Kyung Lee, Samuel Reinke

**Department:** SPAN

**Advisor:** Cecilia Mafra-Bustamante

**Abstract:** This is a panel with three students. Elizabeth Arroyo will analyze the discourse in the novel *Delirio* by the Colombian author Laura Restrepo; Eun Kyung Lee will speak about the importance of learning a language as a tool for cultural adaptation; and Samuel Reinke will discuss the Dirty War in Argentina. The first two presentations will be in Spanish and the third in English.

## 80

**Abstract:** Spinal cord injury alters autonomic balance, baroreflex sensitivity resulting in beta-adrenergic receptor activation and changes in calcium regulatory protein expression

**Presenter(s):** Patrick Self, Jennifer Taves

**Department:** BIOL

**Advisor:** David Rodenbaugh

There are 250,000 to 400,000 individuals with spinal cord injury (SCI) in the United States and 11,000 new injuries are reported every year. With creation of new antibiotics and advances in rehabilitation, the life expectancy of those with SCI has almost increased to that of able bodied individuals. However, cardiovascular disease is now the leading cause of death for those with SCI. One risk factor for cardiovascular disease is changes in cardiac autonomic balance (CAB). CAB is the sum effect of the parasympathetic and sympathetic nervous systems on heart rate. SCI individuals may develop a condition where the autonomic nervous system regulation of arterial blood pressure below the level of the injury is abnormal and unstable. This condition is called Autonomic Dysreflexia. One study has demonstrated that sympathetic effects above the level of injury are also abnormal. Specifically, heart rates are chronically elevated due to increased cardiac sympathetic tone. It is unclear what mechanism contributes to elevated cardiac sympathetic tone or what the

progression for CAB is over time following SCI. If arterial blood pressure is abnormal and unstable following SCI, one mechanism that may be compensating is the arterial baroreflex. It is unknown if baroreceptor reflex sensitivity or operation set point changes over time following spinal cord injury. The baroreflex acts to keep blood pressure near a homeostatic set point: changes in blood pressure are measured by baroreceptors and change reflexively the autonomic nervous activity to compensate by changing parameters such as heart rate. Alteration of the sensitivity or a chronic shift in the operation point of this reflex may contribute to the overall change in autonomic balance. Altered sympathetic activity increases  $\beta$ -adrenergic receptor activation.  $\beta$ -adrenergic signaling alters  $Ca^{2+}$  homeostasis by regulating expression of  $Ca^{2+}$  regulatory proteins. Previous research has demonstrated SCI rats express changes in the mRNA and protein concentration of the  $Ca^{2+}$  regulatory proteins SERCA, PLB and  $Na^+/Ca^{2+}$  exchanger. Therefore the central hypothesis of this project is that spinal cord injury results in an increased sympathetic tone progressively over time, which in turn alters the expression of  $Ca^{2+}$  regulatory proteins, increasing the susceptibility to arrhythmias. Furthermore, the elevation of sympathetic tone results from a change in baroreflex sensitivity. Molecular remodeling of  $Ca^{2+}$  regulatory proteins is due to chronic activation of  $\beta$ -adrenergic receptors on the heart. The chronic infusion of  $\beta$ -adrenergic antagonist in spinal cord injured rats will prevent the alteration of  $Ca^{2+}$  regulatory protein expression. To test these hypotheses, male Sprague Dawley rats will undergo dorsal laminectomy and transection between the fourth and fifth segments of the spinal cord or sham transection for control. Animals will then be instrumented with ECG electrodes to measure autonomic balance and radio telemetry catheter to measure blood pressure and heart rate over a five-week time course. Additional spinal cord transected animals will be surgically implanted with a mini osmotic pump to dose metoprolol, a 35mg/kg/day dose of  $\beta$ -blocker, or saline placebo. Changes in  $Ca^{2+}$  regulatory proteins in whole heart homogenate will be determined by protein assay and Western blot.

83

**Title:** Health Care Reform

**Presenter(s):** Craig Ehrmantraut

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** A look at problems with the current health care system and possible solutions.

84

**Title:** Wuthering Heights' Catherine Earnshaw: Feminist Cautionary Tale or Bronte's Ideal?

**Presenter(s):** Kellie Meehlhause

**Department:** ENGL

**Advisor:** Katherine Meiners

**Abstract:** In Gothic literature's heyday (late eighteenth to early nineteenth centuries), the genre served a greater purpose than simply terrifying its eager readers. Rather, Gothic literature often reflected the current views of society, such as the Anti-Catholicism displayed in most works of the genre, as well as the opinions of a novel's author. This social commentary disguised as fiction shows most obviously in the portrayal of Gothic heroines in conjunction with the rise of the women's rights movement. In particular, The Italian's Elena Rosalba and Northanger Abbey's Catherine Moreland symbolize respectively how women are and how they ought to be, mirroring society's views of women at the time each novel was published. Yet, when compared to the above heroines, Wuthering Heights' wildly independent and impulsive Catherine Earnshaw represents a heroine desperate to break social restraints at all costs. This essay will examine Emily Bronte's intentions in creating such an extreme heroine and how this relates to the women's rights movement in comparison to the above Gothic heroines. Does Catherine Earnshaw's life serve as a cautionary tale for feminists, urging them not to take independence too far? Or has Bronte created a heroine she believes to be the ideal woman, the one all readers should strive to embody?

85

**Title:** The Digital Tongue: the Causes and Effects of Netspeak and Internet Slang

**Presenter(s):** Tarver Mathison

**Department:** ENGL

**Advisor:** Thomas Tamaro

**Abstract:** The ever-increasing use of Internet slang, or Netspeak, has been seen as a detriment to the English language. Yet, few know the reasons this broken tongue has become so popular. Using

sociolinguistics as an anchor, this presentation will examine and explain the social and technological forces that have influenced the English language, specifically detailing the origins of Netspeak. This will help detail some theories of what Netspeak is doing to the English language, and will lead to theories as to what is to be expected from Internet slang in the years to come.

86

**Title:** Aging, Loneliness and Isolation

**Presenter(s):** Shirley-Nita Enninfel

**Department:** SOC

**Advisor:** Susan Humphers-Ginther

**Abstract:** As people age, isolation and loneliness emerge and this fact is a universal concern. Elderly people have been seen to become isolated especially in their late stages of their life and so many factors account for that. Some of the factors resulting in elderly isolation include higher life expectancy, women outliving men, elderly people living alone etc. In this presentation, I will address issues such as causes of isolation and loneliness, types of isolation, impact of isolation on the elderly, and lastly some general statistics on the elderly, aging and isolation.

87

**Title:** The fight against HIV/AIDS

**Presenter(s):** Kendra Nies, Nicole Novak, Erin Olson

**Department:** MATH

**Advisor:** Ellen Hill

**Abstract:** We will present different ways of using resources available for addressing the HIV/AIDS problem. We will make recommendations of how to distribute these resources.

88

**Title:** Helping People with Disabilities through Art Therapy

**Presenter(s):** Macy Schindler

**Department:** ART

**Advisor:** Wil Shynkaruk

**Abstract:** For the last four years, Macy Schindler, has held ceramic workshops for people with disabilities. These workshops provide individuals with a way to enjoy and express themselves as individuals. Art classes benefit people in multiple ways such as: following directions and working in steps. The clay exercises their fine motor skills and unleashes their imagination. The classes include demonstrations, in class projects, but also one on one instructions. The projects are bisqued, glazed, and taken home.

89

**Title:** Research in Contemporary Art and Design: Feminism and Cindy Sherman's Photography

**Presenter(s):** Kristjen Horning

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** My presentation will be taking an in depth look at Cindy Sherman's work. Sherman is an American photographer widely recognized for her investigation of how the images of women circulate in popular culture. I would like to compare these images to the ways in which men are portrayed. I'm hoping the viewers of Sherman's work will take with them a more advanced understanding of how culture shapes our views about gender.

90

**Title:** Asymmetric synthesis of novel pyrazolidinone compounds using chiral relay and face shielding

**Presenter(s):** Michael Caspers

**Department:** CHEM

**Advisor:** Craig Jasperse

**Abstract:** Novel pyrazolidinone products were successfully synthesized upon treatment of unsaturated acids with hydrazine. Controlled time, heat, and vacuum are important for purity and yield of the products. Products have been synthesized in high yield with  $R1=Ph$  and  $R2=H$ ;  $R1=m-NO_2Ph$  and  $R2=H$ ;  $R1=2,3,4-trimethoxyPh$  and  $R2=H$ ; and  $R1=R2=methyl$ . Regiochemical control upon further additions happens because the top amide nitrogen has its lone pair locked up in a p-orbital and is less nucleophilic, while the bottom nitrogen is  $sp^3$  and more reactive. Acylation proceeds to give products that are promising for diastereoselective reactions (either enolate type reactions for saturated acyl groups, or conjugate additions when the acyl group is unsaturated). Diastereocontrol involves "chiral relay", in which the permanent stereochemistry at the chiral carbon controls the

stereochemistry of the bottom nitrogen, such that CH<sub>2</sub>R<sub>3</sub> can provide face shielding for reactions during acylation.

91

**Title:** Research in Contemporary Art and Design: The Paintings of Gerhard Richter

**Presenter(s):** David Valdez

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** In this presentation, I discuss the importance of famed German painter Gerhard Richter. Richter is considered one of the most important German artists post World War II, as well as one of the most appreciated and collected painters of our time. I will examine what Gerhard Richter's inspirations were in the past, and what they are now. In particular, I will investigate Richter's conscious decision to paint from photographs as opposed to painting from life. The peculiar blurring effect in his work will also be examined. Finally, Richter's views on the status of painting in contemporary culture as well as its future status will be central to this paper.

92

**Title:** Frida Kahlo: A Mexican Icon

**Presenter(s):** Molly Punderson

**Department:** SPAN

**Advisor:** Benjamin Smith

**Abstract:** Frida Kahlo was a Mexican self-expressionist known for her graphic, but intriguing art. Frida lived most of her life in Mexico City and was married to muralist, Diego Rivera. Frida suffered a lot through out her life- due to a tragic bus accident when she was 18. Her life was never the same after that day. The art of Frida Kahlo represents who she was- a strong woman. Frida put all of her emotions on canvas. Her paintings depict her everyday struggles and pain. Frida's art is a reminder to us that everyone has the ability to overcome life's obstacles. Viva Frida!

93

**Title:** Indigenous Peoples' Rights and The Right to Self-Determination

**Presenter(s):** William Rohla

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** Indigenous peoples have long been persecuted and overlooked. From the days of European colonization to the modern times of corporations and IGOs. Indigenous peoples have long wanted the right to self-determination. In this paper I examine why indigenous peoples have and need the fundamental right to self-determination and to have the responsibility for their own destiny. This paper reviews the many different resolutions, declarations, and seminars that have been proposed and voted on in the United Nations in attempts to further advance the cause of indigenous peoples. The paper also looks at examples of indigenous groups in Latin America and how they have used grassroots methods in order to create indigenous organizations to become a player in national policy. Indigenous peoples have the fundamental right to self-governance and personal and collective liberty through examples like the ones in Latin America and advancements by individual nation-states and the U.N., indigenous peoples groups can further advance their cause and their rights. I plan to do a powerpoint presentation to better outline the points and conclusion made in my paper and in my abstract. Thank you.

94

**Title:** Atomic Force Microscope To Measure Nanoscale Distances

**Presenter(s):** Fenner Colson

**Department:** PHYS

**Advisor:** Linda Winkler

**Abstract:** The Nanosurf easyScan2 AFM is an atomic force microscope system that uses a laser and a position sensitive device to detect the molecular topography of a surface. With this system the distances between distinguishing features on integrated circuits will be measured, as well as the diameter of nanotubes. With the knowledge of companies' design of electrical components, the distances measured can reveal which company built which component. We will present our distances measured and which company built which circuit.

95

**Title:** The Road through The Lord of The Rings

**Presenter(s):** Michael Flickinger

**Department:** ENGL

**Advisor:** Stephen Hamrick

**Abstract:** This paper examines the symbol of "The Road" and its function in the mythology of JRR Tolkien. Analysis focuses upon walking songs found in The Hobbit and The Lord of The Rings and their ideological subtexts.

96

**Title:** Returning to Toy Guns: A Child Soldier after the Conflict Is Over

**Presenter(s):** Meghan Powers

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** Child soldiering has quickly become a topic of great concern in the United Nation's General Assembly and other organizations across the globe. The recruitment and active participation in armed conflict of children under eighteen is a violation of children's rights and is not only scarring the children, but also scarring society as a whole. This paper seeks to evaluate the strategies put into place for the child soldier once he/she returns home post-conflict. It is hypothesized that these programs do not sufficiently provide support for the child soldier and this paper seeks to address ways in which child support can be achieved. It is crucial to gain a greater understanding of ways to improve the life of a child after the armed conflict is over.

97

**Title:** Contemporary Hispanic-American Playwrights

**Presenter(s):** Roxanne Berg

**Department:** SPAN

**Advisor:** Mary Thron

**Abstract:** The American theatre, like our nation, has been enriched by the diversity of Hispanic cultures. This discussion will introduce several contemporary Hispanic-American playwrights and will focus on the subjects, themes, styles, and cultural connections of their works.

98

**Title:** Romanticism and Death: A paralleled world

**Presenter(s):** Marie Lee

**Department:** MUS

**Advisor:** Laurie Blunsom

**Abstract:** Romanticism and Death: A paralleled world By Marie A. Lee. The romantic period within western history is considered to be one of the great turning points in how we, as people deal with death and dying. Several comparable proportions are made within the musical and living world. During this period (1825-1900), composers used a wider range of emotional expression, leading to a greater partisanship than is previous era (the Classical period) or stages prior or following it. The idea of Romanticism was soaring in this age, and ideas of faith, emotion and fantasy were prevalent. It is very interesting to see how the western world changed within the Romantic Period of history, especially in the presence or absence of death and dying. People at this time believed and deliberated on many different social, philosophical, and emotional notions of death. It is quite fascinating how they resembled the customs and beliefs of death and corresponded them to the musical techniques. Composers including Schubert, Schumann, Wagner, Chopin, and Tchaikovsky were predecessors in this era, corresponding music to the beliefs of Romanticism. I chose this topic as a means of studying my own association in death. After graduating from MSUM, I plan to enter in a field of mortuary science as a funeral director. Throughout learning and revising several Romantic Era books, musical works, and composers, I studied the concepts and philosophies of death and dying. I found several relationships in the musical world and bereavement. These findings meant that the Romantic Period was a time in which people were fascinated with the idea of death; their everyday lives were revealed as a passion and obsession with it. Through this project, readers and listeners will be able to incorporate how this obsession drastically changed the musical world and the livelihood of generations to come.



**Title:** Urban Growth Boundaries and Housing Prices

**Presenter(s):** Eric Bigelow

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** The purpose of this presentation is to study Urban Growth Boundaries and how they affect housing prices in metropolitan areas. Urban Growth Boundaries are land-use regulations which attempt to control how cities may be zoned. Using a number of different variables I will show how urban growth boundaries affect housing prices in cities with boundaries and cities without.

### 100

**Title:** The Biesterfeldt Site: A National Historic Landmark

**Presenter(s):** Kathryn Maxwell

**Department:** ANTH

**Advisor:** Rinita Dalan

**Abstract:** The Biesterfeldt site, located in southeastern North Dakota, is a Cheyenne village occupied early in the eighteenth century. It is of national significance because it provides data on the migration of peoples in the Great Plains. This site also captures a shift from living in settled villages to becoming nomadic bison hunters. The National Park Service, Midwest Archaeological Center and Minnesota State University Moorhead are conducting a comprehensive study on the Biesterfeldt archaeological site to nominate it for National Historic Landmark status. Valuable historical data available includes maps, air photos, historical accounts as well as artifacts stored in various locations. The purpose of my research is to compile a database of the various sources, obtain and make copies of data we do not have, and integrate the records of four faculty members. This project is a practical application of the curatorial aspects of archeology.

### 101

**Title:** Fuel Efficiency: What's In Your Tank?

**Presenter(s):** Katie Larson

**Department:** MATH

**Advisor:** Ellen Hill

**Abstract:** For our group presentation we are going to study fuel efficiency. The proposition is even though super unleaded fuel is more expensive, is it worth using in the long run? How about a new car that takes E85, is the extra money for the new car worth the amount saved in gas? What does the future of E85 look like? Could it become the same price as regular gasoline? To complete this project we will find statistics on fuel efficiency on a variety of cars (Ford Taurus, Honda Civic, Buick LeSabre, Chevy Malibu and Chevy Blazer) and calculate if using super unleaded gasoline will save money in 5 years, 7 years, and 10 years. We will also calculate fuel efficiency on a new car that takes E85 and calculate if money will be saved in 5 years, 7 years, and 10 years. We will also need to take into account the inflation of gas prices. For each of these we will need to find statistics on these cars and average them, or simply find an average directly from the company. Fuel inflation prices may be hard to find or work with, so we may need to do the project in the assumption that the price spread among super unleaded, unleaded and E85 will generally stay the same, no matter the inflation.

### 102

**Abstract:** US Coal Supply: a Mathematical Projection of Coal Reserves and Why We Need to Search for an Alternative Resource

**Presenter(s):** Moneer Al-Rifai, Michelle Hinz

**Department:** MATH

**Advisor:** Ellen Hill

**Abstract:** This project will examine one of the major energy resources in the United States: Coal. According to the Department of Energy, coal generated 49.7% of the electricity produced in 2005. While the ratio of coal to other fuel sources might not change very much in the coming few years, the amount of coal needed will definitely increase, due to the ever-increasing production of electricity that accounts for about 75% of coal consumption.

