



---

Student Academic Conference Abstract Books

---

2001

# Student Academic Conference: Conference Program & Abstracts Volume III

Minnesota State University Moorhead

Follow this and additional works at: <https://red.mnstate.edu/sac-book>

---

# Student Academic Conference

*The MSUM showcase of academic achievement*

## Conference Program & Abstracts Volume III

Wednesday, April 11, 2001  
Comstock Memorial Union

MINNESOTA STATE UNIVERSITY  
moorhead



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

[www.mnstate.edu/acadconf](http://www.mnstate.edu/acadconf)

# **Congratulations MSUM Students!**

**We're proud of your academic  
achievements and wish you continued  
success in all future endeavors.**



The mission of the Minnesota State University Moorhead Alumni Foundation is to develop relationships, promote the University, and provide funding to advance academic excellence at Minnesota State University Moorhead.

visit our Web site at  
[www.mnstate.edu/alumni](http://www.mnstate.edu/alumni)

# Table of Contents

---

|   |    |
|---|----|
| Comstock Memorial Union Map .....                     | 4  |
| Letter from President .....                           | 5  |
| Letter from Vice President .....                      | 6  |
| Letter from 1999 President of Alumni Foundation ..... | 6  |
| Conference Schedule .....                             | 7  |
| Conference Organizers and Subcommittees .....         | 8  |
| Conference Sponsors .....                             | 8  |
| Keynote Speaker .....                                 | 9  |
| Student Panel Members .....                           | 10 |
| Schedule By Room .....                                | 11 |
| Alphabetical List of Presenters .....                 | 16 |
| Abstracts .....                                       | 24 |

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 at MSUM in April annually. All students are encouraged to submit presentation applications. We strive to accommodate all students who wish to present. The university community, parents, friends, prospective students, alumni, and employers are welcome to attend the conference to witness the excitement of intellectual exchanges among our students.

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

[www.mnstate.edu/acadconf](http://www.mnstate.edu/acadconf)

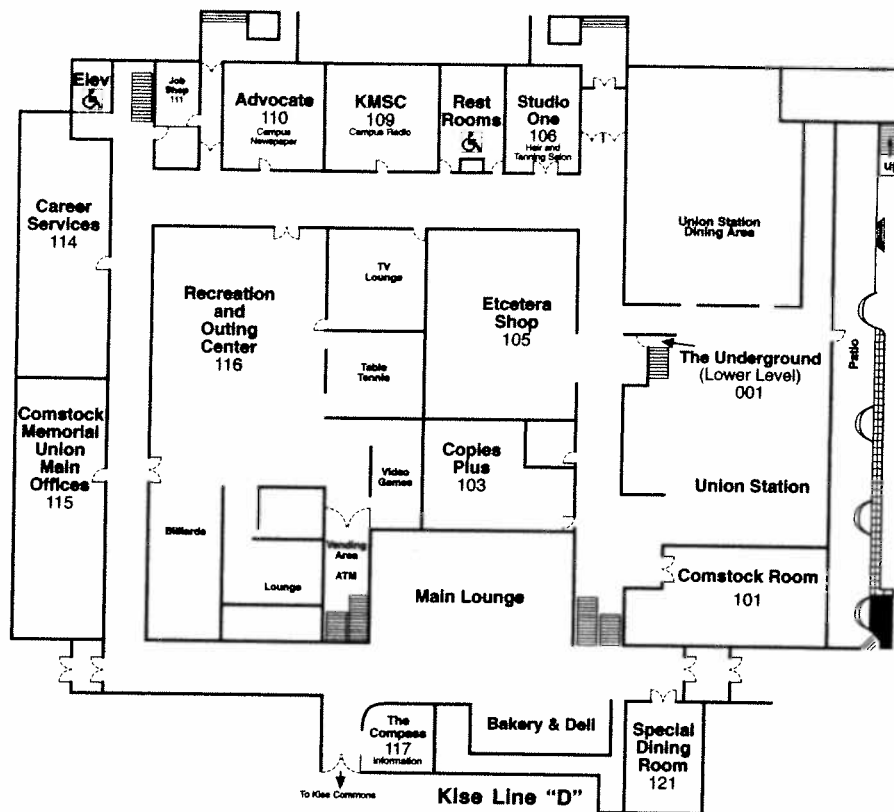
# Comstock Memorial Union Map



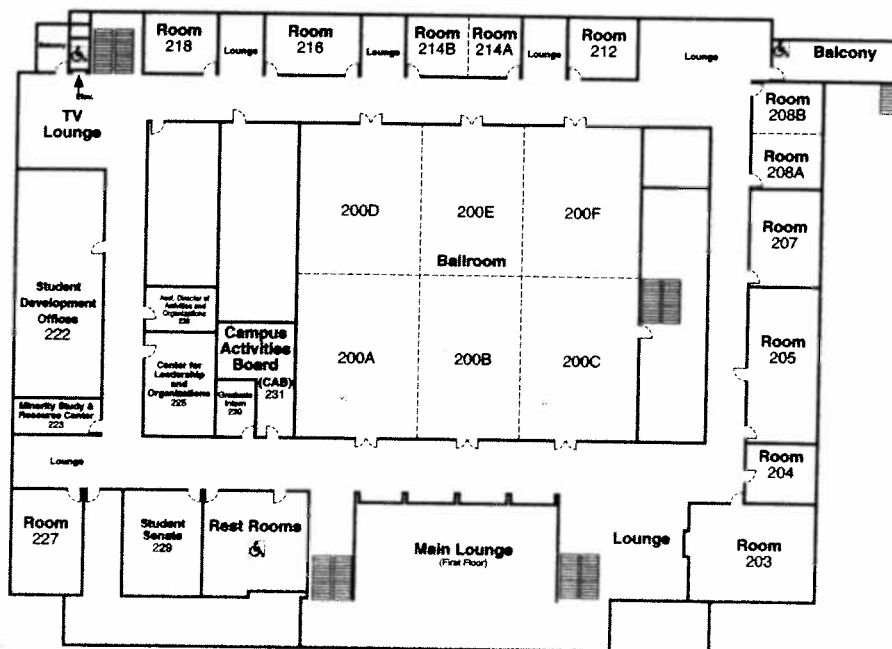
**Comstock Memorial Union**



**First Floor**



**Second Floor**



Comstock Memorial Union is a smoke-free environment

# Letter from the President

---



Greetings:

I am proud of our students who pursue scholarly and creative excellence. Many of our students become proficient scholars and artists – the third annual Minnesota State University Moorhead Student Academic Conference showcases this fact.

Personal interaction between MSU Moorhead students and faculty is instrumental to student success. This conference culminates the student work inspired by the involvement and encouragement of our faculty. Essentially all of the research papers, creative works, group projects, and other student presentations are created under the personal supervision of an involved faculty mentor.

Presenting one's work beyond the classroom and in the conference setting promotes student growth and development. Those students who participate in the Student Academic Conference experience the intellectual pleasure of presenting to a genuinely interested audience of other students, faculty, and members of the community. And, they face the challenge of defending their ideas in a supportive community of student and faculty scholars.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Roland E. Barden". The signature is written in dark ink and is positioned above the typed name.

Roland E. Barden, Ph.D.  
President

## Letter from the Vice President of Academic Affairs

---

### **Memorandum**

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

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

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

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

## Letter from the Alumni Foundation

---

Future Alumni,

Congratulations on the second year of an ambitious project to promote academic achievement! Your participation in the Student Academic Conference is testament to the importance our University places on intellectual and professional development. We celebrate the commitment of Moorhead State students to share knowledge and research.

Tens of thousands of your predecessors are proud to call Moorhead State their alma mater. Our university's reputation benefits from the educational rigor and performance that is underscored by your hard work. Academic excellence is our most important tradition.

Sincerely,

Gary Ness  
President  
MSU Alumni Foundation

# Conference Schedule

Wednesday, April 11, 2001

---

- 9:30 a.m.      **Poster Set-Up – CMU Main Lounge**
- 10:30 a.m.      **Presenter Registration – CMU Main Lounge**
- 11:20 a.m.      **Seating for the Luncheon – CMU Ballroom**
- 11:30 a.m.      **Luncheon Starts (Welcome and Introductions)–CMU Ballroom**  
Menu: Grilled Chicken Breast Florentine with Feta Cheese or Green Pepper Stuffed with Lentil & Wild Rice Pilaf
- 11:50 a.m.      **Keynote Speaker – CMU Ballroom**  
Dr. Paul Spies, Assistant Professor of Secondary Education at St. Cloud State University, St. Cloud, MN and a 1989 graduate of MSUM.
- 12:20 p.m.      **Student Panelists – CMU Ballroom**  
Leah Lindsey, Education & Human Services  
Patrick Carpenter, Arts & Humanities  
Yannick Dalhouse, Business & Industry  
Neal Gamradt, Social & Natural Sciences
- 1:00 p.m.      **Presentation Session 1 and Poster Session 1–Various CMU Rooms and Poster Display Area**
- 2:20 p.m.      **Break**
- 2:30 p.m.      **Presentation Session 2 and Poster Session 2–Various CMU Rooms and Poster Display Area**
- 3:50 p.m.      **Closing Social–CMU Main Lounge**  
Refreshments sponsored by Counseling and Career Services. Presenters should attend to pick up their conference certificate.



# Conference Organizers And Steering Committee

---



**Conference  
Advisor**

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



**Conference  
Organizer**

**Ryan Sylvester**  
*Area Director Residence Life Department*



**Jennifer  
Skatter**  
*Student Organizer*



**Heather  
Skatter**  
*Student Organizer*



## Steering Committee

- **Layne Anderson**, Assistant Director of Event Services, CMU
- **Steven Bolduc**, Assistant Professor, Economics
- **Dr. Konrad Czynski**, Associate Professor, Humanities
- **Dr. James Harley**, Instructor, Music
- **Thomas Lane**, Assistant Director of Operations, CMU
- **Dr. David Olday**, Professor, Sociology
- **Dr. Dolores Pons-Hervas**, Assistant Professor, Languages
- **Dr. Joseph Provost**, Assistant Professor, Chemistry
- **Dr. Hazel Retzlaff**, Associate Professor, English
- **Dr. Bruce Roberts**, Assistant Professor, Anthropology
- **Dr. Mark Wallert**, Professor, Biology
- **Dr. Brian Wisenden**, Assistant Professor, Biology
- **Dr. Larry Witherell**, Assistant Professor, History

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

# Keynote Speaker

---

## ***Keynote: "Struggling for Re-Education in Our Multicultural Global Society"***

Each year an MSUM alumnus is selected to deliver the keynote address to conference attendees. 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:



### **Dr. Paul Spies**

**Assistant Professor of Secondary Education  
St. Cloud State University, St. Cloud, MN**

Paul Spies, an assistant professor of secondary education at St. Cloud State University and a 1989 MSUM alumnus, will deliver the keynote address at Minnesota State University Moorhead's Student Academic Conference at 11:50 a.m. Wednesday, April 11 in the student union ballroom.

Spies, who holds a doctorate in curriculum and instruction from the University of Wisconsin-Madison is a specialist in multicultural education and school reform issues. He has nearly a decade's experience teaching in urban and suburban high schools where he developed multicultural faculty and student organizations.

He's also the author of "Interdisciplinary Teams for High Schools" published by Phi Delta Kappa Educational Foundation (1997) Fastback Series, and is associate editor of "Voices from the Field," the journal of the National High School Association.

Spies has been teaching at St. Cloud State for the past two years. Before that he served on the faculty at Viterbo College and the University of Wisconsin-Madison.

## Student Panelists

---



### **Leah Lindsey, Education & Human Services**

Leah is a senior at MSU Moorhead and is originally from Grafton, ND. She is majoring in School Health Education and minoring in Community Health Education. This past semester, she was named the Health Education Major of the Year for MSU Moorhead. She says she has had a very positive experience here on campus over the last four years. She has been involved in Student Orientation for three years. Being a SOC led her to other activities including STARs (Student Telecounseling Admissions Representatives) which she is the co-supervisor for the program. Additionally she is a Peer Advisor and this past semester co-taught the First Year Experience (FYE) course with Dr. Andrew Conteh. She has also been involved with the Education Minnesota Student Program (EMSP) and also a member of Kappa Delta Pi, an honors society for education majors.



### **Patrick Carpenter, Arts & Humanities**

Patrick's major is Speech Communication, with emphasis in Professional Communication. He grew up in Minot, ND and graduated from Minot High School in 1997. At MSUM, he participates in Wind Ensemble and Pi Kappa Delta. He has been a captain of the MSUM Speech and Debate team since 1998. He is the secretary of the Association for Communication Enrichment (ACE), and is the coordinator for ACE's powerpoint tutoring lab. Patrick will graduate in May and plans to attend graduate school next fall. His ultimate future goal is teaching and research at the post-secondary level.



### **Yanick Dalhouse, Business & Industry**

Yanick's majors are Mass Communications with an emphasis on broadcast journalism and Economics and is originally from Moorhead, MN. She transferred to MSUM two years ago from Luther College following a major change from Biology to Mass Communications. She plans to pursue a career in television reporting. She currently works as a reporter at our local ABC television station, WDAY Channel 6 News, as well as helps to anchor the morning news on 970 News Talk radio. In addition to that she hosts and is associate producer for a live call-in community talk show called Voices of Moorhead, as well as anchors and produces a Half-Time News Break Show.



### **Neal Gamradt, Social & Natural Sciences**

Neal's major is Computer Information Systems originally from Sauk Centre, MN. He has worked on the Student Technology Team for the last 3 years, a member of the Student Web Server Committee, and currently a member of the Web Advisory Board. Some significant projects include assisting with the College for Kids program this last summer, where he designed the database and website for the program. He also participated in a MnSCU conference where he helped in a presentation of the FirstLink website which he helped design through a grant. Currently he is interning at Sundog Interactive in Fargo. He plans to do web design when he graduates. Neal isn't new to the conference as he has participated in the Student Academic Conference twice as a presenter.