Although some estimate that the United States has enough coal to last for at least another 200 years, these estimates might be questionable. Using official data for coal production and coal reserves as provided by the Energy Information Administration, we will try to project the expected lifetime of coal reserves. This will take into consideration the increasing demand for electricity, the increasing population that results in more demand for coal, as well as other trends that are depleting our coal reserves at a high rate. The project will also touch on the need to

switch to a better fuel source that is cost-efficient and environmentally friendly. In spite of the fact that coal-generated electricity is seemingly cheap, the production of coal could have a high cost in the long run when other factors are considered.

### 103

**Title:** Recovery following UVR exposure in *Marchantia polymorpha*, *M. paleacea*, and *M. inflexa*

**Presenter(s):** Jenny Neuberger

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** The stratospheric ozone layer is slowly being depleted, thus more ultraviolet radiation (UVR) is able to reach the earth's surface. This is a concern because UVR can cause alterations in DNA, photosynthesis, growth, development, and an increase in UV-screening compounds in plants. Liverworts are small plants that live along streams. Population persistence is dependent upon asexual reproduction via production of gemmae, small propagules dispersed by water droplets. I will investigate long-term impacts of UVR on liverwort gemmae from three species: *Marchantia inflexa*, *M. paleacea*, and *M. polymorpha*. Gemmae will be exposed to UVR levels higher than ambient and measured every 10 days after exposure to determine whether gemmae can recover from exposure. It is expected that the exposed UVR gemmae will recover to the same measurements as the non-exposed UVR gemmae. It is also expected that *M. polymorpha* will be able to recover the fastest out of the three species while *M. paleacea* will recover the slowest. Results from this study will have important implications for understandings of climate change on plant populations.

### 104

**Title:** TEEM Construction, Inc.

**Presenter(s):** Erin Eagleson, Tina Miller

**Department:** CM

**Advisor:** Norma Andersen

**Abstract:** Renovation of Moorhead Power Plant into a updated Moorhead Public Library

### 105

**Title:** H&S Construction Group Presentation

**Presenter(s):** Christopher Sazama

**Department:** CM

**Advisor:** Norma Andersen

**Abstract:** Group Presentation

### 106

**Title:** Examining the affects of caffeine on oxidative stress, beta-amyloid production, and mtDNA damage in laboratory mice

**Presenter(s):** Jeffrey Corrow, Christopher Failing

**Department:** BIOL

**Advisor:** Ellen Brisch

**Abstract:** Previous reports have determined that caffeine reduces brain beta-amyloid (A $\beta$ ) production and cognitive impairment in Alzheimer's transgenic mice. Alzheimer's (AD) is a neurodegenerative disease resulting in progressive cognitive impairment and elevated levels of A $\beta$  protein. Extensive evidence has shown that A $\beta$  fiber formation creates amyloid plaques which may have a link to oxidative stress. A $\beta$  can increase oxidative stress by lipid peroxidation, DNA and protein oxidation, and can directly cause mitochondrial abnormalities. Oxidative damage to mitochondrial DNA can have severe consequences on the cell. It is generally accepted that A $\beta$  production is a trigger for the early onset of AD. Studies have demonstrated the affects of caffeine on AD by treating AD transgenic mice with caffeinated water and analyzing their cognitive abilities and hippocampus A $\beta$  levels. Specifically, caffeine decreased hippocampus levels of A $\beta$  and the expression of  $\beta$ -secretase (BACE) and Presenilin 1 (PS1), both involved in the activation of the A $\beta$  protein. To date, no one has determined the affects of caffeine on oxidative stress. Therefore, we want to determine if caffeine is a factor in reducing oxidative stress in the mitochondria. In this study mice will be given caffeine treated water at concentrations of 0.3mg/ml, 0.6mg/ml, 0.9mg/ml, 2.0mg/ml, and 4.0mg/ml respectively. Brain tissue samples will be obtained to measure beta-amyloid protein levels, degradation of mtDNA, and production of reactive oxygen species (ROS). We hypothesize that the dosage of caffeine at 0.6mg/ml will reduce oxidative stress the most and that dosages higher than 0.6mg/ml will be damaging to the cell.

107

**Title:** An analysis of the international automobile industry

**Presenter(s):** Robert Haas

**Department:** ECCN

**Advisor:** Oscar Flores-Ibarra

**Abstract:** This presentation contains research that I have conducted involving the international automobile market. My research addresses the history and trends in the international automobile market to gain an insight into the future of this complex industry. All my conclusions are based off economic theory and the application of economic and econometric modeling techniques.

108

**Title:** The effects of elevated carbon dioxide on growth and reproduction of maternal families of *Brassica rapa* plants

**Presenter(s):** Amanda Wickersham

**Department:** BIOL

**Advisor:** Alison Wallace

**Abstract:** It has been well documented that various species of plants may exhibit differential growth and reproductive responses to elevated carbon dioxide, yet less work has been done on within species responses. The purpose of our study is to attempt to detect any genetically-based causes of intraspecific variation in the growth and reproduction of *Brassica rapa* plants at ambient and elevated levels of carbon dioxide. Nine replicates of four maternal families were grown from seed at ambient (400 ppm) and at elevated (800 ppm) carbon dioxide in controlled growth chambers. Growth and timing of development measures will be recorded and analyzed by the time of the conference presentation, however, the reproductive output will still be in progress.

109

**Title:** Research in Contemporary Art and Design: The Feminist Art of Sarah Lucas

**Presenter(s):** Abbigale Cline

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** In this presentation I will be researching the British artist Sarah Lucas and her contribution to feminist art. Lucas became a well known artist in the 1990's. Her art focuses on gender, sexual stereotyping, sex, death and British culture. She uses everyday objects to represent the body in disturbing ways. In this presentation I will discuss Lucas's attraction to found or everyday objects and how she approaches their use domestically in her work. I will also investigate how she is abrasive but incorporates humor. Lastly, how her body of work has influenced contemporary feminist art.

110

**Title:** Financing Long-term Care

**Presenter(s):** Massa Kiawoin

**Department:** HLTH

**Advisor:** Barry Halm

**Abstract:** The student academic conference presentation will discuss financing alternatives for the provision of Long-term Care in the United States. The Long-term Care industry is facing an economic challenge as the demographics of the population shift. This increase is a trend that will continue into the next few decades because of declining fertility rates and an increase in life expectancy. Because of this increase in the elderly population and the a constrained reimbursement system, there is a continuing debate over how to fund Long-term Care services. The major sources of Long-term Care financing is Medicaid. A discussion of Medicaid, its limitations, and the impact on those that rely on Medicaid assistance is a component of the presentation. The premise of the presentation is framed around "what can our society do to finance Long-term Care service for those individuals that has less means and great needs?" The presentation will identify the financial struggles faced by those within society that does not have the economic means to access Long-term Care services without significant and limiting hardship.

111

**Title:** Nathaniel Courthope: The Unsung English Hero Who Created An Empire

**Presenter(s):** Nicholas Pestel

**Department:** HIST

**Advisor:** Margaret Sankey

**Abstract:** Nathaniel Courthope, a forgotten man in history whose courage and leadership helped the English obtain Manhattan from the Dutch from the result of his death and thus the start of English dominance on the American continent. This Presentation would look into the life of Courthope, his expedition to the Spice Islands (now known as Indonesia), the conflicts with the Dutch over the Island of Run, his time on the island and the eventual downfall of the forgotten English hero.

112

**Title:** Native American Eagle Trappings

**Presenter(s):** Daniel Salas

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** During the summer of 2007, an MSUM team working at the Peterson site in the Sheyenne River Valley, identified an extant pit, located on the top a bluff overlooking the Sheyenne River Valley, next to where the Peterson site. This was interpreted by a native informant as an Eagle Trapping pit. This discovery inspired me to explore the importance of the phenomenon among Native Americans. I will explain the importance of Eagle Trappings among Native Americans, explain the processes and ceremonies that are linked to Eagle Trappings, and describe the techniques used at Eagle Trappings.

113

**Title:** Protein concentration and heart weight to body weight ratio explain difference in aerobic capacity between Dark Agouti and Copenhagen rats.

**Presenter(s):** Evelyn Fuentes, Tatiana Gracyk

**Department:** BIOL

**Advisor:** David Rodenbaugh

**Abstract:** Protein concentration and heart weight to body weight ratio explain difference in aerobic capacity between Dark Agouti and Copenhagen rats. Evelyn Fuentes, Tatiana A. Gracyk, Adriane J. Maag, and D.W. Rodenbaugh Department of Biosciences, Minnesota State University Moorhead Moorhead, MN 56563 Inbred Dark Agouti (DA) rats have been shown to have a higher aerobic capacity than inbred Copenhagen (COP) rats. This difference might be due to the development of cardiac hypertrophy. Cardiac hypertrophy can develop with constant exercising and building of muscle; this is how the heart is strengthened. We predict that the DA rats have cardiac hypertrophy enabling them to have a higher cardiac output than the COP rats. Along with this, we hypothesize DA rats will have a higher plasma protein concentration enabling them to have a higher blood volume. This would enable them to carry more oxygen to the muscle cells, hence increasing their aerobic capacity. We have obtained blood samples to calculate protein concentration. Our data thus far shows a 17% difference with  $p=0.33$  and  $n=6$  in the protein concentration with DA rats having a higher protein concentration than COP rats. We will increase our sample size by obtaining more blood samples from DA and COP rats. We will also collect heart samples to measure a heart weight to body weight ratio. Thus far there appears to be no significant difference in the heart to body weight ratio between DA and COP rats. Finally, we will study the role of excitation-contraction coupling of the heart, which has an effect on how much blood is pumped through the heart, by running a Western Blot using the heart samples obtained.

114

**Title:** Large Format Photography: A Lost Art

**Presenter(s):** Antony Anderson, Daren Dobson, Amanda Grant, Margaret Hamm, Matthew Johnson, Tessie Jones, Alexandra Neumann, Jeffrey Opp, Joshua Sundby, McKensie Wallner, Catherine Wolsky

**Department:** ART

**Advisor:** Lana Leishman

**Abstract:** Large Format Photography is a lost art challenged by new technology. Take a step back in time and learn how the medium began. Come explore the possibilities that large format photography has to offer. Photography students will be on hand to demonstrate the use of this camera, and provide free portraits to participants. Examples of work produced by Large Format cameras will be on display.

115

**Title:** Ancient Egypt's Momentous Change to a Unified State Represented on Pottery

**Presenter(s):** Nicole Reisdorf

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** Predynastic Egypt is filled with mystery and the unknown. A figurine known as the "Bird Lady" was found in Ma'mariya, Egypt in 1907. It is dated to the Predynastic Period. Pots found from the same time period have a painted figure in exactly the same shape. Arms almost completely encircled above the head with exaggerated hips and thighs. The shape of the arms are quite similar to the shape of horns above the head of the goddesses Bat and Hathor from later times in Egypt. The similarity between the "Bird Lady," the figure on the pots, and the goddesses poses the question, "Are they connected?" In this paper I argue that the figurines of the "Bird Lady" is an early form of the goddesses Bat and Hathor.

116

**Title:** Treasury Advisory Committee on the Auditing Profession

**Presenter(s):** Sadie Olson

**Department:** ACCT

**Advisor:** Joann Segovia

**Abstract:** Presentation on the recently formed Treasury Advisory Committee on the Auditing Profession. Initiative is to enhance financial reporting making the presentation of financial information more meaningful and accessible to investors. Provide informed advice to the Secretary and the Department of Treasury. We will explain the principles, challenges, accomplishments and possible effects on the auditing profession. Additional Group Members: Jennifer Woodruff

117

**Title:** Identity Theft in America

**Presenter(s):** Sadie Olson

**Department:** ACCT

**Advisor:** James Hansen

**Abstract:** Approximately 750,000 cases of identity theft were reported in America last year. Identity thieves often ruin their victims' credit and sometimes their livelihood. Personal information such as social security numbers and credit card information are very sensitive information but personal information is what identity thieves want. Identity thieves have many ways of obtaining personal information so the everyday American needs to be educated about identity theft and know many ways how to prevent identity thieves from obtaining their information.

118

**Title:** A technological perspective on Forensic Accounting and Fraud Detection

**Presenter(s):** Peter Wiederholt

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Ever since the scandals involving Worldcom and Enron the need for forensic accountants has increased dramatically. Forensic accountants help businesses investigate potential fraud cases using various computer programs such as email recovery, hard drive searches, and image recovery software. Drivelook is one such program used to investigate the hard drive of a computer by recovering deleted files. Cookie View is another program used to view all cookies on a computer which allows the user to see the time and date the cookie was established. Forensic accountants not only research the computers used by potential criminals, but they also search telephone records to try and track who the person has been calling. These are just a few of the technologies used by forensic accountants in their fraud investigations. With the implication of the Sarbanes-Oxley Act of 2002 the demand for forensic accountants has increased due to companies fearing they will be prosecuted for falsifying their financial statements. In this study, we will provide state-of-art review of some of the key technologies used in this new area of forensic accounting.

119

**Title:** Poverty Reduction and Economic Growth in India

**Presenter(s):** Achala Acharya

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** This paper will attempt to explain rapid economic growth in India in the last fifteen years using econometric analysis. The paper will explore all the factors that might have led to the growth surge from structural reform, education and training and trade liberalization. The paper will also look at issues of wealth distribution, and see if the development has left the poor behind.

120

**Title:** China's Economic Growth

**Presenter(s):** Sumi Sharma

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** This paper presents the economy of China and the growth it has experienced in the last twenty year using econometric analysis. This paper reviews China's growth in industrialization and GDP. I will also study Chinas future possibilities given a large population.

122

**Title:** Vietnamese Refugees and Mental Health: Causes and Treatment for Mental Health Issues

**Presenter(s):** Natalie Suleiman

**Department:** HIST

**Advisor:** Henry Chan

**Abstract:** After the Fall of Saigon on April 30, 1975, thousands of Vietnamese people evacuated Vietnam with the American Military. Millions of others were left behind. Beginning in 1978, the Vietnamese left behind took matters into their own hands and fled Vietnam in small boats. These people became known as the "boat people". The journey that the "boat people" took was emotionally and mentally damaging. Upon arrival in the United States, many Vietnamese refugees suffered from mental health problems. Not only did they suffer, the often did it alone, without professional help. In this research, the causes of mental health problems and barriers to treatments for "boat people" are examined. Suggestions are also made for successful care.

123

**Title:** Synthesis of semicarbazide-cyanoborane in ionic liquids

**Presenter(s):** Jeremiah Smith

**Department:** CHEM

**Advisor:** Gary Edverson

**Abstract:** The reaction of sodium cyanoborohydride and semicarbazide hydrochloride in ionic liquids has been studied. The extent of reaction and the ability to isolate the semicarbazide-cyanoborane product will be compared to when the reaction is carried out in THF. Characterization will be done by boron-11 and proton NMR spectroscopy.

124

**Title:** Ultraviolet radiation thresholds for gemmae of three liverwort species, *Marchantia polymorpha*, *Marchantia inflexa*, and *Marchantia paleacea*

**Presenter(s):** Jill Wavra

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Hildegard a Women Composer in a Man's World Hildegard of Bingen was a Composer as talented as any man in the Middle Ages. Hildegard was the founder and abbess of the convent at Rupertsberg in Germany; she is not only famous for her poetry but the melodies she composed. Her life, trials, and expectations are interesting as well. She was historically remarkable in a world dominated by men. This presentation will show how Hildegard has had an effect on the musical world of her time. In this presentation I would like to introduce Hildegard to a new generation of music lovers. I will show how Hildegard as a women used her remarkable talent in a historically man's world.

### 128

**Title:** The Interpretive Role of the Shultz Site Ceramic Collection in Northeast Plains Prehistory

**Presenter(s):** Craig Picka

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** The Shultz Site (32RM215) is a late prehistoric archaeological site located along the Sheyenne River in Ransom County, North Dakota. The site is poorly known due to the lack of a written site report. This ceramic collection of this site is important to the study of the Northeast Plains prehistory. Archaeologists have written about the collections and have made reference to the collection. In light of recent excavations conducted by MSUM along the Sheyenne River, a re-analysis of the Shultz ceramics can provide an understanding of the regional prehistory.

### 129

**Title:** Research in Contemporary Art and Design: The Work of Janine Antoni

**Presenter(s):** Tiffany Nordick

**Department:** ART

**Advisor:** Anna Arnar

**Abstract:** In this presentation, I discuss the work of Janine Antoni, an American artist who integrates performance and sculptural art to put everyday activity in a new perspective. She uses a wide variety of media to capture the complex processes of making and viewing art. After a brief background of Antoni's life, I highlight influences that may have shaped her development as an artist. I focus on several of her art works and examine the experiences she had while producing them. As we will learn, the experiences that arise during the process of making art are considered by Antoni as valid as the final product itself.

### 130

**Title:** Biesterfeldt Ceramics

**Presenter(s):** Abraham Ledezma

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** MSUM Archaeology Program is currently restudying the Biesterfeldt site, an earth lodge village located on the Sheyenne River in Ransom County North Dakota. This site was excavated by W.D. Strong in 1938 and reported by W.R. Wood in 1971. Wood devoted his ceramic analysis on rims and ignored the other parts of the vessel. Body sherds, which Wood merely counted, provide important information about what vessels looked like, how vessels were manufactured, what vessel looked like, and how these vessel traits varied across the village.

### 131

**Title:** Effects of Shared Sound and Spelling on False Word Recognition

**Presenter(s):** Kristen Bouwman, Susan Johnson, Julie Przekwas

**Department:** PSY

**Advisor:** Christine Malone

**Abstract:** This experiment uses a recognition memory paradigm to explore the interaction of sound and spelling information in the early stages of spoken word recognition. Previous work with the recognition memory paradigm has confounded sound and spelling. In this experiment, stimuli was used to systematically manipulate shared sound only, shared spelling only, or both shared sound and spelling between study and test words in a recognition memory paradigm. If sound and spelling determine the pool of candidates as the spoken stimulus unfolds, study words with only shared spelling (measles) should activate their corresponding target (measure) during study and seem more familiar at test, leading to false recognition errors of their target.