# SCHEDULE BY ROOM

---

Numbers next to presentation titles correlate to the Abstracts starting on page 24.

## ● CMU 101

### Session 1

- 1:00 p.m. 108 Prairie Planting Partnerships: Indoor Germination Experiments  
1:30 p.m. 91 Discovering Evolution through Population Dynamics

### Session 2

- 2:30 p.m. 97 Discovering Biology through Hands-On Image Processing

## ● CMU 121

### Session 1

- 1:00 p.m. 123 International Law and Genocide: A Historical Perspective  
1:20 p.m. 53 Food Manipulation: When is it Genocide?  
1:40 p.m. 3 It's Not Child's Play: The Effects of Civil Wars on Children  
2:00 p.m. 9 International Criminal Tribunal and the Rwandan Genocides

### Session 2

- 2:30 p.m. 38 Having the Piss Scared Out of Them: Darters Sense Danger by Smelling Each Others' Urine  
2:50 p.m. 40 Can Simple Flatworms Smell Whether Fish Ate Worms for Lunch?  
3:10 p.m. 11 Prescribed Burn of MSUM Regional Science Center's Buffalo River Site  
3:30 p.m. 125 So You Want A Tattoo

## ● CMU 200A

### Session 1

- 1:00 p.m. 86 You Never Thought Negatives Could Be So Fun!  
1:30 p.m. 87 Insane Integers

### Session 2

- 2:30 p.m. 145 Social Work Practice with a Refugee  
2:50 p.m. 146 Happiness: Prohibited; Impenetrable Barriers in Friel's Translations  
3:10 p.m. 147 The Suppression of Hope: Irish Anti-Nationalist Themes in W. B. Yeats' Cathleen Ni Houlihan

## ● CMU 200F

### Session 1

- 1:00 p.m. 84 The Plus and Negative of Integers  
1:30 p.m. 85 Mathematics on Both Sides of the "0"

## ● CMU 203

### Session 1

- 1:00 p.m. 67 Life as a Foreigner in Taiwan  
1:20 p.m. 69 Traditional versus Nontraditional Gender-Stereotypical Perceptions About Magazine Advertisements: What is Attractive?  
1:40 p.m. 99 The Effects of Physically Violent Video Games on Males  
2:00 p.m. 110 Does Lack of MSUM Parking Cause Frustration and/or Erratic Driving

### Session 2

- 2:30 p.m. 28 Lysophosphatidic Acid and Phenylephrine Alter the Kinetic Characteristics of NHE1 in CCL39 Cells  
2:50 p.m. 29 PLC $\beta$  is an Essential Intermediate in the Phenylephrine Stimulated Activation of NHE1 and ERK in Chinese Hamster Lung Cells  
3:10 p.m. 30 Gwiz High Expression Vector Provides Superior Transfection Efficiency and Protein Expression in Chinese Hamster Lung Cells  
3:30 p.m. 7 Regulation of Microtubule Assembly by MAPK Activity

● **CMU 204**

**Session 1**

- 1:00 p.m. 31 Parties and Interest Groups in the 2000 Election  
1:45 p.m. 22 Issues in Terrorism in the 21st Century

**Session 2**

- 2:30 p.m. 141 African Higher Education System  
2:50 p.m. 127 Building the \$10,000 Home Studio

● **CMU 205**

**Session 1**

- 1:00 p.m. 90 Georgetown University High School Bioethics Curriculum  
1:30 p.m. 92 Leopold Education Project Curriculum  
2:00 p.m. 93 Aquatic Wild Curriculum

**Session 2**

- 2:30 p.m. 89 BioWeb Search  
3:00 p.m. 95 Effective Use of Chemical Demonstrations in the Classroom

● **CMU 207**

**Session 1**

- 1:00 p.m. 32 Production of American Steel: A Regression Study  
1:20 p.m. 44 Determining Optimum Rents  
1:40 p.m. 49 Internet Sales Tax  
2:00 p.m. 83 Predicting Energy Consumption in Moorhead, MN

**Session 2**

- 2:30 p.m. 63 Coverage of Women's Sports in the Media  
2:50 p.m. 64 Economic Impact of Sports Facilities  
3:10 p.m. 54 Hypertrophic Cardiomyopathy  
3:30 p.m. 66 Service Learning Benefits Faculty

● **CMU 208**

**Session 1**

- 1:00 p.m. 120 Positive & Practical Affects of Theatre for Anyone's Everyday Life  
1:20 p.m. 124 Creative Writing  
1:40 p.m. 25 Cohabitation  
2:00 p.m. 131 U2 Saving Rock?

**Session 2**

- 2:30 p.m. 20 Improving Tax Education in the University Curriculum  
2:50 p.m. 52 Academic Service Learning Across Disciplines

● **CMU 214**

**Session 1**

- 1:00 p.m. 118 Measuring the Return to Work Decisions of New Mothers  
1:40 p.m. 24 Target Market Social Movement Analysis  
2:00 p.m. 135 Drug Rehabilitation Center Study

**Session 2**

- 2:30 p.m. 137 Derivation of NHL Attendance  
2:50 p.m. 136 Last Call: Is the Fargo/Moorhead Restaurant Industry too Saturated  
3:10 p.m. 81 Measuring the Demand for Internet Usage  
3:30 p.m. 82 Analysis on the Effects of Monetary Policy

● **CMU 216**

**Session 1**

- 1:00 p.m. 18 Sports et Divertissements: A Compilation of Art, Literature, and Music
- 1:20 p.m. 100 How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer
- 1:40 p.m. 102 A Prairie Home Companion at MSUM: Poetry and Music from ED 310

**Session 2**

- 2:30 p.m. 19 The Fiction of the Seeing Eye in Conrad's Heart of Darkness
- 2:50 p.m. 109 Panel Discussion of Irish Literature

● **CMU 218**

**Session 1**

- 1:00 p.m. 116 Analysis of Sick Leave Policy
- 1:20 p.m. 114 Implementation of a Campus One Card Program
- 1:40 p.m. 113 Burnout in Human Service Agencies
- 2:00 p.m. 115 Clean-Up Week Impact and Alternatives

**Session 2**

- 2:30 p.m. 121 Mao's Great Famine: Causes and Consequences
- 2:50 p.m. 56 Russian and Finnish Relations: Yesterday and Today
- 3:10 p.m. 71 Japanese Influence in Taiwan
- 3:30 p.m. 122 South of the Clouds: Experiences in Yunnan, China Spring 2000

● **CMU 227**

**Session 1**

- 1:00 p.m. 12 Women in Economics, Discrimination or Choice
- 1:20 p.m. 55 Emily Dickinson: Transcending Gender and Her Father
- 1:40 p.m. 23 Women in Literature

**Session 2**

- 2:30 p.m. 46 A Critical Look at Web Information
- 2:50 p.m. 117 Effects of College Experience and Word List Relation on Short and Long Term Memory
- 3:10 p.m. 96 BSCS - The Human Genome Project: Biology, Computers and Privacy Kise Line "D"

● **Kise Line "D"**

**Session 1**

- 1:00 p.m. 88 NIH Curriculum
- 2:00 p.m. 94 Neuroscience Laboratory and Classroom Activities

**Session 2**

- 2:30 p.m. 138 Translating Friel's Historical Approach
- 2:50 p.m. 139 Cathleen Ni Houlihan and Riders to the Sea: Blending Nationalistic Sympathies with Artistic Visions
- 3:10 p.m. 140 Lady Gregory's Contributions to the Irish Cultural Renaissance
- 3:30 p.m. 142 Similarities in the Lives and Art of Emily Dickinson and Vincent Van Gogh Poster Area

● **Underground**

**Session 1**

- 1:00 p.m. 60 A Screenplay entitled "Pot Holes"
- 1:20 p.m. 39 Nic Fit
- 1:40 p.m. 62 Theatre Through the Ages

**Session 2**

- 2:30 p.m. 16 A Clarification of Birth Order Effects on Juvenile Delinquency
- 2:50 p.m. 101 Student Drinking and Law Enforcement
- 3:10 p.m. 107 MSUM's China Tour 2000
- 3:30 p.m. 77 Using a Geographic Information System to Address the "Selfish Herd" Hypothesis in Gunnison's Prairie Dogs

## ● Poster Sessions

The presentations in the main lounge, balcony, and in the second level corridors are poster presentations. The posters will be on display in these areas throughout the day for conference attendees to review. Each poster has been assigned a session to be available for questions. Posters will be organized in numerical order.

### Session 1 – 1:00 p.m.

- 1 Problems and Potentials of Developing Nations: A Kenyan Case Study
- 4 Close
- 6 Who Wants to Study a Millionaire
- 13 The Fundamental Structure of Programming
- 14 Comparison of Lists Implementation
- 15 A Thinking Game: Two and One
- 17 The Effect of Emotional Context in a Stroop-Like Task
- 21 Seeing Beneath the Surface: Exploring the Historic Past with Geophysical Technology
- 26 SCAN Test Results from the MSUM Central Auditory Processing Disorders Clinic
- 33 Odor-Induced Strike Behavior by Game Fish
- 35 Walleye Survival School: A Tool to Enhance Minnesota's Walleye Resource
- 36 Comparative Analysis of Wash Effectiveness at Reducing Colony Forming Units on Produce
- 37 Dark Matter in Spiral Galaxies
- 41 Magazine Advertisements and Their Effect on Women
- 43 The Effects of Mood on Reaction Times of Females and Males
- 51 Requirement of ERK 1/2 for NHE1 Activation by G-Protein Coupled Receptor Agonists
- 57 Personality Traits in Relation to Helping Behavior
- 59 Fetal Alcohol Syndrome: An Assessment of Physical, Behavioral and Communications Characteristics
- 61 Huntington's Disease: Dysarthria and Social-Emotional Issues
- 65 Archaeological Applications of Ground Penetrating Radar
- 68 Quality Assessment of Magnetic Resonance Images and Variations of Image Quality Over Time
- 72 Is photosynthetic electron transport linked to activation of pyruvate,orthophosphate dikinase (PPDK) in chloroplasts of plants possessing the C3 photosynthetic pathway?
- 74 The Effects of Radiation on DNA: The Role of Spin Labels on Radical Damage
- 75 EPR Studies of Cardiac Muscle of Hypertensive and Normotensive Rats
- 80 Towards a Greater Understanding of Catalysis in Water
- 103 Cell Cycle Coordinated Mitochondrial Dynamics
- 105 Parent Child Communication
- 106 Finding the Past in the 21st Century
- 111 Preoccupation of Death
- 112 Party Patrol and Student Drinking Behavior
- 119 Protein-Protein Interactions of Citrate Synthase & Malate Dehydrogenase
- 126 Embarrassability in Cultural Context: Difference Between U.S. and Japan

- 128 Our Endangered Past: Preserving Cultural Heritage through Archaeology
- 129 Archaeology of the Myers Site: 21NR62
- 133  $\alpha 1$  Adrenergic Receptor Activation
- 143 Cognitive Defects Associated with Closed Head Injury
- 144 The Tritone Paradox: Confidence Ratings among Swedish Bilingual Listeners

**Session 2 – 2:30 p.m.**

- 2 Factors Involved in Punishment and Reward Rationales
- 5 The Tritone Paradox as Perceived by Korean Listeners
- 8 Developing Cell Motility Assays to Investigate the Role of Myosin in Cell Movement
- 10 Circular-Flow Diagram in Market Economy
- 27 Stealthy Sniffing: Behaviorally Augmented Olfaction in Risk Assessment
- 34 Cross-Curriculum Learning to Meet Minnesota Graduation Standards
- 42 Asperger's Disorder: Differential Diagnosis, Social Behaviors and Effects on Educational Learning
- 45 Photojournalism Gallery
- 47 Synthesis of a Boron Containing Neucloide for Boron Newtron Capture Theory
- 48 Expression and Identification of Pyruvate, Orthophosphate Dikinase Regulatory Protein for Sequencing
- 50 Infant Hearing Screening: Early Identification, Policy and Audiometric Procedures
- 58 Hypotonia in Down Syndrome and its Affect on Oral Motor Function and Articulation
- 70 Effects of ionizing radiation on DNA: The role of spermine on radiation damage
- 73 Evolution of the C4 photosynthetic pathway from C3 plants: The non-photosynthetic C3 ancestral form of the C4 photo synthetic pathway enzyme, pyruvate,orthophosphate dikinase, is also light regulated in leaves of C3 plants
- 76 Epidermal Growth Factor Receptor Transactivation is Necessary for the Stimulation of Extracellular Signal-Regulated Kinase
- 78 Factors Influencing Successful Turkey (*Meleagris gallopavo*) Reintroduction in Minnesota: A Literature Review
- 79 A Research Proposal: Movements and Habitat Use by Female Painted Turtles (*Chrysemys picta*) in Western Minnesota
- 98 Ontogeny of Chemically Mediated Antipredator Behavior by Convict cichlids
- 104 Prader-Willi Syndrome: Behavior, Communication, Observation
- 132 Empirical Formula of Soluble Metal-Ammonia Complexes
- 134 A Study of Attitudes in an Adult Stutterer: Beliefs, Anxiety, and Behavior



# Alphabetical List Of Presenters

---

Numbers correlate to the Abstracts starting on page 24.