### 132

**Title:** Can You Hear Me Now? Technology and Learning For Deaf Students

**Presenter(s):** Peter Kleckner

**Department:** CMST

**Advisor:** Denise Gorsline

**Abstract:** As a deaf student, I am always looking for new technology to help me with my courses and to be able to navigate easier in a hearing world. As part of that process, which was prompted by a presentation I made for my Film 270 class, I have found an array of information about how technology can assist me and others. 1. To

convey information in telecommunications field in communications equipment and information used by the deaf and hard-of-hearing (hoh). 2. To demonstrate equipment used by the deaf and hoh. 3. To present in video format the demonstration of closed-captioning on video. 4. To present on computer a method of using the telephone without the user using their voice to call someone.

### 133

**Title:** Advantages and disadvantages of radio frequency identification (RFID) technology

**Presenter(s):** Rebecca Kelbert, Ashley Olson, Nathaniel Pearson

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Radio frequency identification (RFID) technology has been around for decades, but has just recently made its way into the public eye. Much confusion surrounds what it is, how it is used, and how it may be used in the future. This presentation will give a brief background of RFID technology to answer these questions while addressing its advantages and disadvantages.

### 134

**Title:** A View of Women Administrators in Higher Education

**Presenter(s):** Rosemary Bakke

**Department:** MLA

**Advisor:** Sheila Coghill

**Abstract:** Women have not only had to struggle to receive higher education, but they have also faced barriers and obstacles in becoming administrators and maintaining administrative positions in higher education. Even with obstacles such as traditional stereotypes, "good old boy's club" philosophies, and blatant discrimination, many women have still managed to attain top administrative positions in higher education over the past two centuries. Indeed, their progress over the past twenty years has shown the number of women college presidents at two- and four-year colleges has risen from 5 percent to 23 percent. To understand the obstacles and achievements that women administrators have faced, this project compared six women administrators' perceptions on higher education in the Red River Valley of the North. The project focused on the six women's perceptions and historical views finding similarities and differences that exist for women today.

### 135

**Title:** The Neutral Comet Assay for DNA Damage

**Presenter(s):** Jenna Peper

**Department:** BIOL

**Advisor:** Michelle Malott

**Abstract:** We are interested in the effects of UV radiation on two study organisms in our lab; liverworts and fathead minnows. With respect to the liverworts, we are interested in the impact UV exposure has on the genetic integrity of haploid reproductive cells called gemma. In the fathead minnows, we are interested in determining if a substance secreted by the skin of these fish that is known to function in chemical signaling also has an additional function as a protectant against UV damage in these same skin cells. UV radiation impacts DNA by disruption of the chemical bonding in the sugar-phosphate backbone of the DNA molecule. The comet assay, or single-cell electrophoresis, is a simple method for detecting and measuring deoxyribonucleic acid strand breakage associated with various DNA damaging agents such as UV radiation. Cells embedded in an agarose matrix are lysed, allowing all cellular proteins to be removed. The nuclear DNA then unwinds under neutral conditions. Following lysis, the cells are electrophoresed and any damaged DNA migrates from the nucleus. After staining, a distinct comet may be visualized; all intact DNA remains in the head, while the tail consists of damaged or broken pieces of DNA. The extent of DNA liberated from the head of the comet is directly proportional to the amount of DNA damage. We will present the preliminary results of our use of the comet assay to examine the impact of UV radiation on liverwort and fathead minnow cells.

### 136

**Title:** An Investigation on MMP-9 mediated cell invasion and metastasis in non-small cell lung cancer

**Presenter(s):** Shyam Thapa

**Department:** BIOL

**Advisor:** Joseph Provost

**Abstract:** The sodium hydrogen ion exchanger isoform 1 (NHE1) is a ubiquitously expressed membrane protein ion exchanger. NHE1 has two primary functions including intracellular pH regulation and cytoskeletal anchoring or scaffolding. NHE1 allows for the creation of acidic extracellular environment by extrusion of protons for the intake of extracellular sodium ions. Matrix metalloproteinases (MMPs) are zinc dependent endopeptidases that degrade extracellular matrix proteins (ECM). ECM degradation via MMP secretion of migratory cells allows for tumor metastasis and angiogenesis to occur in cancer cells. MMPs are activated by acidic nanoenvironments. Therefore, we believe that MMP9 mediated invasion and metastasis is regulated by both the scaffolding and proton transport functions of NHE1. Using H358 and H1299 non-small cell lung cancer (NSCLC) cell lines the relationship between NHE1 and MMP-9 expression were studied. Urokinase-type plasminogen activator (uPA) converts zymogen plasminogen to plasmin protease that degrades ECM components and activates other collagenases such as MMPs. By conducting a Zymogen assay using both uPA stimulated and unstimulated cells we were able to examine levels of MMP expression. Using ethyl isopropyl amiloride (EIPA) to inhibit NHE1 we examined the level of MMP expression in NSCLC in absence of active NHE1 activity. A zymogen assay was utilized to study MMP expression in the absence of NHE1 using NHE null NSCLC cell lines created by using lithium suicide selection. An MTT assay was conducted to examine levels of cell proliferation in uPA stimulated and unstimulated cells. NSCLC cells were treated with MMP inhibitor (SB-3CT), EIPA, and methyl beta cyclodextrin (M<sup>β</sup>CD). M<sup>β</sup>CD disrupts lipid raft structures by extracting cholesterol from lipid raft domains. MMP9 are localized in lipid rafts domains. We would also like to study the relationship of MMP9 localization within lipid raft domains by treating both NSCLC cell lines and NHE1 null NSCLC cell lines with M<sup>β</sup>CD, EIPA, and emodin a chemical found to inhibit lipid raft clustering and colocalization of adhesion molecules within lipid raft domains.

### 137

**Title:** Credit Card Fraud

**Presenter(s):** Zia Warrach

**Department:** ACCT

**Advisor:** James Hansen

**Abstract:** Credit card fraud is a wide-ranging term for theft and fraud committed using a credit card or any similar payment mechanism as a fraudulent source of funds in a transaction. The purpose may be to obtain goods without paying, or to obtain unauthorized funds from an account. I'm going to present a case of credit card fraud, its legal implications to the thief and to the victim. Credit card fraud is a growing problem and in my opinion everyone should take at least basic steps in securing their finances and avoiding being the victim. My presentation will outline several steps an individual can take to keep their personal information secured and safe, such as using only trusted websites when shopping online and shredding credit card and other bank statements. Overall the more individual does to protect their financial information, the more difficult it is for others to obtain it and use it illegally.

### 138

**Title:** Belemnite Rostrum used as an Indicator of Marine Flooding Surfaces in the Jurassic Sundance Formation: Seminoe Reservoir Wyoming, USA

**Presenter(s):** Nick Kopiasz

**Department:** GEOS

**Advisor:** Karl Leonard

**Abstract:** Belemnites literally cover the ground near ridges of the Sundance Formation around the Seminoe Reservoir in Southeastern Wyoming. A series of samples were collected from beds of the Sundance in hopes of better understanding the accumulations of this cephalopod. Many of the interbedded sandstones, mudstones, and limestone in the lower and middle parts of this interval are the results of a marine transgression that took place in the Middle Jurassic with the expansion of the Sundance Sea. The goal of the research was to better understand what was happening to sea levels during this time and what was the environmental setting that deposited these layers in the now present day Seminoe Reservoir. We expected to find a

transgression followed by a regression that eventually regressed enough to give us the paleosols and fluvial deposits of the famous Morrison Formation. Belemnite rostra occur in a variety of lithologies in the Sundance, but appear to be most abundant in beds where they occur with other mollusks and bored cobbles. Belemnites are a prehistoric Cuttlefish-like creature that lived in these ancient seas, the fossil remains from these soft tissue squids are a conical spear-like feature called a Rostrum that protrudes from the top of their heads or their phragmocone. Some soft parts are found in the fossil record although they are very rare. In one bed where Belemnites are particularly abundant we see evidence of very low rates of deposition, which leads us to believe that this was an indication of a Maximum Flooding Surface. The accumulations of skeletal remains in this case appear to be stratigraphic or sedimentological rather than the result of mass mortality or any other biological accumulation. Also, after this interval the overlying strata grade upward into progressively shallower water facies and eventually terrestrial facies indicating a marine regression and eventual demise of the Sundance Sea.

### 139

**Title:** Check Fraud - Learn to Protect Yourself

**Presenter(s):** Whitney Jacobson

**Department:** ACCT

**Advisor:** James Hansen

**Abstract:** Congratulations! You finally sold that old beater car, via the internet, for a great price! You then receive a cashier's check from the out of state buyer for 10,000 over the purchase price. Your instructions are to deposit the check and wire back the excess for shipping costs. Sound a little suspicious? This is check fraud and it happens to millions of Americans each year. It is important to know how to spot these fraudsters so as not to fall victim. With the interview of a top security officer of a prominent local bank and extensive research of the topic, I am able to share the common characteristics of check fraud and what some criminals are doing to stay ahead of the curve.

### 140

**Title:** Understanding the Mormon Church: A Participant Observation

**Presenter(s):**

**Department:** CMST

**Advisor:** Jason Anderson

**Abstract:** Ethnography involves the thick description of people, places, and things in an effort to better understand reality. As a participant-observer, I sought to conduct an ethnography of the Church of Jesus Christ of Latter Day Saints. In this paper, I report on my efforts to understand how these churchgoers spoke to one another and defined their church community. Over the course of two visits to the church, I was able to observe and engage in a variety of communicative events. In the report that follows, I will discuss how these particular Mormons spoke to God, engaged in singing, used symbols, and welcomed potential new parishioners to their congregation.

### 141

**Title:** From Ear to Ear the Music I Hear

**Presenter(s):** Stephen Burket

**Department:** MUS

**Advisor:** Laurie Blunsom

**Abstract:** Music: the thoughtful organization of sound. What is it other than that? Why does it sometimes make our spines tingle? Why does it propell us to dance? What would the world and life be like without it? Does music play an important role in the progression of humanity or is it merely "auditory cheesecake" as some would say? These are things I often contemplate. In this presentation I will investigate the psychological and physiological effects music has on our bodies. With recent developments in cognitive psychology and neurosciences we are able to better understand how music affects our bodies and the brain. My intent is to gather this information and present it in a concise fashion with some of my own insights and revelations.

142

**Title:** Interpretive Explanations of the Depictions of the Origin Myths of the Aztecs

**Presenter(s):** Ashley Rehling

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** Aztec origin myths comprise many themes. Many of these themes have been depicted in the painted books, also known as codices. These books were made by natives and Europeanized-natives. I will aim to explain some of these themes as well as examine them. As well as examine the themes I will be pointing out examples that represent European misconceptions of native symbols. One such misconception involves the symbol of Mexico today of the eagle on a cactus holding a snake.

143

**Title:** Effectiveness of Advanced Solar Disinfection on Escherichia coli

**Presenter(s):** Nicole Haverland

**Department:** BIOL

**Advisor:** Kathryn Wise

**Abstract:** The purpose of this project is to determine the effectiveness of Advanced Solar Disinfection on reducing the number of viable Escherichia coli as measured by colony-forming units (CFU) over time. E. coli was chosen for this project because it is a typical indicator microbe used for assessing water quality. Theoretically, titanium dioxide on the surface of the product catalyzes the reaction between water and dissolved oxygen and sunlight to produce hydrogen peroxide. This acts to improve the normal action of sunlight to disinfect, through warming and direct action of the sunlight on the organisms. The use of titanium dioxide as a water disinfectant is a relatively new technology progressing out of necessity for discontinuing use of chlorination and other harmful disinfectants due to harmful by-products. Although tested as early as 2003, there has yet a product to emerge that is both effective and inexpensive. The Advanced Solar Disinfection System was made here, at Minnesota State University Moorhead, and is a product that is inexpensive to make (~\$5 per reusable system). It does, however, need to undergo trials to test its effectiveness. This project is the first in a series of three possible projects spanning over a year and a half and if focussed on the biological assay for the Advanced Solar Disinfection system.

144

**Title:** Exploring Business Opportunities in an Online Gaming

**Environment:** A View from Second Life

**Presenter(s):** Karen Kochmann

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Second Life is a virtual world where individuals can create avatars and interact with other individuals on the global network. Conducting business is one of the many things to be a part of in Second Life. Of the individuals aware of this virtual world, many have taken advantage of the business opportunities in Second Life. After building a location hopefully you begin to earn Linden Dollars, the currency of Second Life. We would like to discuss the different kinds of business opportunities in Second Life and how some individuals who own businesses in Second Life have been successful. Also, we would like to discuss some of the ways these virtual businesses affect physical businesses that exist in the real world.

145

**Title:** Cyber Crimes: Identity Theft

**Presenter(s):** Cory Schumacher

**Department:** LGST

**Advisor:** Paul Kramer

**Abstract:** In this paper I will share the effects, both positive and negative of identity theft. In recent years identity theft has led to an increase in not only financial theft, but also personal information that for some can never be compensated. In the past decade identity theft has been fueled by the nearly exponential increase in personal access to the internet. Identity thieves have virtually a limitless flow of information available at their fingertips. But the internet is more of an ending point in identity theft it primarily starts off right in your backyard. Even with vast amounts of anti-identity theft programs out there and constant warnings, most people still throw away bills and credit card information without destroying the papers preventing identity thieves from gaining access to their bank account numbers and other personal information. I will be discussing some of the effects identity thieves

have had on their victims financial status and also ways identity theft should or could have been prevented.

146

**Title:** Feasibility Study of Sustainable energy on MSUM campus.

**Presenter(s):** Heather Sanden

**Department:** PHYS

**Advisor:** Stephen Lindaas

**Abstract:** Feasibility study of wind power and solar power on MSUM's campus. Including quantitative data and research observations to reduce fossil fuel energy use and make the campus more sustainable.

147

**Title:** Understanding Email Overload and its Implications on Workplaces

**Presenter(s):** Jared Hollands, Katie MacRae

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Email has greatly increased communication among people in the workplace. Messages, which used to take a few days to a week to arrive now land in an inbox in a matter of seconds; however, many employees are now faced with what is called email overload. It is not unheard of for employees to receive 200-300 emails every day. Email overload causes employees to spend time sorting through emails deciding what is important and what is junk mail. This time which could be spent working on more important work related tasks. Meanwhile, not all employees are sorting through their inboxes to find the important messages. Some choose to simply hit the delete key inevitably missing valuable information. We will evaluate how email overload affects the workplace and discuss some potential solutions to this important problem.

148

**Title:** The effects of 9-hydroxy Xanthene on the erythrocyte membranes of hypertensive and normotensive male rats.

**Presenter(s):** Maria Lindsay

**Department:** CHEM

**Advisor:** Abbas Pezeshk

**Abstract:** Spontaneously hypertensive (SHR) rats and normotensive (WKY) rats were treated with 9-hydroxy xanthene to determine the effects of the drug on blood pressure, pulse, and cardiac and red blood cell membrane fluidity. The rats were treated three times per week with 200 mg/100 g body weight for four weeks and blood pressure, pulse, and body weight were collected once weekly. At the end of the study blood was collected via heart puncture in heparinized tubes for membrane fluidity analysis. Using spin label technique and EPR, the values of maximum splitting parameter for fatty acid labels (5-SASL) incorporated in erythrocyte membranes of both SHR and WKY rats were compared. The results of this study will be presented.

149

**Title:** Magnetic Susceptibility Studies at Poverty Point State Historic Site

**Presenter(s):** Jessica Beard

**Department:** ANTH

**Advisor:** Rinita Dalan

**Abstract:** The earthworks at Poverty Point are part of an archaic archaeological site constructed approximately 3,500 years ago. Located in northeastern Louisiana, Poverty Point State Historic Site consists of several mounds and a series of six semi-concentric earthen ridges. Geophysical tests in October 2007 focused on data collection to examine natural and cultural soil distributions of earthen features at the site. Soil cores were collected and described, followed by a series of tests using a Bartington Instruments down-hole sensor to measure magnetic susceptibility deep within the soil profile. Field investigations at Poverty Point were placed across the ridges to study their construction and provide information regarding the extent of erosional processes and other disturbances affecting the structures. Within the plaza, a series of short transects and single tests supplemented the investigation of magnetic high and low circular anomalies shown in surface geophysical surveys by Drs. Hargrave and Clay. A discussion of our fieldwork methods and interpretative results of data collected at the site will be presented which illustrates the practical application of geophysical techniques used in non-destructive investigations of cultural resources.

150

**Title:** An investigation into the abiotic onset of systemic acquired resistance in *Cucumis sativus*

**Presenter(s):** Tyler Fluto, Gyan Joshi, Brent Voels

**Department:** CHEM

**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. When systemic acquired resistance (SAR) occurs it results in several structural alterations including: lignification of the plant primary cell wall material, protein expression, and activation of and induction of anodic peroxidase isozymes, and the chemical alteration of structural carbohydrates in the plant cell wall. SAR is activated either by the biotic route in which a pathogen tries to invade, or abiotically by the treatment of the plant with reagents known to stimulate the plant's defense system. The initial reaction is hypersensitive and leads to oxidative burst in the organism. The release of hydrogen peroxide initiates a signaling that causes infected cells to become inactive and begin apoptosis. That response leads to the downstream signaling that begins the SAR response. Such a response leads to both distal and proximal regions of the plant to up regulate genes involved in defense. SA elicits the SAR response in a plant to cause the permanent alterations to the cell wall. These alterations resist the cell wall degrading enzymes (CWDE) produced by the invading pathogen. This response occurs rapidly and later the genes involved are no longer expressed. For this research our interest lies in the gene expression that occurs when (SAR) is induced; structural differences in the carbohydrate; and differential expression of peroxidase, extensin and pathogen related proteins. SAR activates the plant's defenses and eventually the entire plant gains a lasting resistance to viruses, bacteria, and fungi, meaning that knowledge of these events can greatly improve current agricultural methods. We will be using paper and thin layer chromatography, FTIR, and FPLC to look for the structural changes in the carbohydrate components of plant cell wall. Isolation of peroxidases, extensins, and pathogen related proteins will be done using specific buffers for isolation. Analysis of protein activity will be conducted using specific protein assays. Pathogen related proteins will be isolated and characterized using western blot. Extensin characterization will be performed using FPLC and native gel assays. Additional studies examining differential expression of genes involved in lignification will be done to determine how quickly the plant is responding to the SA treatment. It is known that SAR elicits changes within the plant cell wall that lead to changes in the cell walls content of uronosyl methyl esters, and uronic acid. Biochemical assays of those chemicals will be conducted to determine the level of alteration that is occurring.