| #   | Name               | Title   | Room          | Time      |
|-----|--------------------|---|---------------|-----------|
| 97  | Vian Abdulhakim    | Discovering Biology through Hands-On Image Processing   | CMU 101       | 2:30 p.m. |
| 98  | Shireen Alemadi    | Ontogeny of Chemically Mediated Antipredator Behavior by Convict Cichlids                         | Poster Area   | 2:30 p.m. |
| 88  | Sarah Anderson     | NIH Curriculum  | Kise Line "D" | 1:00 p.m. |
| 62  | Michael Aspinwall  | Theatre Through the Ages  | Underground   | 1:40 p.m. |
| 62  | Darcy Bakkegard    | Theatre Through the Ages  | Underground   | 1:40 p.m. |
| 6   | Sonia Balliet      | Who Wants to Study a Millionaire  | Poster Area   | 1:00 p.m. |
| 128 | Melissa Baltus     | Our Endangered Past: Preserving Cultural Heritage through Archaeology                             | Poster Area   | 1:00 p.m. |
| 129 | Theresa Barket     | Archaeology of the Myers Site: 21NR62   | Poster Area   | 1:00 p.m. |
| 85  | Karolyn Bates      | Mathematics on Both Sides of the "0"  | CMU 200F      | 1:30 p.m. |
| 134 | Karen Bauer        | A Study of Attitudes in an Adult Stutterer: Beliefs, Anxiety, and Behavior                        | Poster Area   | 2:30 p.m. |
| 108 | Tanya Becker       | Prairie Planting Partnerships: Indoor Germination Experiments                                     | CMU 101       | 1:00 p.m. |
| 84  | Michele Becker     | The Plus and Negative of Integers   | CMU 200F      | 1:00 p.m. |
| 132 | Holly Beimdiek     | Empirical Formula of Soluble Metal-Ammonia Complexes  | Poster Area   | 2:30 p.m. |
| 25  | Amy Bellefeville   | Cohabitation  | CMU 208       | 1:40 p.m. |
| 31  | Nicole Bergeron    | Parties and Interest Groups in the 2000 Election  | CMU 204       | 1:00 p.m. |
| 22  | Nicole Bergeron    | Issues in Terrorism in the 21st Century   | CMU 204       | 1:45 p.m. |
| 102 | Andy Beyer         | A Prairie Home Companion at MSUM: Poetry and Music from ED 310                                    | CMU 216       | 1:40 p.m. |
| 43  | Isabella Breitling | The Effects of Mood on Reaction Times of Females and Males  | Poster Area   | 1:00 p.m. |
| 9   | Jill Brendemuhl    | International Criminal Tribunal and the Rwandan Genocides   | CMU 121       | 2:00 p.m. |
| 137 | Bryan Brenden      | Derivation of NHL Attendance  | CMU 214       | 2:30 p.m. |
| 8   | Dr. Ellen Brisch   | Developing Cell Motility Assays to Investigate the Role of Myosin in Cell Movement                | Poster Area   | 2:30 p.m. |
| 57  | Ariane Broadland   | Personality Traits in Relation to Helping Behavior  | Poster Area   | 1:00 p.m. |
| 42  | Anne Burgard       | Asperger's Disorder: Differential Diagnosis, Social Behaviors and Effects on Educational Learning | Poster Area   | 2:30 p.m. |
| 142 | Adam Bursack       | Similarities in the Lives and Art of Emily Dickinson and Vincent Van Gogh                         | Kise Line "D" | 3:30 p.m. |
| 129 | Shane Butler       | Archaeology of the Myers Site: 21NR62   | Poster Area   | 1:00 p.m. |
| 114 | Jeff Cadwell       | Implementation of a Campus One Card Program   | CMU 218       | 1:20 p.m. |
| 52  | Melissa Carver     | Academic Service Learning Across Disciplines  | CMU 208       | 2:50 p.m. |
| 17  | Arthur Chewakin    | The Effect of Emotional Context in a Stroop-Like Task   | Poster Area   | 1:00 p.m. |
| 146 | Dave Christensen   | Happiness: Prohibited; Impenetrable Barriers in Friel's Translations                              | CMU 200A      | 2:50 p.m. |
| 136 | Toby Christianson  | Last Call: Is the Fargo/Moorhead Restaurant Industry  | CMU 214       | 2:50 p.m. |
| 28  | Genny Clausen      | Lysophosphatidic Acid and Phenylephrine Alter the Kinetic Characteristics of NHE1 in CCL39 Cells  | CMU 203       | 2:30 p.m. |
| 102 | Pam Conn           | A Prairie Home Companion at MSUM: Poetry and  | CMU 216       | 1:40 p.m. |

| #   | Name                | Title  | Room          | Time      |
|-----|---------------------|--|---------------|-----------|
| 107 | Amanda Craven       | MSUM's China Tour 2000   | Underground   | 3:10 p.m. |
| 99  | Patty Dahley        | The Effects of Physically Violent Video Games on Males   | CMU 203       | 1:40 p.m. |
| 2   | Trisha Daigle       | Factors Involved in Punishment and Reward Rationales   | Poster Area   | 2:30 p.m. |
| 53  | Casey Decker        | Food Manipulation: When is it Genocide?  | CMU 121       | 1:20 p.m. |
| 62  | Melissa Deutsch     | Theatre Through the Ages   | Underground   | 1:40 p.m. |
| 73  | Sharon Dittmer      | Evolution of the C4 photosynthetic pathway from C3 plants: The non-photosynthetic C3 ancestral form of the C4 photosynthetic pathway enzyme, pyruvate, orthophosphate dikinase, is also light regulated in leaves of C3 plants | Poster Area   | 2:30 p.m. |
| 91  | Eric Dobervich      | Discovering Evolution through Population Dynamics  | CMU 101       | 1:30 p.m. |
| 45  | Davina Doris        | Photojournalism Gallery  | Poster Area   | 2:30 p.m. |
| 101 | Laura Eckroth       | Student Drinking and Law Enforcement   | Underground   | 2:50 p.m. |
| 3   | Heather Ehrichs     | It's Not Child's Play: The Effects of Civil Wars on Children   | CMU 121       | 1:40 p.m. |
| 11  | Jeffrey Erickson    | Prescribed Burn of MSUM Regional Science Center's Buffalo River Site   | CMU 121       | 3:10 p.m. |
| 34  | Timothy Erickson    | Cross-Curriculum Learning to Meet Minnesota Graduation Standards   | Poster Area   | 2:30 p.m. |
| 26  | Amy Fagerlie        | SCAN Test Results from the MSUM Central Auditory Processing Disorders Clinic   | Poster Area   | 1:00 p.m. |
| 101 | Ann Ficek           | Student Drinking and Law Enforcement   | Underground   | 2:50 p.m. |
| 65  | Aaron Fogel         | Archaeological Applications of Ground Penetrating Radar  | Poster Area   | 1:00 p.m. |
| 8   | Kelsey Foldesi      | Developing Cell Motility Assays to Investigate the Role of Myosin in Cell Movement   | Poster Area   | 2:30 p.m. |
| 59  | Heather Ford        | Fetal Alcohol Syndrome: An Assessment of Physical, Behavioral and Communications Characteristics   | Poster Area   | 1:00 p.m. |
| 112 | Susan Fowler        | Party Patrol and Student Drinking Behavior   | Poster Area   | 1:00 p.m. |
| 89  | Shawn Frieler       | BioWeb Search  | CMU 205       | 2:30 p.m. |
| 51  | Melanie Funfar      | Requirement of ERK 1/2 for NHE1 Activation by G-Protein Coupled Receptor Agonists  | Poster Area   | 1:00 p.m. |
| 106 | Julie Gallagher     | Finding the Past in the 21st Century   | Poster Area   | 1:00 p.m. |
| 138 | Kristin Garaas      | Translating Friel's Historical Approach  | Kise Line "D" | 2:30 p.m. |
| 99  | Bethany Geffre      | The Effects of Physically Violent Video Games on Males   | CMU 203       | 1:40 p.m. |
| 82  | Mike Gesellchen     | Analysis on the Effects of Monetary Policy   | CMU 214       | 3:30 p.m. |
| 81  | Lori Gieselman      | Measuring the Demand for Internet Usage  | CMU 214       | 3:10 p.m. |
| 40  | Jill Greenley       | Can Simple Flatworms Smell Whether Fish Ate Worms for Lunch?   | CMU 121       | 2:50 p.m. |
| 75  | Jill Greenley       | EPR Studies of Cardiac Muscle of Hypertensive and Normotensive Rats  | Poster Area   | 1:00 p.m. |
| 85  | Angie Greer         | Mathematics on Both Sides of the "0"   | CMU 200F      | 1:30 p.m. |
| 102 | Dr. Steven Grineski | A Prairie Home Companion at MSUM: Poetry and Music from ED 310   | CMU 216       | 1:40 p.m. |
| 42  | Corie Gronso        | Asperger's Disorder: Differential Diagnosis, Social Behaviors and Effects on Educational Learning  | Poster Area   | 2:30 p.m. |
| 101 | Shelly Grothen      | Student Drinking and Law Enforcement   | Underground   | 2:50 p.m. |
| 112 | Amy Gruenhagen      | Party Patrol and Student Drinking Behavior   | Poster Area   | 1:00 p.m. |
| 36  | Kristine Hakes      | Comparative Analysis of Wash Effectiveness at Reducing Colony-Forming Units on Produce   | Poster Area   | 1:00 p.m. |