151

**Title:** Using NMR to Determine the Relaxation Time of a Hydrogen Nucleus

**Presenter(s):** Kyle Price, Ross Smith

**Department:** PHYS

**Advisor:** Ananda Shastri

**Abstract:** This presentation will study the various magnetic properties of the nucleus. Using a model of the nucleus (a billiard ball with a magnet embedded inside) the magnetic dipole moment and intrinsic angular momentum will be better understood. Our experiment shows the effects that magnetic torque has on a rotating magnetic dipole and also how it is possible to flip the spin state of a nucleus to a higher energy level using a perpendicular magnetic field. When the field is turned off the nuclei return to equilibrium at a characteristic rate called the relaxation time. This presentation will show the experimental value for relaxation time of a hydrogen nucleus among other compounds.

152

**Title:** Mothers' use of facilitating techniques before and after Parent-Child Communication Program training

**Presenter(s):** Allison Staves

**Department:** SLHS

**Advisor:** Louis DeMaio

**Abstract:** This study analyzed the use of facilitating techniques before and after Parent-Child Communication Program training. The training took place over several weeks and covered such techniques as feedback, input and revision; techniques used by parents to foster language development in their children. The more effective use of these techniques the more effective a communicator the child will become.

153

**Title:** Multinational Corporations and Human Rights

**Presenter(s):** Elizabeth Sarney

**Department:** POL

**Advisor:** Andrew Conteh

**Abstract:** A key feature of globalization is that states are no longer the sole actors in the global arena. Non-state actors, such as multinational corporations, are becoming increasingly influential in international relations. In numerous cases, these corporations are often more powerful and dominant than many nation-states. There is, therefore, a growing debate about the corresponding responsibilities of these corporate actors with regard to human rights. This paper seeks to investigate this dispute, and to examine the role played by institutions such as the United Nations or the International Labor Organization in the protection of human rights from the practices of transnational corporations looking to make a profit.

154

**Title:** The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real Life Different from Second Life?

**Presenter(s):** Megan Spencer, Jenna Wagendorf, Maggie Williams

**Department:** PSY

**Advisor:** Richard Kolotkin

**Abstract:** The Evolution and Maintenance of Committed Interpersonal Relationships in Virtual Reality: Is Real life Really Different from Second Life? Second Life is a cultural phenomenon. In this virtual reality, millions of users log on, build avatars, and immerse themselves in interactions with other users worldwide, many in the hopes of building relationships. These relationships are virtual, yet emotionally real. This study is specifically concerned with romantic relationships, including heterosexual, homosexual, and bisexual relations. We plan to compare and contrast real life relationships with Second Life relationships. This study investigates four aspects of Second Life relationships: 1) Why people partner, 2) If they are satisfied with these relationships and why, 3) How quickly these relationships have progressed compared to real life relationships, and 4) How much time is spent with their Second Life partner. We predict that not only will these relationships progress faster than real life relationships, but similar indicators of real life relationship satisfaction, such as intimacy, trust, and communication satisfaction, will contribute to relationship satisfaction in Second Life.

155

**Title:** X-Rays: Properties and Applications

**Presenter(s):** Kevin Schultze, Robin Smith

**Department:** PHYS

**Advisor:** Linda Winkler

**Abstract:** The understanding of x-ray properties can lead to many practical applications. X-rays are used in the analysis of crystal structure, the study of atomic properties, and as tools in medical imaging. An x-ray spectrometer will be built to study the atomic spectrum of Molybdenum using a sodium chloride monocrystal diffraction grating. The resulting Bragg scattering will be evaluated with the Duane-Hunt relationship. The bremsstrahlung continuum of Mo will be used to demonstrate how x-rays can be used to determine Plank's constant.

156

**Title:** Spanish Exiles in Russia After the Spanish Civil War

**Presenter(s):** Nazrin Jahangirova

**Department:** SPAN

**Advisor:** Mary Thron

**Abstract:** This poster session describes the relationship between the Spanish and Russian people before, during and after the Spanish Civil War from 1936-1939. It includes the history of the Spanish exiles of that period and the political and cultural implications of their exile in Russia.

157

**Title:** A Study of Accounting Majors' Ability to Recognize Fraud Risk

**Presenter(s):** Nicholas Peterson

**Department:** ACCT

**Advisor:** James Hansen

**Abstract:** The purpose of this study is to assess the ability of accounting majors to properly identify fraud risk. Students in accounting programs typically study risk using a combination of techniques: the COSO framework, adult risk model, and the fraud

triangle. A recent study by LaSalle (2007) addressed the effectiveness of the fraud triangle in contrast to the COSO framework in assessing fraud risk. The current study looks to expand this comparison to include the audit risk model. It is the authors' belief that similarities will be found between the success rates for fraud risk assessment of the COSO framework and the audit risk model.

158

**Title:** Emotional Impact of Cadaver Dissection on Undergraduate Students

**Presenter(s):** Patrick Self

**Department:** BIOL

**Advisor:** Patricia Wisenden

**Abstract:** Students of human anatomy vary in their emotional response to human dissection. We surveyed students about their feelings on the ethics of cadaver dissection, level of nausea, feelings of incompetence, level of interest in the dissection theater, and to rate their ethnicity as either white European heritage or as people of color. The survey was administered four times during the semester: 1) before cadaver dissection, 2) immediately after first exposure cadaver dissection, 3) midterm (6 weeks after first exposure) and 4) at the end of the semester (16 weeks after first exposure). Of four lab sections in the course, special emphasis was made in two of the sections to 'humanize' the cadavers in an attempt to reduce anxiety over cadaver dissection. We found a significant effect of time and race, but no difference due to the humanizing information. Anxiety of all students increased dramatically upon initial exposure to cadaver dissection but white students showed full recovery at 6 and 16 weeks whereas students of color did not. Students of color carried higher levels of nausea and concern for ethics of human dissection, and lower level of interest in the subject of human anatomy and confidence in their competency.

159

**Title:** Estrogenic Activity on Hatching Rates of Medaka Fish Embryos

**Presenter(s):** Kayla Nagle

**Department:** BIOL

**Advisor:** Ellen Brisch

**Abstract:** Estrogenic substances have been identified in rivers and lakes associated with municipal effluents. In the Red River, Fargo, estrogenic activity is highest at low water flow downstream of the Fargo Municipal Waste Water Treatment plant (FMWWTP). Preliminary research on estrogenic activity downstream of the Fargo Municipal Waste Water Treatment Plant indicated an increase in hatching rates of fish embryos in downstream waters. Our hypothesis is "hatching rates of Medaka fish embryos occur more quickly when placed in waters collected in downstream sites from the FMWWTP due to high levels of estrogenic compounds".

160

**Title:** Roman Sexuality; The Dynamics of Gender

**Presenter(s):** Elizabeth Johanson

**Department:** HIST

**Advisor:** Annette Morrow

**Abstract:** The issue of sexuality is particularly important to discuss in our time. Debates over civil unions, adoption, sex changes and even civil rights are heavily influenced by our society's perception of gender as a stagnant institution. In Roman culture, however, sexuality and gender are displayed in ways very different from our own. This presentation will explore just one other culture's way of "doing" gender.

161

**Title:** Media Representation of Muslims and Islam

**Presenter(s):** Goerkem Yesilnur

**Department:** MC

**Advisor:** Daniel Johnson

**Abstract:** The word Islam means 'Peace,' however, most people in the West do not associate the religion of Islam with peace. After September 11 newspapers are loaded with headlines, such as "In the Name of Allah." Today's media plays a crucial role in shaping our society. I want to research how the media effects our view of Muslims, Islam, and the Middle East.

162

**Title:** Communicative Strategies when Interpreting a Foreign Language

**Presenter(s):** Heidi Mingo

**Department:** CMST

**Advisor:** Denise Gorsline

**Abstract:** The United States of America is increasingly more becoming a country of mixed ethnicities, cultures, and languages. It has been found that many Americans lack the education to properly communicate emotions and words with people of different cultural backgrounds. This presentation will explore the dynamics of intercultural communication and social patterns that are occurring in today's society. Communication theories will be used to explain the current trends, as well as how to communicate cross-culturally.

163

**Title:** The comparison of two reserves in Costa Rica, Cabo Blanco and Monteverde.

**Presenter(s):** Molly Dowling, Kelly Hebert, Jenny Neuberger, Evan Wicker

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Tropical forests in Costa Rica harbor a high diversity of plant and animal life yet are endangered by the impact of human activity. There are different philosophies behind conservation efforts including preservation and conservation. Preservation is when an area is fenced off and no one is allowed into the area. Conservation is where an area is protected, but people are still allowed to travel within the area. In Costa Rica, we will visit an absolute reserve, Cabo Blanco, and a biological reserve, Monteverde. At each location, we will meet with managers and educators to understand threats to biodiversity in each reserve system. Managers will help us assess biological and economic impacts of the reserve systems and to assess the impact of human encroachment on biological reserves compared to absolute reserves. We expect Monteverde to have lower biodiversity and overall health when compared to the Cabo Blanco reserve due to the tourism and human destruction. Through all of the differences we expect to observe between these two reserves, Cabo Blanco should be the healthiest and best form of reserve for the habitat.

164

**Title:** Michelson Interferometer

**Presenter(s):** Kristin Rosenau

**Department:** PHYS

**Advisor:** Ananda Shastri

**Abstract:** The Michelson interferometer is most well known from the famous Michelson-Morley experiment in which they searched for "luminiferous ether." However, as the experiment established, light does not travel through ether and the hypothesis was disproven, but the interferometer has many other uses. The interferometer itself has a detector, two mirrors, and one semi-transparent mirror. Light travels to the semi-transparent mirror and, when it hits, the light diverges and hits the mirrors (which are at 90 degree angles to one another). The light reflects off of the mirrors and back to the semi-transparent mirror, where it converges, and hits the detector. In this experiment, a pane of glass will be put in between the semi-transparent mirror and one of the other mirrors. Since one path the light goes through glass and in the other path light only travels through air, they will take different times to reach the detector. This produces an interference pattern which is used to find the index of refraction of air.

165

**Title:** Nuclear Magnetic Resonance of Solid State Hydrides

**Presenter(s):** Devin Kasper

**Department:** PHYS

**Advisor:** Ananda Shastri

**Abstract:** Hydrogen storage systems are very important for the development of hydrogen powered vehicles. As a result, understanding metal hydrides—metal alloys into which hydrogen may be infused, stored, and retrieved—is an important scientific problem. One such metal hydride is examined in this study using nuclear magnetic resonance (NMR). In NMR, the sample is placed in a magnetic field. The nuclei of the atoms, which have a nuclear spin, align with the external magnetic field. The relaxation time, T1, is the time required for the nuclear spins to realign with the external field after disruption, and gives information about the interactions between the nucleus and the environment. In particular, the height of the energy barrier—the barrier over which the hydrogen must jump to diffuse through the metal



hydride—may be determined from an analysis of the data if T1 is measured as a function of magnetic field and temperature. T1 measurements and their analysis will be presented, with the intent of finding the barrier height for hydrogen diffusion in the hydride.

### 166

**Title:** English, A Dying Language?  
**Presenter(s):** Stephanie Simonson  
**Department:** LANG  
**Advisor:** John Hall

**Abstract:** What has happened to the English language? It seems one cannot look through a book or report published professionally without finding grammatical and/or punctuation errors. A survey will be distributed among MSUM students to see if they are able to identify and fix errors. The survey will contain both a question regarding how confident they feel using the English language in academic and professional situations and if they would be interested in a grammar/punctuation class if MSUM were to offer one. Though my survey project cannot hope to attain any kind of professional "diagnosis" of the state of the English language, I hope to find glimmers of information through research about why errors are so common today. Have English speakers lost respect for the language? Do they feel sufficiently educated about its usage? Finally, are they satisfied with their current level of knowledge of the English language?

### 167

**Title:** The Effects of Geomagnetic Field Alterations on larvae of a migratory dragonfly  
**Presenter(s):** Mariah Clements  
**Department:** BIOL  
**Advisor:** Linda Fuselier  
**Abstract:** The common green darner, *Anax junius*, is a dragonfly common throughout North America. Most northern populations have within them two developmental cohorts: migrants and residents. Migrants travel to Florida where they mate and produce offspring that will migrate back north to their geographic origin. Scientists have made great strides in charting where and under what conditions *A. junius* flies to achieve this trip. However, few studies have addressed the physiological basis for their ability to perform this migration. One common hypothesis is that they, like their odonate relatives, use the Earth's geomagnetic field to navigate. In this study I investigate the ability of larvae of this species to respond to changes in the geomagnetic field, simulated using a Helmholtz coil apparatus. The dragonflies are each placed into a gridded glass tank exposed to a control treatment followed by either a reversed magnetic field or zero magnetic field. Each treatment lasts for 3 minutes during which movement, as number of lines crossed and orientation at 30 second intervals as head direction are recorded. I hypothesize that *A. junius* will respond to changes in Earth's usual geomagnetic field by orienting their bodies toward or against the magnetic current, as observed in a study of butterflies. However, it is also possible that, because they are aquatic, they may employ a different mechanism not seen before in scientific studies.

### 168

**Title:** The Highways and Byways of Language: A Comparative Study between Spanish and English  
**Presenter(s):** Kathryn Shorma  
**Department:** SPAN  
**Advisor:** Benjamin Smith

**Abstract:** Have you ever wondered whether those "10-minute-a-day" Spanish programs are effective? Each language is unique and amazing and requires a lot more than ten minutes daily to master. Although there are often surprising similarities between languages of the same family, Spanish and English are both distinct in nature and studying the differences (and common threads) aids in the overall mastery of both the native and target language. This presentation will compare similarities and distinctions between Spanish and English in three aspects of linguistics: sentence structure (syntax), sounds and pronunciation (phonology) and the rules applied to the structure of words within sentences (morphology).

### 169

**Title:** The Payoff of Self-Directed Work Teams  
**Presenter(s):** Charles Johnson  
**Department:** ECON

**Advisor:** Oscar Flores-Ibarra  
**Abstract:** In recent years some companies have experimented with teams that lack centralized control. These self-directed or self-managed work teams are an attempt to increase productivity by making the group as a whole responsible for successfully completing its tasks, while also empowering the team members with the authority to control how the work gets done. With the team as a whole sharing in both the responsibility and authority, individual members must learn to "manage" themselves and their teammates; teams must become self-regulating. Teams must collectively reward and punish their own members to provide incentives for each individual to contribute to success as a whole.

### 170

**Title:** The Rise of a Russian Francophile: Marie Bashkirtseff  
**Presenter(s):** Levi Tronnes  
**Department:** HIST

**Advisor:** Margaret Sankey  
**Abstract:** The choice of identity in today's culture we rarely look back on the past for help in the understanding or determining who we are. Identity is an essential to understanding to both culture and class within certain ethnic groups Francophiles being one such group. This paper deals with the emergence of the Russian Francophile a group of people, though in my case an individual who adheres to the cultural norms and practices of a 19th century Paris and not Russia. The rise of the dual identity brings to focus a large question what causes an individual to abandon tradition for acceptance. The study of 19th century Europe and developing theories on why Parisian culture would play a pinnacle role of Europeans of the time is a look at cultural history of Europe as a whole. The real question then as stated prior is why an individual or group abandons their true identity for the use of a more social or politically acceptable identity. This would be a question that both would daunt many Russian citizens of the late 19th century. This would not only daunt Russian social scientist but 20th century historians and the parallels they could draw between Russia and France and America and Britain. Thus the problem of abandonment of identity would consume my research. My research would take me into several fields of study not just History, but Art History, Social Science's, Psychology, and even Women's Studies. I would several written sources including one major primary source the diary of my Main Subject Marie Bashkirtseff. Through her experiences in Nice, France and her life I would get a first hand look at the problem and the opportunities one face when living under the pressure of two identities one Russian the other French, a private and public face. Through Marie and her tribulations I would come to understand the pressure of being socially acceptable. The Conclusion the answer would ultimately become clear upon looking at Marie's life. That to become socially acceptable in a time when position was everything, Victorian society would insure that one culture would reign culturally supreme in Marie's time it was France that would hold the power over cultural dominance, this can be seen in Marie's art very similar to the French Schools of Impressionism. Though ultimately she would remain independently Russian even if it was only within the confines of her home Marie lived a life of dual identity with her French identity dominating it till her death at the age of 25.

### 171

**Title:** The Art of Song  
**Presenter(s):** Justine Fischer  
**Department:** MUS

**Advisor:** Laurie Blunsom  
**Abstract:** The Art of Song : Throughout the ages the combination of words and music has created one of the most beautiful art forms. The relationship between them can often convey a message not available in any other way. However, composers have historically taken different approaches as to how best to realize this relationship to communicate the mood or text they desire. In this presentation I will discuss the songs of composers Franz Schubert and Leonard Bernstein, comparing their individual work within its historical and cultural context, looking at the texts they chose and how they took that text to another aesthetic level through music. Each composed differently for a different audience, yet each created some of the most meaningful, thought-provoking music ever written.

172

**Title:** Effect of Wal-Mart Supercenters on Grocery Prices in Minnesota

**Presenter(s):** Matthew Borgen

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** Wal-Mart is a very controversial company, and is should be scrutinized closely. In this spirit, I have attempted to see if Wal-Mart Supercenters have an effect on the price levels of groceries in a community. To do this, I constructed a weighted index of goods for three separate categories: Wal-Mart Supercenters, the largest supermarket within a five mile radius of a supercenter, and a comparison supermarket not near a Wal-Mart.