| #   | Name               | Title   | Room          | Time      |
|-----|--------------------|---|---------------|-----------|
| 45  | Ryan Hamner        | Photojournalism Gallery   | Poster Area   | 2:30 p.m. |
| 47  | Lisa Hansen        | Synthesis of a Boron Containing Neucloide for Boron Newtron Capture Theory  | Poster Area   | 2:30 p.m. |
| 52  | Dr. Lynn Harter    | Academic Service Learning Across Disciplines  | CMU 208       | 2:50 p.m. |
| 61  | Traci Haus         | Huntington's Disease: Dysarthria and Social-Emotional Issues  | Poster Area   | 1:00 p.m. |
| 21  | Jennifer Hawkinson | Seeing Beneath the Surface: Exploring the Historic Past with Geophysical Technology                                   | Poster Area   | 1:00 p.m. |
| 125 | Amy Heeren         | So You Want A Tattoo  | CMU 121       | 3:30 p.m. |
| 58  | Shannon Heglund    | Hypotonia in Down Syndrome and its Affect on Oral Motor Function and Articulation                                     | Poster Area   | 2:30 p.m. |
| 112 | Erica Heitmann     | Party Patrol and Student Drinking Behavior  | Poster Area   | 1:00 p.m. |
| 36  | Lori Heitzman      | Comparative Analysis of Wash Effectiveness at Reducing Colony Forming Units on Produce                                | Poster Area   | 1:00 p.m. |
| 111 | Marissa Heley      | Preoccupation of Death  | Poster Area   | 1:00 p.m. |
| 52  | Judy Hendrickson   | Academic Service Learning Across Disciplines  | CMU 208       | 2:50 p.m. |
| 50  | Robyn Hennessy     | Infant Hearing Screening: Early Identification, Policy and Audiometric Procedures                                     | Poster Area   | 2:30 p.m. |
| 102 | Kari Henningson    | A Prairie Home Companion at MSUM: Poetry and Music from ED 310  | CMU 216       | 1:40 p.m. |
| 25  | Ursula Hermanson   | Cohabitation  | CMU 208       | 1:40 p.m. |
| 39  | Samuel Heyn        | Nic Fit   | Underground   | 1:20 p.m. |
| 101 | Ann Higdem         | Student Drinking and Law Enforcement  | Underground   | 2:50 p.m. |
| 87  | Angie Hodge        | Insane Integers   | CMU 200A      | 1:30 p.m. |
| 110 | Ronda Hoff         | Does Lack of MSUM Parking Cause Frustration and/or Erratic Driving  | CMU 203       | 2:00 p.m. |
| 8   | Damian Holznagel   | Developing Cell Motility Assays to Investigate the Role of Myosin in Cell Movement                                    | Poster Area   | 2:30 p.m. |
| 36  | Damian Holznagel   | Comparative Analysis of Wash Effectiveness at Reducing Colony-Forming Units on Produce                                | Poster Area   | 1:00 p.m. |
| 68  | Matthew Holzwarth  | Quality Assessment of Magnetic Resonance Images and Variations of Image Quality Over Time                             | Poster Area   | 1:00 p.m. |
| 67  | Brandi Hoppenrath  | Life as a Foreigner in Taiwan   | CMU 203       | 1:00 p.m. |
| 71  | Brandi Hoppenrath  | Japanese Influence in Taiwan  | CMU 218       | 3:10 p.m. |
| 104 | Melissa Horner     | Prader-Willi Syndrome: Behavior, Communication, Observation   | Poster Area   | 2:30 p.m. |
| 139 | Dean Hulse         | Cathleen Ni Houlihan and Riders to the Sea: Blending Nationalistic Sympathies with Artistic Visions                   | Kise Line "D" | 2:50 p.m. |
| 40  | Aaron Hutcheson    | Can Simple Flatworms Smell Whether Fish Ate Worms for Lunch?  | CMU 121       | 2:50 p.m. |
| 109 | Kathryn Hutter     | Panel Discussion of Irish Literature  | CMU 216       | 2:50 p.m. |
| 69  | Teresa Imholte     | Traditional versus Nontraditional Gender Stereotypical Perceptions About Magazine Advertisements: What is Attractive? | CMU 203       | 1:20 p.m. |
| 125 | Elizabeth Jacobs   | So You Want A Tattoo  | CMU 121       | 3:30 p.m. |
| 70  | Jody Jacobson      | Effects of ionizing radiation on DNA: The role of spermine on radiation damage  | Poster Area   | 2:30 p.m. |
| 74  | Jody Jacobson      | The Effects of Radiation on DNA: The Role of Spin Labels on Radical Damage  | Poster Area   | 1:00 p.m. |
| 140 | Bob Jansen         | Lady Gregory's Contributions to the Irish Cultural Renaissance  | Kise Line "D" | 3:10 p.m. |