173

**Title:** Risk Management within Financial Institutions

**Presenter(s):** Lindsay Becker, Leshel Heaton, Karen Kochmann

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** It is crucial for a bank to understand risks involved with business practices and to manage those risks with appropriate strategies. Banks are faced with both internal and external risks which affect their day to day decisions. It is important to analyze the key risks: market, credit, operational and performance, in terms of possible consequences or benefits. Effectively managing risk will aid in the overall success of the organization.

174

**Title:** Feasibility Study of the Vaisala GMP222 Probe and GMM222 Monitor in the Atmospheric Sounding of Carbon Dioxide.

**Presenter(s):** Bernard Fraser

**Department:** PHYS

**Advisor:** Linda Winkler

**Abstract:** I will present my results and conclusions from analyzing the sample rates, resolutions, and other limits of performance of the Vaisala probe and monitor in various atmospheric conditions. I will then discuss the feasibility of using the probe and monitor as part of a payload in a rocket flown in the troposphere.

175

**Title:** Kirk Nugent's Afrocentric speech and Knowles Borishade's Model

**Presenter(s):** Dadeh Jallah

**Department:** CMST

**Advisor:** Timothy Borchers

**Abstract:** It is evident that language is used differently among Africans or African Americans than other cultures. Due to these barriers, Knowles-Borishade (1991) provides us with a model that is used effectively to demonstrate the African Rhetoric. In order for us to understand how rhetoric is used in the African culture we will have to focus on Afrocentric rhetorical theories. In this presentation, I will demonstrate how Kirk Nugent's poetic speech from youtube.com achieves harmony with his audience.

176

**Title:** Exploring inquiry with on-line simulations and the 5E model of instruction

**Presenter(s):** Jeremy Grabinger, Kerin Hanson

**Department:** CHEM

**Advisor:** Richard Lahti

**Abstract:** "Exploring inquiry with on-line simulations and the 5E model of instruction" The 5E model is a constructivist model of learning based on the premise that learners construct new knowledge on top of prior knowledge. Computer simulations can provide a shared, hands-on experience for students at little to no cost for the school and greatly reducing the time necessary to produce a significant amount of data. This presentation of two lessons from a high school Human Biology course will illustrate the effective integration of these simulations into units on Genetics and the Nervous System.

177

**Title:** Division 1 College Football Ranking Methods

**Presenter(s):** Sean Hauck

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Our group is going to focus on how computers select the rankings in Division One College Football. The Bowl-Championship-Series College Football Ratings are updated based on the football

teams' performance during the previous week by the use of computers. We will discuss in depth how and why this is done by computers, and any benefits or downfalls of the system.

178

**Title:** Depression in Young Adults

**Presenter(s):** Marissa Stewart

**Department:** AT

**Advisor:** Dawn Hammerschmidt

**Abstract:** Many young adults suffer from depression in today's society. Depression is not well understood so most youth aren't aware that they have this particular disorder. The diagnostic criteria for depression in youth is if they have been suffering from five or more of symptoms commonly listed for depression most of the time for a two week period or longer. Depression can happen for several reasons in a young adults life. How depression is handled depends on the type and severity of the depression.

179

**Title:** Collaboration of International and Financial Accounting Standard Boards on Conceptual Framework project.

**Presenter(s):** Ivan Ayubashev, Angela DeHaan, Heather Holland

**Department:** ACCT

**Advisor:** Joann Segovia

**Abstract:** Development of accounting industry with Conceptual Framework project.

180

**Title:** Operations Management at a Casino

**Presenter(s):** Jason Johnson, Maggie Wolff

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Within the casino industry, managers need to understand all of the important features of the business. There is always the potential for a loss; this poster will include a thorough look at a casino's responsibility of the proper management and marketing of money, employees, slots, and others. It will also discuss the importance of a casino floor plan and the significance of security and surveillance.

181

**Title:** Enterprise Resource Planning

**Presenter(s):** Lacey Hogness, Jennifer Vattaks, Candace Wysocki

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** The main goal of Enterprise Resource Planning (ERP) systems is to tightly integrate the functional areas of the organization, and put to use all of its resources. Once integrated, an organization's communication and productivity are much more efficient, updating old systems with new technology to handle increases in business. SAP is currently the leading ERP software vendor, with Oracle and Peoplesoft close behind. These software vendors offer a great deal to organizations, however ERP systems are not for everyone. They are extremely expensive and complex for even the most organized companies. ERP systems can also be very time consuming, since the organization needs to sometimes change its entire business process to fit the ERP's predefined processes. But if they are willing to accept the risks, ERP systems can greatly benefit organizations.

182

**Title:** Series of Lessons addressing Global Climate Change

**Presenter(s):** Avery Cota, Jonathan Smith

**Department:** ED

**Advisor:** Richard Lahti

**Abstract:** The 5E instructional model is designed using the psychological theories of Piaget and lesson organization as used in the Science Curriculum Improvement Study to lead students into experimental and investigative learning. This model uses five phases: engagement, exploration, explanation, elaboration, and evaluation to construct a learning environment in which will most benefit students. A series of lessons will focus on the integration of computer simulation to explore global climate change in terms of how predictions are made and how interpretations are reached. The addition of computer simulations into lesson plans will enhance the investigative and experimental design giving more direction to the unit focus.

183

**Title:** Martin Smith or Martin Luther? Two in the same?

**Presenter(s):** Kory Wolter

**Department:** MUS

**Advisor:** Laurie Blunsom

**Abstract:** Today thousands of worship bands are replicating the sounds of David Crowder, Chris Tomlin, Matt Redman, Martin Smith (as mentioned in the title), and the like. As the popularity of churches forming their own worship bands and leading a crowd of people in song increases, the question you can ask yourself is when did this all start, or what is the purpose? In this presentation, starting with Martin Luther, I will compare and contrast Lutheran hymns to today's modern worship. I will focus on the function, and the performance of worship music within each time period and also analyze the form and theory of a couple worship songs.

184

**Title:** Spectrographic Analyses of Ceramic Sherds from the Sprunk Site, ND

**Presenter(s):** Avery Cota

**Department:** ANTH

**Advisor:** Michael Michlovic

**Abstract:** Fourier Transform Infrared Spectroscopy (FTIR) was performed on a set of ceramic sherds from a prehistoric site in eastern North Dakota. FTIR is used to identify the cooked residues to plant or animal species on the interior surface of the ceramic sherd. The ceramic samples analyzed are from vessels recovered from the Sprunk Site, a 15th century Native American Village on the Maple River in Cass County, ND. These vessels were previously studied at Minnesota State University Moorhead's electron microprobe lab, which showed the presence of inner and outer coatings on the ceramic vessels. The interior coating of these samples are rich in organic material and varying proportions of bone material. Identifying the cooked residues will provide insight into the Northeastern Plains Village Peoples who lived at the Sprunk site. The results of the electron microprobe study and the FTIR analysis will help to answer key questions regarding the lifestyle of the village peoples studied.

185

**Title:** Artistic Processes in Music Composition

**Presenter(s):** Dustin Schultz

**Department:** MUS

**Advisor:** Laurie Blunsom

**Abstract:** The creative process is a conduit for the realization of abstract ideas and thought concepts, and is an individual and introspective process. For each composer and artist it is inimitable. It is as much about personal philosophy as it is about simple sound preference. In this presentation I will discuss my own personal creative process and artistic philosophies, as well as my development as a composer. We will listen to an example of my own work and I will discuss the composition process, as well as the idea and concepts behind it. I will present my reasoning for composing with samples and found sound objects, and will also discuss my preference for composing all or in part for electronic media. This presentation will look at the broader development of my artistic aesthetic thru examination of a specific example of my own work.

186

**Title:** Applications and Synthesis of a Pyrazolidinone Chiral Relay System for Asymmetric Alkene Additions

**Presenter(s):** Kristoffer Brandvold

**Department:** CHEM

**Advisor:** Craig Jasperse

**Abstract:** Pyrazolidone rings offer a promising route to enantioselective alkene additions. Our target product is promising for diastereoselective conjugate addition. Diastereocontrol involves "chiral relay", in which the methyl group on a chiral carbon (permanent stereocenter) controls the stereochemistry of a fluxional nitrogen, such that the benzyl group can provide face shielding for conjugate additions to the alkene. Pyrazolidone synthesis has already been achieved, and the scope of auxiliary addition and subsequent acylation will be discussed.

187

**Title:** Forecasting Crude Oil

**Presenter(s):** Prashant Shrestha

**Department:** ECON

**Advisor:** Oscar Flores-Ibarra

**Abstract:** In this paper I will be forecasting the price of the crude oil from the date 1980-2007. What will affect the demand for the crude oil prices and which model could give us a better forecast.

188

**Title:** An experimental approach to characterizing direct ERK-mediated phosphorylation of the dopamine transporter.

**Presenter(s):** Kristoffer Brandvold

**Department:** CHEM

**Advisor:** Joseph Provost

**Abstract:** Primarily localized in the substantia nigra and tegmental areas of animal brain tissue, the neurotransmitter dopamine (DA) mediates numerous central nervous system functions including motor activity, emotion, and reward. Synaptic and extracellular DA concentrations are controlled by the dopamine transporter (DAT), which is activated or down-regulated in response to both allosteric and feedback mechanisms including protein kinase pathways and dopamine receptor feedback signals from adjacent neuronal membrane surfaces. Many mechanisms that play a role in DAT regulation have been characterized, such as PKC-dependent DAT trafficking (Loder et al., 2003). However, physiological DAT activity is likely to be mediated by other serine/threonine/tyrosine kinases, such as Extracellular Signal Regulated Kinases 1 and 2 (ERK1/2). ERK1/2 has been implicated as playing a role in DAT phosphorylation (Moron et al., 2003). However, DAT activation via ERK1/2 has not yet been defined as a direct activation mechanism or as an activation mechanism that requires intermediate components. It is therefore of interest to elucidate the mechanism by which ERK1/2 phosphorylates/activates DAT. The proposed ERK1/2 phosphorylation/activation site is a residue on the intracellular N-terminus of DAT, threonine 53, and the resulting phosphorylation at this residue will alter DAT transport. This hypothesis will be tested by various methods. Cell lines which stably express recombinant or native DAT will first be cultured under a number of conditions to reduce basal ERK activity levels and will then be subjected to a number of agonists to stimulate ERK1/2 activity as measured by DAT phosphorylation. The activation of DAT by ERK will then be further assessed through treatment with inhibitors of the ERK pathway or expression of dominant-negative MEK. Antibodies will also be raised against recombinant phospho-DAT so that immunoblotting may be used to assess the level of DAT phosphorylation in these cells.

189

**Title:** Reforming Health Care

**Presenter(s):** Matthew Hanson

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** This paper will examine the alternatives in the future of health care policy. Specifically the possibility of universal health care coverage, its alternatives, and its status in the public policy environment.

190

**Title:** the effects of abuse on adolescent teen run-aways

**Presenter(s):** Ashley Love

**Department:** ACCT

**Advisor:** Deborah White

**Abstract:** This presentation will cover professional studies conducted on the effects of run-away teens in relation to abusive situations they endure before reported homelessness. the findings will be covered as well as further areas of research.

191

**Title:** Characterizing Magnetic Nodules Recovered from Archaeological Sites

**Presenter(s):** Jessica Beard, Avery Cota

**Department:** ANTH

**Advisor:** Rinita Dalan

**Abstract:** Magnetic nodules have been recovered from numerous archaeological sites with different cultural contexts, ages, and soil parent material. Prior research focused on recovery and expanding the number of sites from which we had soils to sample. When examined

under a microscope we see that nodule morphology varies between different sites, but also in samples from a single location. We are working on defining a set of diagnostic criteria based on observed surface textures, color banding/mottling or lack of, and the presence or absence of inclusions. These morphological characteristics will be studied further using an electron microprobe. This analysis help us to understand their formation and variability.

192

**Title:** Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and **Presenter(s):** Switch Grass

**Nathaniel Bishop**

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

193

**Title:** A comparative investigation into the photosynthetic properties of Corn and Switch Grass

**Presenter(s):** Deborah Pestka

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

194

**Title:** Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and **Presenter(s):** Switch Grass

**Kyla Hieb, Ryan Stoltenburg**

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

195

**Title:** What is the positive/negative impact of social networking websites such as facebook and myspace?

**Presenter(s):** Esupat Kimirei, Aghogho Obebeduo

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** We will explain the concept of Social Networking; identify some of the major social networking websites and potential users. Discuss their history or creation; that is how it all started and what purpose it was originally meant for and consequently how it became what it is today. We will also focus on the positive and negative impact of social networking sites; detailed expansion on cyber bullying, and the role of social networking sites and steps that are being taken to reduce the risks users face on such sites.

196

**Title:** The Legalization of Marijuana

**Presenter(s):** Anthony Olson

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** I am going to tell the reasons for and reasons against the public policy of the legalization of marijuana.

197

**Title:** Operations Management of Record Company

**Presenter(s):** Shane Miller, Nathan Pitcher

**Department:** BUS

**Advisor:** Ashish Gupta

**Abstract:** A Record company signs artists to a recording contract to go into the studio and record songs in which the company will fund through the recording process, promote the cd, and distribute to retailers in order to make a profit. The artist will not see any money until the money advanced to the artist for recording expenses and other necessities is recouped to the record company. No record company will sign an artist in the music industry unless they think the artist can make them money. There are different types of record companies, which use different methods in their management. We are going to compare the operations of a major record label to that of a independent record label.

198

**Title:** Movements of Painted Turtles (*Chrysemys picta bellii*) in Relation

**to Habitat Characteristics in Clay County, Minnesota**

**Presenter(s):** Morgan Elfelt, Megan Lisburg, Jill Wavra

**Department:** BIOL

**Advisor:** Donna Stockrahm

**Abstract:** In a long-term study, about 630 painted turtles (*Chrysemys picta bellii*) have been live-trapped during the summer/early fall of 2001-2007 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, with 3 traps per slough. For each captured turtle, outer scutes were notched for individual identification. 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 and 2007 field seasons, we also incorporated PIT tagging into our study to uniquely identify each turtle and reduce error associated with reading scute notches. A total of 169 turtles were successfully PIT tagged in 2006 and an additional 95 in 2007 for a total of 264. Our main objective for the 2007 field season was to examine movements more closely, including comparing 2006 and 2007 data. We also measured habitat variables at each trap location to determine if there was a turtle/habitat relationship. We have movement data for 92 and 90 turtles for 2006 and 2007, respectively. In 2006, 6 turtles moved between sloughs and 1 (adult male) in 2007. The adult male moved between sloughs both years, indicating periodic movements. In 2006, in the smaller slough, 9 turtles were captured at 2 different traps, with 2 turtles captured at all 3 traps. In 2007, only 1 turtle moved between 2 traps. In the larger slough in 2006, 63 turtles moved between 2 traps and 12 between all 3 traps, whereas in 2007, 59 and 29 turtles moved between 2 and 3 traps, respectively. Overall, there were considerable movements of turtles, especially within the larger slough. However, many of these moving turtles were also caught multiple times at the same location. Water temperature, pH, dissolved oxygen, and phosphate and nitrate levels differed little between sloughs or between trap locations within sloughs. We are further investigating the relationship of turtle captures with trap location regarding distance to shore, water depth, and vegetation density, all of which varied between trap locations.

### 199

**Title:** Investigations of Crofton's Formula

**Presenter(s):** Alexander Freed

**Department:** MATH

**Advisor:** Sidney Drouilhet

**Abstract:** We investigate Crofton's Formula in  $R^2$ . A nonvertical line  $L$  of the form  $y = mx + b$  can be parametrized by the pair  $(m,b)$ . Suppose  $C$  is a curve of finite length in  $R^2$ . For a line  $L$  corresponding to  $(m,b)$  let  $n(m,b) =$  the number of points in which  $L$  intersects  $C$ . We discuss our investigations of the derivation of, and examples of, Crofton's Formula in the form  $\int \int R^2 (n(m,b)) / (m^2 + 1)^{3/2} dm db = 2 \text{ Length}(C)$

### 200

**Title:** This Transgression Will Not Stand: A Comparison and Characterization of a High Frequency Sequenced and Flooding Surfaces Using Conodont Distribution Patterns and Sequence Stratigraphy: Iola Limestone (Upper Pennsylvanian; Iowa and Kansas)

**Presenter(s):** Tabb Prissel, Nathan Wright

**Department:** ANTH

**Advisor:** Karl Leonard

**Abstract:** Observing spatial distribution patterns of conodonts can show what the depositional basin was like during the period the cyclothem was created. Results of spatial observations offer clues and evidence to water depth, environmental energy, shore line location, advance and retreat direction and higher resolution sea level fluctuations that show a cyclothem is more than the result of just a simple transgression and regression. By increasing both temporal and spatial resolution the Iola Limestone should be found to be far more complex than previously imagined. Conodont samples were collected from two sections of the Iola near Winterset, Iowa, and from five sections in eastern Kansas. Samples were processed for conodonts, and multivariate statistical methods were applied to temporal and spatial distribution patterns. Spatial distribution gradients relative to correlative surfaces at the base and near the top of the Muncie Creek Shale are the principal focus of this study. Additional study of these sections will also help identify key changing points of the Muncie Creek member. The Winterset section of the Muncie Creek is calcareous with much benthic fauna and very thorough bioturbation. The Holiday Drive section of the Muncie Creek is more carbonaceous and phosphatic with bioturbation limited to upper areas. A better understanding of this core shale will lead to a better understanding of the Iola Limestone and what the depositional basin was like during the Iola deposition. Ideas of the depth and energy of the deposition can also be obtained by the previously mentioned conodont distribution statistics. Temporal and spatial trends in conodont distribution patterns may help clarify the relationship of the Iola in Iowa and Kansas.