| #   | Name               | Title   | Room        | Time      |
|-----|--------------------|---|-------------|-----------|
| 37  | Sara Jarolimek     | Dark Matter in Spiral Galaxies  | Poster Area | 1:00 p.m. |
| 117 | Mark S. Jesinoski  | Effects of College Experience and Word List Relation on Short and Long Term Memory                                    | CMU 227     | 2:50 p.m. |
| 109 | Jessica Johnson    | Panel Discussion of Irish Literature  | CMU 216     | 2:50 p.m. |
| 47  | Michelle Johnson   | Synthesis of a Boron Containing Neucloide for Boron Newtron Capture Theory  | Poster Area | 2:30 p.m. |
| 101 | Chris Johnson      | Student Drinking and Law Enforcement  | Underground | 2:50 p.m. |
| 78  | Elizabeth Johnson  | Factors Influencing Successful Turkey ( <i>Meleagris gallopavo</i> ) Reintroduction in Minnesota: A Literature Review | Poster Area | 2:30 p.m. |
| 135 | Jeremy Johnson     | Drug Rehabilitation Center Study  | CMU 214     | 2:00 p.m. |
| 20  | Holly Jorud        | Improving Tax Education in the University Curriculum  | CMU 208     | 2:30 p.m. |
| 23  | Kilee Kadrie       | Women in Literature   | CMU 227     | 1:40 p.m. |
| 23  | Carol Kahle        | Women in Literature   | CMU 227     | 1:40 p.m. |
| 109 | Carol Kahle        | Panel Discussion of Irish Literature  | CMU 216     | 2:50 p.m. |
| 112 | Norma Kallstrom    | Party Patrol and Student Drinking Behavior  | Poster Area | 1:00 p.m. |
| 90  | Joan Karels        | Georgetown University High School Bioethics Curriculum  | CMU 205     | 1:00 p.m. |
| 1   | Chris Kauffman     | Problems and Potentials of Developing Nations: A Kenyan Case Study  | Poster Area | 1:00 p.m. |
| 124 | Jade Kendall       | Creative Writing  | CMU 208     | 1:20 p.m. |
| 46  | Lisa Klautd        | A Critical Look at Web Information  | CMU 227     | 2:30 p.m. |
| 80  | Justin Klitzke     | Towards a Greater Understanding of Catalysis in Water   | Poster Area | 1:00 p.m. |
| 19  | Leslie Knudson     | The Fiction of the Seeing Eye in Conrad's Heart of Darkness   | CMU 216     | 2:30 p.m. |
| 10  | Iryna Kolodchak    | Circular-Flow Diagram in Market Economy   | Poster Area | 2:30 p.m. |
| 91  | Jason Krumwiede    | Discovering Evolution through Population Dynamics   | CMU 101     | 1:30 p.m. |
| 133 | Rebecca Kuehn      | 1 Adrenergic Receptor Activation  | Poster Area | 1:00 p.m. |
| 23  | Deb Kvittum        | Women in Literature   | CMU 227     | 1:40 p.m. |
| 84  | Marilyn Labrenz    | The Plus and Negative of Integers   | CMU 200F    | 1:00 p.m. |
| 97  | Zoe Lamm           | Discovering Biology through Hands-On Image Processing   | CMU 101     | 2:30 p.m. |
| 62  | Rachelle Larson    | Theatre Through the Ages  | Underground | 1:40 p.m. |
| 134 | Christina Lawver   | A Study of Attitudes in an Adult Stutterer: Beliefs, Anxiety, and Behavior  | Poster Area | 2:30 p.m. |
| 63  | Kristin Leadbetter | Coverage of Women's Sports in the Media   | CMU 207     | 2:30 p.m. |
| 110 | Melissa Lee        | Does Lack of MSUM Parking Cause Frustration and/or Erratic Driving  | CMU 203     | 2:00 p.m. |
| 100 | Amber Lehn         | How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer                            | CMU 216     | 1:20 p.m. |
| 144 | Fredrik Leinfelt   | The Tritone Paradox: Confidence Ratings among Swedish Bilingual Listeners   | Poster Area | 1:00 p.m. |
| 40  | Tammy Lien         | Can Simple Flatworms Smell Whether Fish Ate Worms for Lunch?  | CMU 121     | 2:50 p.m. |
| 48  | Larry Louisiana    | Expression and Identification of Pyruvate, Orthophosphate Dikinase Regulatory Protein for Sequencing                  | Poster Area | 2:30 p.m. |
| 128 | Kelsey Lowe        | Our Endangered Past: Preserving Cultural Heritage through Archaeology   | Poster Area | 1:00 p.m. |
| 1   | September Luitjens | Problems and Potentials of Developing Nations: A Kenyan Case Study  | Poster Area | 1:00 p.m. |