### 201

**Title:** Power Shift 2007

**Presenter(s):** Meagan Barbie

**Department:** EHS

**Advisor:** Alan Breuer

**Abstract:** The topic of our poster display will be Power Shift '07. The student officers of the Network for Environmentally Educated Dragons attended this national conference in November to learn about environmental issues specifically concerning youth and college campuses. Our group will be presenting some of the things that we learned at the conference and how we have been able to incorporate them into plans of action to help "green" the MSUM campus.

### 202

**Title:** Cross-Curricular Mathematics

**Presenter(s):** Jessica Mavis

**Department:** MATH

**Advisor:** Timothy Harms

**Abstract:** During the Fall 2007 semester, I conducted research across campus pertaining to various departments' use of mathematics in their curriculum as an Honors Apprentice. I met one-on-one with professors, obtaining their syllabi and discussing with them their particular use of mathematics. From there I gathered material and put together a binder of worksheets and notes relevant to the mathematical concepts being used in departments campus-wide. For each semester here on out, another Honors Apprentice will take this binder and conduct mini-seminars (similar to SI) as a service to students needing a refresher on mathematical concepts. This service also benefits the professors who can now require or suggest that their students attend these mini-seminars. It allows professors to move on with their course material rather than being hung up on the mathematics.

### 203

**Title:** What Else Is Eating Your Salad?

**Presenter(s):** Melissa Thomas-Goddard

**Department:** BIOL

**Advisor:** Kathryn Wise

**Abstract:** Testing conducted to reveal the amount of bacteria Colony Forming Units/gram salad) in prepackaged salads to be revealed in poster format with definite future classroom applications. Applied research based on the two most popular ways of consumer usage of prepackaged salads. This will include opening and using all the salad in one meal as well as opening salad and resealing the package and reusing the salad until it is gone. Also to be examined are what the bacterial counts are in various stages of the expiration date range; from fresh salad to a few days past the expiration date.

### 204

**Title:** Oxidation of Benzyl Alcohols by Copper(II)-salen Complexes  
Rachel P. Branson and Jeffrey J. Bodwin

**Presenter(s):** Rachel Branson

**Department:** CHEM

**Advisor:** Jeffrey Bodwin

**Abstract:** The selective and catalytic oxidation of organic substrates is a critical step in a wide variety of industrial, biological and environmental processes. Copper(II) complexes have been shown to be competent in a number of these applications and offer the advantages of relatively high complex stability and environmentally friendly reaction conditions. This poster will present our work toward development of a catalytic copper(II) complex based upon the well-known N,N'-bis (salicylidene) ethylenediamine ("salen"). In these initial studies, the substrate veratryl alcohol (3,4-dimethoxybenyl alcohol) will be used to allow the reaction to be monitored by gas chromatography. Veratryl alcohol is also an accepted model for the oxidations required in paper processing applications.

### 205

**Title:** A comparative investigation into the photosynthetic properties of Corn and Switch Grass

**Presenter(s):** Hashini Herath, Bonnie Swanberg

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant

being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

## 206

**Title:** A comparative investigation into the photosynthetic properties of Corn and Switch Grass

**Presenter(s):** Mathew Rugg, Shane Schroeder

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Names: Shane Schroeder, Matt Rugg, Amanda Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

## 207

**Title:** *Gammarus Lacustris* chemical alarm cue latency

**Presenter(s):** Mathew Rugg

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Both predator and prey species use chemical cues to send "public" messages in aquatic environments. Cues from a predator or chemicals emitted from harmed prey inform other individuals to change their behaviors to lessen predation risk. Alarm cues are released from a prey organism when a predator successfully attacks. *Gammarus lacustris*, an amphipod crustacean found throughout marine, freshwater, and estuarine/brackish habitats, have been shown to possess cells containing chemical alarm cue. When subjected to these alarm cues, *G. lacustris* will lower their risk of predation by decreasing activity and lowering themselves in the water column. However, no studies have been done to determine how long *G. lacustris* chemical alarm cues remain viable as public information regarding predation risk. In this experiment, I will determine the latency of *G. lacustris* alarm cues by testing response of individuals exposed to fresh and aged cues. I predict that cue latency will be approximately six hours, at which point *G. lacustris* no longer respond to the cue as a signal.

## 208

**Title:** Introduction to some of the technological changes in the Accounting profession.

**Presenter(s):** David Casper, Trevor Nelson

**Department:** ACCT

**Advisor:** Ashish Gupta

**Abstract:** XBRL is a method of tagging and reporting financial information. XBRL can increase the security of shared information and provide a user with up to date information. XBRL is currently being used by some foreign countries and when it is expected to be adopted by the SEC. We will outline how XBRL is being used currently in the business world and how it may affect accounting professionals.

## 209

**Title:** Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn versus Switch Grass

**Presenter(s):** Anil Bhatta, Lumu Manandhar, David Teige

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

## 210

**Title:** Estrogen Levels in the Water of the Red River Valley

**Presenter(s):** Thelma Apiagyei, Leah DeSchepper, Tara Elchhorn

**Department:** BIOL

**Advisor:** Ellen Brisch

**Abstract:** Environmental endocrine disruptor compounds (EDCs) interfere or mimics natural hormones that are responsible for maintenance, reproduction, development and/or behavior of an organism. Estrogenic substances are an example of EDCs mimicking the female sex hormone estrogen. Estrogenic substances have been identified in rivers and lakes associated with municipal and agricultural run-off. We propose to test waters from several lakes and rivers in the Red River valley for levels of estrogen. Our hypothesis is that estrogen levels will be highest in areas of municipal and rural run-off compared to more pristine environments.

## 211

**Title:** Significance of the Teocalli Monument

**Presenter(s):** Colleen Marsh

**Department:** ANTH

**Advisor:** George Holley

**Abstract:** The Teocalli Stone is an Aztec monument made to commemorate the New Fire Ceremony of 1507, which occurred every fifty-two years and was regarded as a time when the end of the world may occur. It depicts a unique combination of sixteen images and five date glyphs connected to various themes from mythology and religious beliefs. Since it was found at the Palace of Moctecuhzoma II, and given its throne-like shape, it is regarded by some as a ceremonial throne. Those who look deeper suggest that the monument encode a symbolic representation of the Aztec empire and world view. Regardless of the function, the monument is one of the more important Aztec works of art.

212

**Title:** Free Trade Block Comparison of the North American Free Trade Agreement (NAFTA) and the Association of South East Asian Nations (ASEAN)

**Presenter(s):** Ross Aldentaler

**Department:** ECON

**Advisor:** Zachary Machunda

**Abstract:** We intend to compare and contrast the Association of South East Asian Nations Free Trade Area with the North American Free Trade Agreement. We will explore the logic behind free trade to understand why these agreements were made. We will determine the effects (if any) these agreements have had on the nations and people that fall under them.

213

**Title:** Sustainability initiatives in the Costa Rican coffee industry in need of reform

**Presenter(s):** Susan Bury, Philip Haugrud, Erica Herfindahl

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Sustainability initiatives have become increasingly popular both by producers and consumers in the coffee industry. This is due in part to environmental concerns and also to premiums provided to farmers for producing organic or other sustainable forms of coffee. Organic agriculture is defined as farming without use of synthetic pesticides, fertilizers, or other compounds, and other sustainability initiatives operate on similar premises. Currently, more than half of the world's coffee is produced by Latin American countries, and only four percent of that has been certified as sustainable. In Costa Rica, that is only one percent. Organic coffee and other sustainability initiatives have been shown to provide valuable direct and indirect benefits to producers. However, there is a question that increased production of sustainable coffee will cause a decrease in consumer incentive to pay more for an expected service. Sustainable coffee initiatives are also under siege from diluted private and voluntary standards which are often simple marketing ploys that do not change the way coffee is produced. All these factors point to a need for reform in the way Latin American countries including Costa Rica go about doing sustainable agriculture.

214

**Title:** Energy Policy Act 2005

**Presenter(s):** Eric Hoban

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** I will be looking at the Energy Policy Act of 2005. In my analysis I want to look at how it went through the process of formulation in the House and Senate, and also how it's being implemented today in America. Also, does it have an effect and what are its goals. The issues on this topic are critical to the world we live in and future generations will have to deal with it, so it's ideal to have good policy to support this topic.

215

**Title:** Don't Ask Don't Tell

**Presenter(s):** Alexandra Robertson

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** The presentation will be over the public policy of Don't Ask Don't Tell. It will explain why it was originally passed and what the expectations for it were. It will then explain what the actual outcome of the policy was. Also, the agenda setting and debate present day over Don't Ask Don't Tell and the likelihood of it being overturned.

216

**Title:** Probing the Pyruvate Phosphate Dikinase Regulatory Protein for Protein Phosphatase Structure

**Presenter(s):** Margaret Zimmerman

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** In plants with C3 and C4 photosynthesis, the chloroplast enzyme pyruvate,orthophosphate dikinase (PPDK) catalyzes the conversion of pyruvate to phosphoenolpyruvate (PEP). Its activity in chloroplasts is up/down regulated in response to light via reversible phosphorylation of a threonine residue in the PPDK active-site. The PPDK regulatory protein (RP) catalyzes this light-regulated reversible

phosphorylation. In several respects, RP is a most unusual, bifunctional protein kinase/protein phosphatase for which the gene has only recently been cloned. For example, when the primary amino acid sequence of RP was bioinformatically analyzed, structure common to protein kinases or protein phosphatases was absent. Instead, RP was shown to belong to a group of enzymes termed DUF 299 (domain of unknown function). Hence, nothing is known concerning the mechanism of how the enzyme carries out its catalysis. Our research project is aimed at understanding which part of the enzyme is involved in the protein phosphatase activity. Specifically, we are using site-directed mutagenesis of select RP amino acids that were suggested by bioinformatic analysis to be important for protein phosphatase activity. By changing these amino acids, we hope to uncover which part of the enzyme carries out phosphatase function. This will be experimentally achieved by testing the recombinantly produced mutant RP enzymes for loss of protein phosphatase activity using a unique immuno-based RP enzyme assay.

217

**Title:** A comparison of forest tree diversity between tropical and temperate rainforests.

**Presenter(s):** Andrew Ross

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** A comparison of forest tree diversity between tropical and temperate rainforests. A tropical forest has the highest amount of tree diversity in the world, often 40 to 100 or more species per hectare. Our question is: why do tropical rainforests have such a high diversity of trees? Many hypotheses exist that attempt to explain the biodiversity of the tropics. This paper will compare and contrast tropical forests with a temperate rainforest to demonstrate which factors account for the higher amount of tree diversity in the tropics. This project will examine regional climate including rainfall, temperatures, and storm frequencies, the geological history including succession and also the species of trees will be examined including phylogeny, variation and life stages. These physiological parameters will be compared and contrasted between the tropical rainforest and temperate rainforests. Examples and references to peer reviewed papers will be used to help explain the differences in biodiversity.

218

**Title:** Plant Physiology Laboratory 2008: A comparative investigation into the photosynthetic properties of Corn and Switch Grass.

**Presenter(s):** Molly Dowling, Eric Hanson, Rory Oxtan

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthesis potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

219

**Title:** Sequence Stratigraphy of the Lower Duperow Formation ( Upper Devonian) in Western North Dakota

**Presenter(s):** Patrick Schuette

**Department:** GEOS

**Advisor:** Karl Leonard

**Abstract:** This study will examine the Duperow Formation (from the subsurface of Western North Dakota to get more information on the environmental and climatic conditions of the this part of North America approximately 350 million years ago. This is an important time for this area of North America because it was tropical and covered periodically by a shallow sea. The area of study in Western North Dakota had deeper seas and therefore has the best sediment record of this time period. The transgression and regression of the sea can be read through the rock record, by analyzing well logs and core samples. These cores have been studied by visiting the Wilson M. Laird Core and Sample Library. It is important to understand the transgression and regressions because transgressions in the rock tell of global climate warming. This is the same for regressions showing that sea level fell and climate was cooling. After examining many cores and well logs from relative close locations, we are correlating this data over a wide spread area so we can plot the major and minor transgressions and regressions of the ocean that resulted in the deposition of the Duperow. All of this research is important because understanding the past is the key to understanding what is happening today and in the future with climate change. Another important factor of this formation is that the oil that is being drilled in North Dakota comes from this time period. Knowing the stratigraphy is key in the economics of North Dakota as well. The stratigraphy study will provide a temporal and spatial framework for paleontological studies. This further study is also important because it is more concrete data of the climate change of the time. It will be accomplished by studying and analyzing the fish teeth from the cores.

220

**Title:** Push vs. Pull Supply

**Presenter(s):** Alisha Haugen, Jason Ritchie, Peter Wiederholt

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** We will be showing advantages and disadvantages to both techniques. Historical uses by companies and the effect the technique had on the company. Finally giving examples of how the techniques should be used and for what kind of companies.

221

**Title:** Buddhism

**Presenter(s):** Rashmi Dangol, Ruhunage Guthth Wanawasa

**Department:** PHIL

**Advisor:** Konrad Czyski

**Abstract:** Our topic for the presentation is Buddhism. Under this, we will be looking at the life of Gautam Buddha, his teachings ( the four Noble truths and the Eightfold path), ways of Buddhist living (how Buddhists apply the Buddhist philosophy in their lives), and different branches of Buddhism (Mahayana Buddhism, Theravada Buddhism, and Vajrayana Buddhism). The goal of our presentation is to bring attention among people about various aspects of Buddhism and discuss its growth in the world today.

222

**Title:** The Limits of My World

**Presenter(s):** Nathan Wood

**Department:** PHIL

**Advisor:** Theodore Gracyk

**Abstract:** In Ludwig Wittgenstein's Tractatus, one of his most famous aphorisms includes the phrase "The limits of my language means the limits of my world." What exactly does he mean by this and, furthermore, what does such a statement entail? The scope of this quote touches upon a variety of philosophical topics but, most importantly, ethics and solipsism. Language takes on a unique role in Wittgenstein's Tractatus, one that defies a majority of the traditionally held philosophical approaches and views held about language and its significance. All these trends will be analyzed in order to try and discover if our language really does constitute the limits of the world.

223

**Title:** The Problem with School Funding

**Presenter(s):** Alison Orgaard

**Department:** ED

**Advisor:** Steven Grineski

**Abstract:** In a letter to a politician, certain problems with school funding are deconstructed on the federal, state and local levels with suggested solutions.

224

**Title:** The Effects of Tourism on the Nicoya Peninsula, Costa Rica By: Heather, Justin, Renee, Jesse and Julie

**Presenter(s):** Justin Olson

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** The Effects of Tourism on the Nicoya Peninsula, Costa Rica Beach erosion due to rising sea levels is compounded by pollution and over development of the water's edge and is a threat to coastal areas world wide. The Nicoya Peninsula, in Costa Rica is a beautiful, solitary beach with little tourism traffic. However, roads and transportation to this area are improving and tourism is becoming an important part of the local economy. The Nicoya Peninsula provides an interesting case study on the negative effects of overdevelopment, including destruction of natural habitat for local flora and fauna compared to the positive effects of improving quality of life to local people that depend on the tourism trade for their livelihood.

225

**Title:** BNCT: Boron Neutron Capture Therapy

**Presenter(s):** Eric Berget, Jason Lohse

**Department:** CHEM

**Advisor:** Gary Edvenson

**Abstract:** An attempt to make a boron containing beta aspartic acid was the main focus point; however, after trial sec-butyl lithium proved to be insufficient enough in one of the chemical pathways that was required to make the aspartic acid. The exploration of why sec-butyl lithium failed is now being explored, tri-butyl lithium a known stronger base than that of sec-butyl lithium will now be used. The tri-butyl lithium shall be used, and the chemical pathway that is observed shall be recorded. From this, it is hoped that beta aspartic acid is created, a new boron containing reagent is created, and from it other possible amino acids due to electrophilic and nucleophilic applications with the Donaldson's reagent.

226

**Title:** The abiotic induction of systematic acquired resistance (SAR) in Cucumis sativus alters cell wall structure and biochemistry: Evidence for interactions between the plant and its environment

**Presenter(s):** Philip Haugrud

**Department:** BIOL

**Advisor:** Andrew Marry

**Abstract:** Soil-borne pathogens have been known to cause substantial loss of cropland productivity. Systematic acquired resistance (SAR) is the response of a plant to inoculation by a chemical the plant associates with a pathogen and is roughly analogous to vaccination in humans. Salicylic acid has been shown to play a key role in signal-transduction of SAR. In this study, the cucumber Cucumis sativus was treated with salicylic acid in order to determine how SAR can cause a strengthening of the cell wall in plants. FTIR spectroscopy was used to measure the amount of novel proteins and carbohydrates induced by salicylic acid treatment. Biochemical assays were done to test for changes in peroxidase activity. Enzymes that break down the cell wall such as pectinase and cellulase were used to determine changes in overall cell wall durability. It was found that plants treated with salicylic acid had more proteins and carbohydrates in their cell walls, more active peroxidases, and more resistant cell walls. Treatment of SAR-induced plants with calcium nitrate was found to reverse the response. These findings suggest that natural chemicals that cause SAR could be investigated as alternatives to dangerous synthetic chemicals in decreasing loss of cropland productivity.



227

**Title:** Behavioral response of the green darner dragonfly, *Anax junius*, to conspecific and predator chemical signals

**Presenter(s):** Eric Hanson

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Predator-prey dynamics are a prevalent environmental factor, which species must cope with, in order to survive (Sih et al. 1985). Typically aquatic organisms begin life as potential prey and then undergo a size-based niche shift that may eventually lead into cannibalism (Ferris and Rudolf 2007). So, it is beneficial to only display anti-predatory behavior in the presence of a predator (Ball and Baker 1996, Lima 1998, Turner 2004). But, when predation is high, a strong selection pressure for prey to display accurate anti-predator behavior is present (Lima and Dill 1990, Sih 1986). One way aquatic organisms detect predation is chemical cues (a chemical released when an organism is consumed), which can diffuse at different rates through water, and provide information about predation risk to animals living in aquatic habitats, especially in visually poor environments (structured habitat, turbid water, etc.) where many aquatic invertebrates coexist (Hara 1992, Smith 1992, Dodson et al. 1994).

Invertebrate populations display learned recognition of predator species, which may have resulted from evolved genetic differences between populations or differing selection pressures (Chivers and Smith 1994). During most of the year, many different size classes of odonates co-occur in the same environment (Kormondy and Gower 1965, Luz 1968, Parr 1970, Pualson and Jenner 1971, Benke and Benke 1975, Benke 1976, Ingram 1976, Ingram and Jenner 1976, Pritchard 1980), and are susceptible to cannibalism and intraguild predation (IGP). Cannibalism in dragonfly larvae can be responsible for 97% of the total mortality. This represents a major factor that regulates odonate populations (Anholt, 1994; Crowley et al. 1987, Johnson et al. 1985, 1987).

My research will focus on determining if *Anax junius* is capable of detecting conspecific chemical cues that indicate a predation event. I will also be testing to see if it is possible to condition them to a novel predator cue. Two treatments will be used: 1) conspecific cue, and 2) fish odor and conspecific cue as a conditioning event, and then just fish odor to determine if they are able to learn anti-predatory behavior from a predator's chemical odor. In treatment 1 it is expected that *A. junius* will respond with anti-predatory behavior of less feeding strikes, head turns, and walking movements. In treatment 2, it is expected they will respond to fish odor after just one conditioning event, and exhibit anti-predatory behavior when only fish odor is present.

228

**Title:** Examining the Kinase Activity of the PPK Regulatory Protein: In Search of a Functional P-loop

**Presenter(s):** Susov Dhakal, Jason Tan, Shannon Wendroth

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** The plant enzyme, pyruvate orthophosphate dikinase (PPDK), is a cardinal enzyme of the C4 pathway that can reversibly convert pyruvate to phosphoenol pyruvate (PEP). It is the most abundant of C4 enzymes, comprising up to 10% of the soluble protein of C4 leaves, and thus may exert a limitation on the rate of CO<sub>2</sub> assimilation into the C4-cycle (Chastain, 2007). PPDK is regulated in dark and light periods by a Regulatory Protein (RP) which operates by reversible phosphorylation of an active site threonine residue. Additionally, a second regulatory protein (RP2) exists which lacks the ability to dephosphorylate PPDK. Preliminary bioinformatic analysis of RP's primary sequence reveals the presence of a glycine-rich P-loop motif. Site-directed mutagenesis of key residues in the P-loop will be conducted to determine whether the P-loop is contributing to RPs kinase activity. RP's kinase activity will be measured by a series of biochemical assays including Western blotting and spectrophotometry. We hypothesize that changing the P loop will disrupt RPs ability to function as a protein kinase.

229

**Title:** Using microsatellites to examine two behaviorally divergent populations of *Anax junius*, a migratory dragonfly

**Presenter(s):** Tyson Bonkoski, Bodini Herath

**Department:** BIOL

**Advisor:** Michelle Malott

**Abstract:** *Anax junius*, more commonly known as the common green darner dragonfly, has aquatic larvae from which develop two types of adults, one that migrates to Florida and another that stays in Minnesota. Residents overwinter in Minnesota as larvae, whereas migrants develop in approximately 3 months, and fly to Florida to reproduce. We are investigating whether these two developmental cohorts, residents and migrants, are genetically distinct. We used microsatellite loci as genetic markers to distinguish between the cohorts. We collected dragonfly larvae at the MSUM Regional Science Center in summer/fall 2006. We used a CTAB extraction method to isolate DNA from *Anax junius* abdomen tissues. We used PCR to amplify microsatellite loci and a Beckman-Coulter CEQ DNA analyzer to visualize DNA fragments. We successfully amplified microsatellite loci using four different primers and are progressing toward our project goal.

230

**Title:** Searching for cryptic Species within the genus *Metzgeria* using sequence data and ISSRs

**Presenter(s):** Mariah Clements, Whitney Sorensen

**Department:** BIOL

**Advisor:** Linda Fuselier

**Abstract:** Liverworts have traditionally been a largely overlooked group of organisms in the fields of molecular and evolutionary biology. Though they are among the earliest land plants and their genetic maps could provide valuable information about the evolutionary sequence of plant life, they remain scarce in scientific literature. The genus *Metzgeria* is a thalloid liverwort found in moist, shady habitats all over the world. We used the CTAB DNA extraction technique to get DNA from *Metzgeria* samples of various species loaned from all over the world. We then amplified the regions trnL, trnG, psbA and psbT in the *Metzgeria* genome. Using these DNA sequences we then formed an evolutionary tree for the genus *Metzgeria*. Preliminary results indicate that some of the species of *Metzgeria* are paraphyletic with respect to origin. In particular, some species shared between North America and Europe do not form monophyletic clades. This may be an indication that there are cryptic species in this genus and the number of species may be underestimated.

231

**Title:** The Constitutional Challenges to the Lethal Injection

**Presenter(s):** Naomi Turman

**Department:** POL

**Advisor:** Paul Kramer

**Abstract:** Since 1888, the execution of criminals has been a significant component of the American legal system. The execution process denies individuals one of their most fundamental rights, the right to life. Additionally, execution victims assert the execution method is a violation of the Eight Amendment to the United States Constitution, which prohibits cruel and unusual punishment. In response to these challenges, the United States Supreme court has shown disregard for the execution procedure as long as the procedure meets the four criteria the Court has established. These criteria include retention of human dignity, amount of pain experienced, risk of pain, and current legislative trends in execution process. Currently, the most commonly used execution method is the lethal injection. Recently, this procedure has gained a significant amount of attention due to the chemicals involved and the vague protocols that have been established. In my research, I will focus on the constitutional challenges of the lethal injection, comparing and contrasting the "cocktail" used by each state. Finally, I will review the suggestions made by experts that would reduce the challenges to the lethal injection.

232

**Title:** Proposal on Domestic Energy Development Policy

**Presenter(s):** Kayleigh Johnson

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** For my POL 341 (with Headrick) term paper, I am analyzing the policy that is currently around involving the development of domestic energy sources. In my paper I will identify why this policy is being debated, actors involved in the formation of the public policy, the

current issues surrounding this policy, and what the outlook is for policies that are being formulated that are of this nature. This is going to be the term paper that will contain my finding, which I will present at the 2008 Student Academic Conference.

**234**

**Title:** The Evolution of SCHIP

**Presenter(s):** Justin Norris

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** This paper will focus on the recent attempt by the US Congress to pass legislation that would modify the policies involving the State Children's Health Insurance Program, also known as SCHIP, and its implementation. It will explore the history of this particular legislation and how its proposed changes would deviate from current policy. Furthermore, this paper will attempt to ascertain the reasons why the Democrats in Congress put this proposal on the national agenda, and why their attempt was a failure. Finally, this paper will gauge the feasibility of Congress passing similar changes to the SCHIP program in the future.

**235**

**Title:** Endangered Species Act - Still Controversial 35 years Later?

**Presenter(s):** Rebecca Sang

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** Ever since its implementation in 1973, the ideological Endangered Species Act has been controversial. It is a meticulous example of the battle between interests and principles that most policymakers encounter. Environmental policy always involves trade-offs between environmental values, solution feasibility, and economic development. Although the ESA has stabilized many near-extinct populations, multiple unintended negative consequences arose. This Act has quite a political history. Congress has passed similar preservation acts in 1966, 1969, 1973, and eventually the Endangered Species Act was passed later in 1973, which combined the provisions of the prior laws. Since then, more provisions have been added in order to more fully preserve and protect species and habitats on the verge of extinction. The debate rages on as economists and environmentalists continue to butt heads over the enforcement of the ESA. The controversy regarding the ESA stems from its criteria for listing and de-listing species, government restrictions, and most importantly, regulation without compensation for landowners.

**236**

**Title:** Cross-cultural Communication and Its Relation to International Marketing

**Presenter(s):** Kimberly Swol

**Department:** MKTG

**Advisor:** Ruth Lumb

**Abstract:** Cross-cultural communication is important to any international business, especially in marketing. So why is does it seem to be a hard subject for business people to understand from time to time? The purpose of this presentation is to give a general overview of cross-cultural communication in relation to international marketing. The following points will be covered: What is cross-cultural communication and why is effective cross-cultural communication so important to international marketing? How can or has poor cross-cultural communication effect those involved? Do languages other than English really matter with international marketing? Doesn't American culture spread globally like our products? How can we avoid the obstacles that could result in poor cross-cultural communication?

**237**

**Title:** Risk Assessment Behavior of Zebrafish with Introduction of Alarm Cue

**Presenter(s):** Jacob Jensen, Kristine Knoll

**Department:** BIOL

**Advisor:** Brian Wisenden

**Abstract:** Many fish assess risk by means of alarm cues. If the skin of a fish is punctured by a predator an alarm cue is released that warns others nearby of predator presence. Zebrafish were used to observe this behavior. Trials were run without and with alarm cue presence in stream tanks that simulated stream like settings. The position of the fish was recorded for each trial and protective shelter use was noted.

**238**

**Title:** Creating Accessible Digital Videos To Help Students Prepare For Microbiology Laboratories And Review Procedures

**Presenter(s):** Natalia Belavina, India Weber-Trainor

**Department:** BIOL

**Advisor:** Kathryn Wise

**Abstract:** Digital videos will supplement and extend current instructional tools. The videos will be created by two recent microbiology students. By uploading the digital files to YouTube, micro students will be able to access the files from on and off campus. Current micro lab instructions include written protocols and many "How To Files" which are MS PowerPoint Presentations with extensive still images. Students print these materials and keep them in lab notebooks. The videos will compliment these materials.

**239**

**Title:** Copper(II)-based oxidation catalysts using tethered bis-amino acid ligands

**Presenter(s):** Tracy Kurtz

**Department:** CHEM

**Advisor:** Jeffrey Bodwin

**Abstract:** Amino acids offer a very attractive ligand precursor because of the available variety of side-chains and inexpensive resolved chiral centers. These ligand systems are also potentially more directly analogous to biological copper(II)-containing metalloenzymes such as galactose oxidase due to their biologically relevant ligating groups. Our current research is directed toward the development of a copper(II)-based oxidation catalyst that can be incorporated into a porous metal-organic framework (pMOF). These pMOF catalysts would offer the advantages of some metal- and/or ligand-based tunability of the system while providing a heterogeneous catalyst to facilitate product recovery and cleanup. This work describes copper(II) complexes of bis-(amido acid) ligands and their initial use in the oxidation of veratryl alcohol (3,4-dimethoxybenzyl alcohol) to the corresponding aldehyde using dioxygen as the formal oxidant.

**240**

**Title:** Genre and Gender: Negotiating Gender Identity in Spaces In Extremis through Speech Acts.

**Presenter(s):** James Schumann

**Department:** ENGL

**Advisor:** Stephen Hamrick

**Abstract:** I will examine how the Epic and Romance genres provide models of moral behavior in extreme settings (such as on the battlefield). However, both genres also model behavior that is only acceptable in extremis, and the moral assignment to this behavior is ambiguous. I will examine how speech acts construct a space that destabilizes gender identity and complicates what behaviors should remain in extremis and what behaviors should flow into the greater society.

**241**

**Title:** How to Manage a Project

**Presenter(s):** Justin Fischer

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Our project will cover many steps in the process of managing a project. These steps help to insure the success of a project. A few of the steps we will cover are: defining a goal, how to work with and assemble a project team, and how to develop plans for a project.

**242**

**Title:** Technology in Sports

**Presenter(s):** Evan Nelson

**Department:** BUS

**Advisor:** Ashish Gupta

**Abstract:** We are going to look at how technology has revolutionized the different some of the most popular sports in the U.S. From the technology that helps the athletes like headsets in the helmets of the quarterback to the technology that revolutionizes the way that we watch our sports like the strike zone shown when watching a baseball game on television. We will go through the different sports and show how technology has helped them take it to the next level.

243

**Title:** Operations Management at Casino

**Presenter(s):** John Syvertson

**Department:** BUS

**Advisor:** Ashish Gupta

**Abstract:** In this paper we want to discover and explain how managers in casinos control the gambling as well as the hotel side. We want to look at how security, employees, and guests are managed at a casino.

244

**Title:** How to use technology in Accounting

**Presenter(s):** Erika Gomez

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** We will discuss how technology can be used in accounting by focusing on XBRL, an international information format that is designed to facilitate the automatic exchange and reliable extraction of business information. We will explain in detail what XBRL is, its potential users and how it can benefit companies and other producers of financial data. In doing so, we will demonstrate why this is the future of financial reporting.

245

**Title:** Disability and Stratification: Comparing Two Perspectives

**Presenter(s):** Lindsay Bergenheier

**Department:** SOC

**Advisor:** Susan Humphers-Ginther

**Abstract:** This session explores the relationship between socioeconomic status and predisposition to disability. Two hypotheses are compared. The first, social drift theory, states that disability has a negative effect on socioeconomic status through the costs incurred for care, both to the individual and their family. The second, social stress theory, states that the hazards of poverty greatly increase the chances that individuals will develop disability. Discussion will include how these two theories relate to one another and in many cases work simultaneously to make disability an issue that disproportionately impacts the lower classes.

247

**Title:** Climate Security Act

**Presenter(s):** Brad Johnson

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** Provided an outline, needs an abstract - Justin

248

**Title:** Reauthorization and Improvement [?] Act of 2005: Patriot Act

**Presenter(s):** Nicholas Boushee

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** My research paper seeks to answer several questions about this controversial public policy. Where the policy originated from? Who are the players that were involved in the policy formation and how do they back this policy? How has politics affected the policy and its process through formulation? Why the policy is being debated? What problem(s) the policy is aimed at addressing and how it goes about "solving" the issues? What the future of the policy looks like - will it be replaced or gotten rid of all together?

249

**Title:** Changes in No Child Left Behind

**Presenter(s):** Chance Stribling

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** I'll be doing a brief oral presentation on the proposed changes to the No Child Left Behind Act.

250

**Title:** The Carbon Tax

**Presenter(s):** Justin Moen

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** The Carbon Tax is a tax on the carbon dioxide emission from the burning of fossil fuels. In an attempt to slow global warming effects worldwide, many legislators in the United States have backed the

implementation of a tax based on the amount of carbon emissions given off from different fossil fuel sources ranging from: natural gas to petroleum products to coal. This paper will analyze the components inherent in the Carbon Tax proposals, from the reasons given by advocacy proponents of the legislation to the roadblocks it faces in implementation. It will focus on the origination of the proposals and the problems to which the Carbon Tax is focused on.

251

**Title:** Queer American Literature

**Presenter(s):** Rebecca Sorgert

**Department:** ENGL

**Advisor:** Hazel Retzlaff

**Abstract:** Literature provides a lens to view culture. Queer American Literature's themes focus on oppression, isolation, sexuality and gender, and intersections in multifaceted forms of lifestyles. Texts and writers are usually seen as subversive due to many readers, and people not even willing to read these works, seeing the content, form, and voice as controversially breaking societal norms. Audre Lorde, Adriene Rich, Allen Ginsberg, Tennessee Williams, Gertrude Stine, and others define society and deconstruct heteronormative sentimentalities through their words.

252

**Title:** An Examination of "Glass-Ceiling" Barriers by White Women and African-American Women in Corporate America

**Presenter(s):** Naomi Turman

**Department:** ECON

**Advisor:** Zachary Machunda

**Abstract:** The "glass-ceiling" is a phenomenon that prevents women managers from rising to top executive positions in corporate America. Using the last decade in the United State, we will illustrate the changes in the underrepresentation of women in high-level management in American corporations. Our focus will be on whether the "glass-ceiling" barriers affect white women and African-American women to the same degree. In addition, we will examine whether the barriers are across races or if they are strictly limited to gender. Finally, we will review the policies created to shatter the "glass-ceiling" barriers in effort to produce equality in executive roles in corporate America.

253

**Title:** The Revolution of Crack-Cocaine Sentencing

**Presenter(s):** Julianne Lowe

**Department:** POL

**Advisor:** Paul Kramer

**Abstract:** In 1986 Congress enacted mandatory minimum sentencing laws, which force judges to deliver fixed sentences to individuals convicted of a crime, regardless of culpability or other mitigating factors. Federal mandatory drug sentences are determined based on three factors: the type of drug, weight of the drug mixture (or alleged weight in conspiracy cases), and the number of prior convictions. Judges are unable to consider other important factors such as the offender's role, motivation, and the likelihood of relapse. Only by providing the prosecutor with "substantial assistance," (information that aids the government in prosecuting other offenders) may defendants reduce their mandatory sentences. This creates huge incentives for people charged with drug offenses to provide false information in order to receive a shorter sentence. Recently, legislation was passed that would change these mandatory minimums by lessening the jail time of individuals convicted with crack-cocaine as opposed to powder cocaine. Criminals that have been held in prisons for the offense of possession or distribution of crack-cocaine and have completed the time under this new legislation will be released into society; this could potentially be 100,000 inmates. This paper will examine the consequences of releasing such individuals and the impact this decision will have on the jail system and society. Through this paper I will examine the history of mandatory minimums and offer possible solutions to concerned citizens concerning this subject-matter.

254

**Title:** Juvenile Justice

**Presenter(s):** Shannon Grussendorf

**Department:** LGST

**Advisor:** Paul Kramer

**Abstract:** Juvenile court system has changed a lot since beginning in 1899. My focus will be looking at different states to determine if sentencing procedures are the same. I will demonstrate the

differences and similarities between states. In addition I will examine the outcomes of sentencing juveniles to jail for long periods of time, life imprisonment without possibility of release, and the death penalty.

**255**

**Title:** The Meiji Era: A Turning Point in Japanese Culture

**Presenter(s):** Douglas Mattis

**Department:** JAPN

**Advisor:** Chizuko Shastri

**Abstract:** In any society change is inevitable. From the beginning of the 17th century to 1868, Japan was ruled by a feudalistic government called the Tokugawa Shogunate. During this period, Japan was isolated from the world, allowing no foreigners in. However, that all began to change in 1853 when the western ships arrived in what is now Tokyo Bay. After that day, the country began to change and in 1868 the Tokugawa transformed itself from a poor feudal country into a wealthy industrial society molded from Western civilization. In the forty-four years since the fall of the Tokugawa Shogunate, Japan had developed into a modern civilization, including banks, trains, industrialized work, and foreign trade. Without the transformations of the Meiji Era, Japan would have probably not be the thriving society of today.

**256**

**Title:** Women Unemployment in United States and Europe from the year 1970-1990

**Presenter(s):** Olesya Kurilo, Subhechhaya Shrestha

**Department:** ECON

**Advisor:** Zachary Machunda

**Abstract:** The poster is based on the analysis and comparison of women unemployment in United States and Europe from the year 1970-1990. During these years, the European women were less likely to get involved in the labor force which increased the gap between the European and American unemployed women to 7% by 1990. Compared to US born women, European women had steady wages and unemployment. European women lagged behind American women in size of working age population, having jobs even though employment had risen progressively in both the United States and Europe.

**257**

**Title:** Immigration

**Presenter(s):** Natalie Fernandez-Mejia

**Department:** AMCS

**Advisor:** Yolanda Arauza

**Abstract:** Immigration is a hot topic that even the current Presidential Candidates cannot ignore, yet immigration has been an issue since the forming of the United States borders. What has changed, what has stayed the same and what impact has it had on citizens and immigrants alike?

**258**

**Title:** An Online Digital Portfolio: Constructing a simple but elegant presentation of your work

**Presenter(s):** Jessalyn Brown, Penny Kelley

**Department:** MC

**Advisor:** Regene Radniecki

**Abstract:** Whether creating an art or photography portfolio, or a slideshow for a client or family member; this workshop will show you how to quickly build a Flash and html-based slideshow that does not require any experience with either software program.

**260**

**Title:** Plant Physiology Laboratory 2008: A Comparative Investigation into the Photosynthetic Properties of Corn and Switch Grass

**Presenter(s):** Tyler Fluto

**Department:** BIOL

**Advisor:** Chris Chastain

**Abstract:** Interest in ethanol based biofuels has increased in recent years, partly due to increases in gasoline as well as the concern over fossil fuel consumption and global warming. Currently, most ethanol is produced from the fermentation of corn-grain with the rest of the plant being discarded. A more environmentally acceptable way to produce ethanol for fuels is to use cellulose instead of grain starch as the feedstock for ethanol fermentation. An ideal plant to provide cellulose for this purpose is Switch Grass (*Panicum virgatum*). It is native to our prairies, grows on marginal lands, is perennial and therefore does not need to be replanted. However, before committing to the use of Switch

grass for use as a source for ethanol production, it is important to assess its photosynthetic properties since photosynthetic rates are directly correlated with how much cellulose a plant accumulates (e.g., biomass). We hypothesize that Switch Grass, as a naturally occurring plant species that has undergone continuous natural selection, will have superior photosynthetic qualities to corn, which is a domesticated, artificially selected crop species, and therefore superior to corn for use in producing ethanol. To test this hypothesis, we measured several important photosynthetic parameters in both Switch Grass and corn for comparing the overall photosynthetic potential of each respective species grown under optimal conditions. A summary of our tests and the final outcome of this study will be presented in detail.

**261**

**Title:** Our Process, Our Writing: MFA Students Share Their Thoughts About The Writing Process

**Presenter(s):** Christine Hingley, Geraldine Stowman, Emily Vieweg

**Department:** ENGL

**Advisor:** Lin Enger

**Abstract:** MFA students share their individual approaches to the writing process from original idea to revision. Their discussion will cover such genres as poetry, fiction, nonfiction, and drama. Students will also read from their own current work. There will also be a brief Q and A at the end of the presentation.

**262**

**Title:** Time Travel and the Philosophy of Time: a look at the implications time travel would have for various philosophies of time.

**Presenter(s):** Jessica Sievers

**Department:** PHIL

**Advisor:** Philip Mouch

**Abstract:** My paper aims to explore what must happen to our philosophies of time if time travel were a reality. Ultimately my conclusion is that the view of time as a fourth dimension is the philosophy of time that one should adopt if time travel were a reality.

**263**

**Title:** Effect Of Carbon Monoxide On Liquidus Temperatures Of Silicate Melts At 1-ATM Pressure

**Presenter(s):** Elicia Hay

**Department:** GEOS

**Advisor:** Russell Colson

**Abstract:** Carbon monoxide has an influence on the liquidus temperature of silicate melts. The liquidus is a line on a graph, which is the curve that connects the temperatures at which a liquid solution is in equilibrium with its vapor and with the solid solution. The compositions we chose to examine had expected liquidus around 1400°C, 1500°C, and 1600°C. To narrow in on the liquidus we decreased the T of crystal free melt until crystals formed. Then we raised the T of the melt with crystals until they melted. This produced a set of reverse experiments that bracketed the true liquidus temperatures. Experiments have been conducted by placing a small bead of the sample in a carbon dioxide rich atmosphere and narrowing in on the liquidus, and then using the same technique in a carbon monoxide rich atmosphere. Carbon monoxide atmosphere causes melt to crystallize at a different temperature than carbon dioxide. The results show there is only an affect in compositions with higher liquidus. This goes along with previous geologists, which have only done experiments in lower temperature compositions, and shown no influence of the carbon monoxide. Scientists have calculated the interior of the moon and the calculations were based on the liquidus temperature not being influenced by what type of gas was present. The carbon monoxide having an influence at the higher temperature compositions is the opposite of what is expected, and could change what scientists have calculated as far as the moon's interior is concerned.

**264**

**Title:** Variation in glucosinolate levels in Brassica rapa (Wisconsin fast plants)

**Presenter(s):** Elizabeth Jagol

**Department:** BIOL

**Advisor:** Alison Wallace

**Abstract:** Brassica rapa, a plant species that is a member of the mustard family, has been shown to genetically vary in a number of physical characteristics such as height, leaf coloration, and trichome number. We are looking at genetic variation in their secondary

defensive compound levels. Specially we are measuring glucosinolate levels indirectly by quantifying the glucose released by hydrolysis with the enzyme myrosinase upon leaf damage. Results will be shared of this work in progress.

**265**

**Title:** Anishinaabe Ethnobotany Presentation

**Presenter(s):** Andrew Geston

**Department:** AMCS

**Advisor:** Wendy Geniusz

**Abstract:** The display will contain craft works and descriptions of methods used in the creation of Anishinaabe Native American style projects.

**267**

**Title:** Anishinaabe Culture: An Insight into Daily Living

**Presenter(s):** Ashlie Dalen

**Department:** AMCS

**Advisor:** Wendy Geniusz

**Abstract:** This will be a display of traditional items that were used for daily living among the Anishinaabe people.

**268**

**Title:** Creating the Student Academic Conference Promotional Video

**Presenter(s):** Patrick Joyner

**Department:** FILM

**Advisor:** Kyja Kristjansson-Nelson

**Abstract:** Kyja Kristjansson-Nelson was approached by the Student Academic Conference committee members to produce and develop a video piece presenting all aspects of the conference. The video needed to appeal to future and current students, but also be informative enough for academia. A casting call was put out for volunteers to work on the video. I volunteered, along with a few others, and have had a strong hand in almost every aspect of the creation of the piece: taping interviews, shooting footage at the conference, and editing multiple versions of the video. My presentation will focus on the development process, by showing the final video and discussing the techniques of shooting and editing a documentary style promotional video.

**273**

**Title:** "If the Genes Don't Fit, You Must Acquit:" A Look at Paternity Fraud Legislation in California

**Presenter(s):** Trisha Dewar

**Department:** POL

**Advisor:** Barbara Headrick

**Abstract:** My presentation will encompass an in-depth look at paternity fraud legislation in the state of California. I will include in my presentation, the definition of paternity fraud, the history of laws pertaining to paternity fraud, and recent legislation that has been passed in regards to paternity fraud.

**274**

**Title:** America as Reflected in African-American Literature

**Presenter(s):** Ian Cole, Ellie Musselman, Valerie Roberts

**Department:** ENGL

**Advisor:** Hazel Retzlaff

**Abstract:** America does not mean the same thing to everyone. A panel of students from Prof. Retzlaff's class will discuss the portrayal of American society as it is seen in the works of several African-American writers. Several themes will be discussed, such as the brutality of the slave system, the hypocrisy of Christianity as it relates to slavery and the Jim Crow South, and the dual identity as both an American citizen and a black individual. A combination of literary evidence and historical contextualizations will be used to convey the different perspective of the African-American author.

**275**

**Title:** Applications of RFID Technology in Healthcare

**Presenter(s):** Kristopher Karls, Rebecca Kelbert, Krystal Stein

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** Radio frequency identification (RFID) technology is predominantly thought of in connection with material goods such as clothing, bus passes, etc. However, it can be used in other services like healthcare as well. Several surgeons use RFID technology to verify

patients' information before beginning surgery, thus reducing the likelihood of mistakes. When SARS was a big issue, several hospitals contemplated using RFID to track patients hoping it would help them stop the spread of illness more quickly. This study will provide a review of RFID technology and examine its many uses in healthcare industry.

**276**

**Title:** How can IT be used to improve homeland security

**Presenter(s):** Michael Zorich, Derick Hermanson, Brent Zuehlsdorff

**Department:** MGMT

**Advisor:** Ashish Gupta

**Abstract:** In this presentation we will discuss in what ways information technology can improve homeland security. We go in depth and discuss how it is currently being used. As well as how building a homeland security infrastructure can prevent threats from outside invaders.



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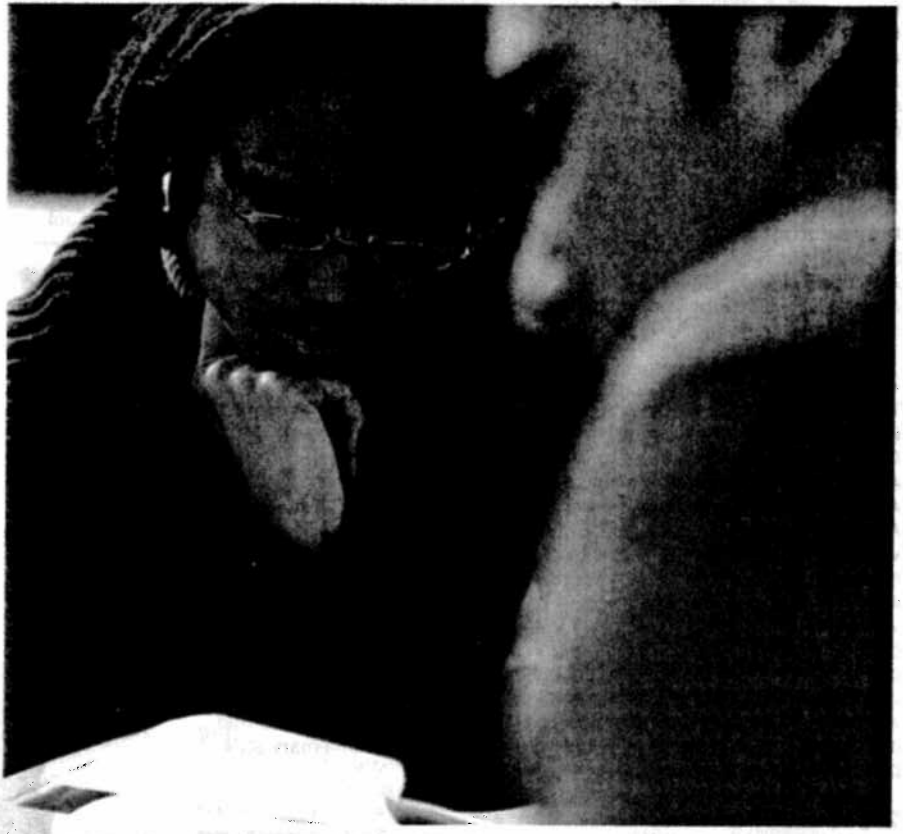
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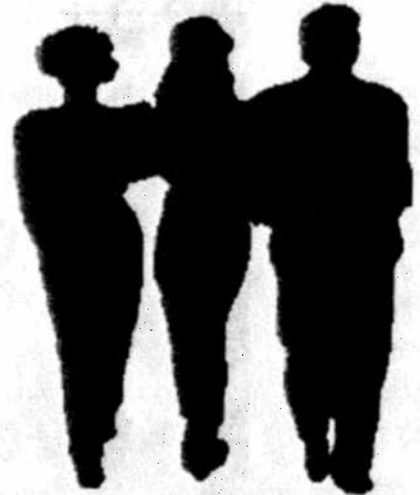
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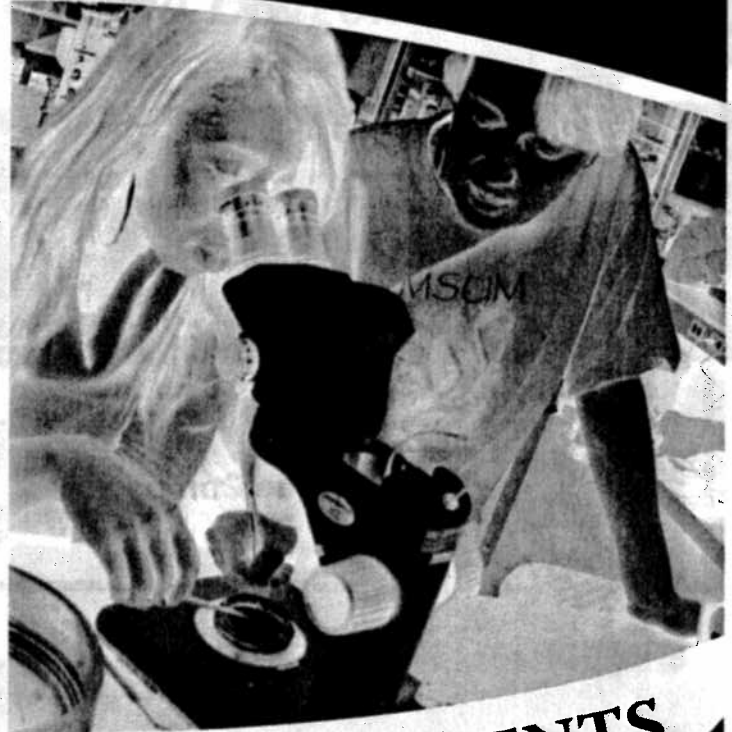
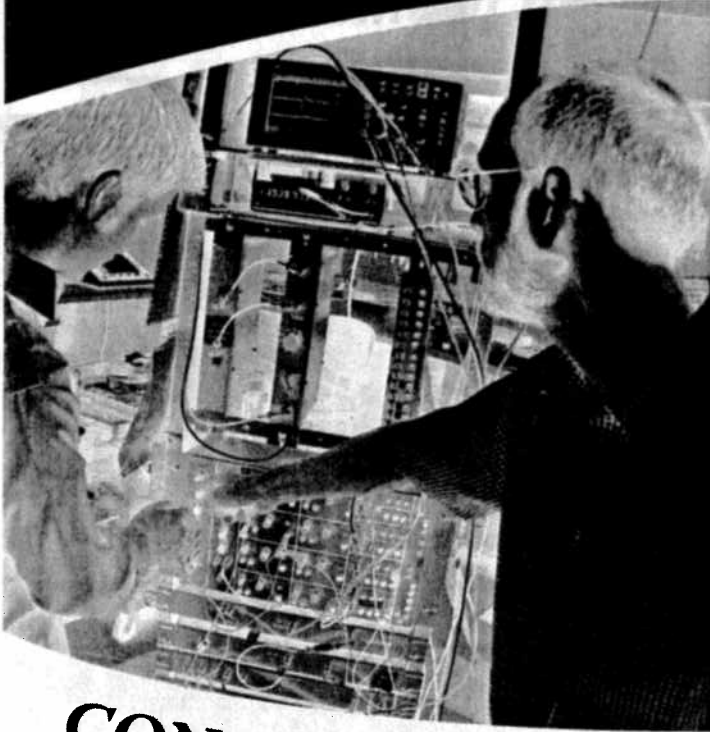
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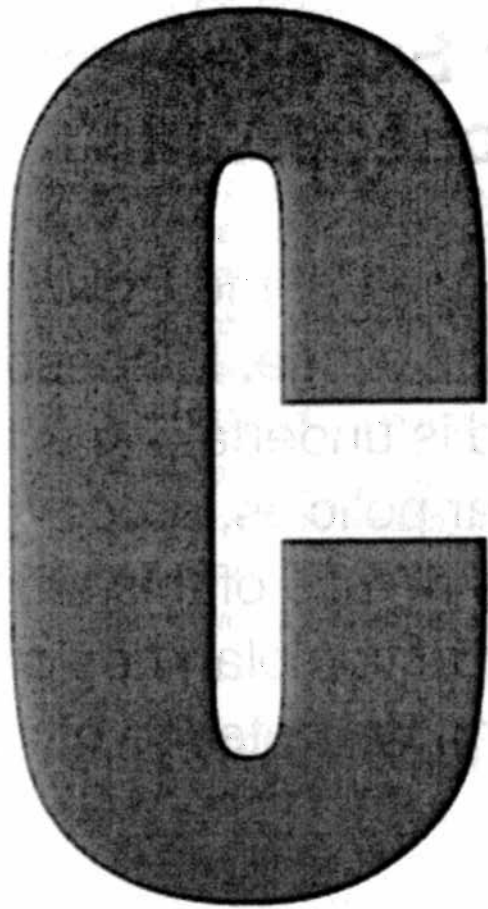
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