| #   | Name                 | Title  | Room        | Time      |
|-----|----------------------|--|-------------|-----------|
| 61  | Leanne Lundeen       | Huntington's Disease: Dysarthria and Social-Emotional Issues   | Poster Area | 1:00 p.m. |
| 16  | John Lyon            | A Clarification of Birth Order Effects on Juvenile Delinquency   | Underground | 2:30 p.m. |
| 55  | Anna Martin          | Emily Dickinson: Transcending Gender and Her Father  | CMU 227     | 1:20 p.m. |
| 48  | Rebecca Mastel       | Expression and Identification of Pyruvate, Orthophosphate Dikinase Regulatory Protein for Sequencing                       | Poster Area | 2:30 p.m. |
| 52  | Ben Mattson          | Academic Service Learning Across Disciplines   | CMU 208     | 2:50 p.m. |
| 110 | Kelli McCarthy       | Does Lack of MSUM Parking Cause Frustration and/or Erratic Driving   | CMU 203     | 2:00 p.m. |
| 143 | Sara McCaslin        | Cognitive Defects Associated with Closed Head Injury   | Poster Area | 1:00 p.m. |
| 76  | Andrew McCoy         | Epidermal Growth Factor Receptor Transactivation is Necessary for the Stimulation of Extracellular Signal-Regulated Kinase | Poster Area | 2:30 p.m. |
| 77  | Daniel McEwen        | Using a Geographic Information System to Address the "Selfish Herd" Hypothesis in Gunnison's Prairie Dogs                  | Underground | 3:30 p.m. |
| 129 | Elizabeth Melland    | Archaeology of the Myers Site: 21NR62  | Poster Area | 1:00 p.m. |
| 30  | Alison Metcalf       | Gwiz High Expression Vector Provides Superior Transfection Efficiency and Protein Expression in Chinese Hamster Lung Cells | CMU 203     | 3:10 p.m. |
| 38  | Ashley Middleton     | Having the Piss Scared Out of Them: Darters Sense Danger by Smelling Each Others' Urine                                    | CMU 121     | 2:30 p.m. |
| 5   | Kara Miller          | The Tritone Paradox as Perceived by Korean Listeners   | Poster Area | 2:30 p.m. |
| 4   | Kara Miller          | Close  | Poster Area | 1:00 p.m. |
| 41  | Olivia Mohs          | Magazine Advertisements and Their Effect on Women  | Poster Area | 1:00 p.m. |
| 52  | Laura Montfrooe      | Academic Service Learning Across Disciplines   | CMU 208     | 2:50 p.m. |
| 105 | Kristi Moos          | Parent Child Communication   | Poster Area | 1:00 p.m. |
| 30  | Brad Moran           | Gwiz High Expression Vector Provides Superior Transfection Efficiency and Protein Expression in Chinese Hamster Lung Cells | CMU 203     | 3:10 p.m. |
| 62  | Phyllis Morgan       | Theatre Through the Ages   | Underground | 1:40 p.m. |
| 103 | Kristopher Mortenson | Cell Cycle Coordinated Mitochondrial Dynamics  | Poster Area | 1:00 p.m. |
| 27  | Joe Mullins          | Stealthy Sniffing: Behaviorally Augmented Olfaction in Risk Assessment   | Poster Area | 2:30 p.m. |
| 45  | Asaimi Nagumo        | Photojournalism Gallery  | Poster Area | 2:30 p.m. |
| 92  | Matthew Nelson       | Leopold Education Project Curriculum   | CMU 205     | 1:30 p.m. |
| 66  | Barbara Nelson       | Service Learning Benefits Faculty  | CMU 207     | 3:30 p.m. |
| 112 | Shonda Nettestad     | Party Patrol and Student Drinking Behavior   | Poster Area | 1:00 p.m. |
| 14  | Chin Git NG          | Comparison of Lists Implementation   | Poster Area | 1:00 p.m. |
| 13  | Chin Git NG          | The Fundamental Structure of Programming   | Poster Area | 1:00 p.m. |
| 15  | Chin Git Ng          | A Thinking Game: Two and One   | Poster Area | 1:00 p.m. |
| 97  | Morgan Niedringhaus  | Discovering Biology through Hands-On Image Processing  | CMU 101     | 2:30 p.m. |
| 27  | Oscar Noriega        | Stealthy Sniffing: Behaviorally Augmented Olfaction in Risk Assessment   | Poster Area | 2:30 p.m. |
| 50  | Laura Nyhus          | Infant Hearing Screening: Early Identification, Policy and Audiometric Procedures  | Poster Area | 2:30 p.m. |
| 54  | Jerod Ochsendorf     | Hypertrophic Cardiomyopathy  | CMU 207     | 3:10 p.m. |
| 86  | Jennifer Olson       | You Never Thought Negatives Could Be So Fun!   | CMU 200A    | 1:00 p.m. |
| 113 | Ann Marie Onesti     | Burnout in Human Service Agencies  | CMU 218     | 1:40 p.m. |

| #   | Name                 | Title  | Room        | Time      |
|-----|----------------------|--|-------------|-----------|
| 7   | Zulmarie Ortiz       | Regulation of Microtubule Assembly by MAPK Activity  | CMU 203     | 3:30 p.m. |
| 57  | Holly Oster          | Personality Traits in Relation to Helping Behavior   | Poster Area | 1:00 p.m. |
| 12  | Coni Otto            | Women in Economics, Discrimination or Choice   | CMU 227     | 1:00 p.m. |
| 35  | Tonya Overbo         | Walleye Survival School: A Tool to Enhance Minnesota's Walleye Resource  | Poster Area | 1:00 p.m. |
| 58  | Erica Paulsen        | Hypotonia in Down Syndrome and its Affect on Oral Motor Function and   | Poster Area | 2:30 p.m. |
| 95  | Chris Petersen       | Effective Use of Chemical Demonstrations in the Classroom  | CMU 205     | 3:00 p.m. |
| 22  | Brianne Peterson     | Issues in Terrorism in the 21st Century  | CMU 204     | 1:45 p.m. |
| 31  | Brianne Peterson     | Parties and Interest Groups in the 2000 Election   | CMU 204     | 1:00 p.m. |
| 115 | Eric Peterson        | Clean-Up Week Impact and Alternatives  | CMU 218     | 2:00 p.m. |
| 22  | Sarah Phillips       | Issues in Terrorism in the 21st Century  | CMU 204     | 1:45 p.m. |
| 121 | Sarah Phillips       | Mao's Great Famine: Causes and Consequences  | CMU 218     | 2:30 p.m. |
| 122 | Sarah Phillips       | South of the Clouds: Experiences in Yunnan, China Spring 2000  | CMU 218     | 3:30 p.m. |
| 123 | Sarah Phillips       | International Law and Genocide: A Historical Perspective   | CMU 121     | 1:00 p.m. |
| 143 | Torie Post           | Cognitive Defects Associated with Closed Head Injury   | Poster Area | 1:00 p.m. |
| 73  | Christa Randklev     | Evolution of the C4 photosynthetic pathway from C3 plants: The non-photosynthetic C3 ancestral form of the C4 photosynthetic pathway enzyme, pyruvate, orthophosphate dikinase, is also light regulated in leaves of C3 plants | Poster Area | 2:30 p.m. |
| 105 | Kirsten Razzone      | Parent Child Communication   | Poster Area | 1:00 p.m. |
| 31  | Michelle Redepenning | Parties and Interest Groups in the 2000 Election   | CMU 204     | 1:00 p.m. |
| 141 | Michael Redlinger    | African Higher Education System  | CMU 204     | 2:30 p.m. |
| 60  | Krista Reiner        | A Screenplay entitled "Pot Holes"  | Underground | 1:00 p.m. |
| 74  | Katie Rice           | The Effects of Radiation on DNA: The Role of Spin Labels on Radical Damage   | Poster Area | 1:00 p.m. |
| 52  | Katie Richardson     | Academic Service Learning Across Disciplines   | CMU 208     | 2:50 p.m. |
| 119 | Shanna Rix           | Protein-Protein Interactions of Citrate Synthase & Malate Dehydrogenase  | Poster Area | 1:00 p.m. |
| 44  | Susan Rose           | Determining Optimum Rents  | CMU 207     | 1:20 p.m. |
| 107 | Kristi Rosholt       | MSUM's China Tour 2000   | Underground | 3:10 p.m. |
| 52  | Stephanie Rotz       | Academic Service Learning Across Disciplines   | CMU 208     | 2:50 p.m. |
| 35  | Mariya Rzaszutak     | Walleye Survival School: A Tool to Enhance Minnesota's Walleye Resource  | Poster Area | 1:00 p.m. |
| 131 | Paul Schaefer        | U2 Saving Rock?  | CMU 208     | 2:00 p.m. |
| 86  | Jamie Schwenn        | You Never Thought Negatives Could Be So Fun!   | CMU 200A    | 1:00 p.m. |
| 116 | Krista Shaw          | Analysis of Sick Leave Policy  | CMU 218     | 1:00 p.m. |
| 29  | Cheryl Sick          | PLCb is an Essential Intermediate in the Phenylephrine Stimulated Activation of NHE1 and ERK in Chinese Hamster Lung Cells   | CMU 203     | 2:50 p.m. |
| 52  | Ali Simmons          | Academic Service Learning Across Disciplines   | CMU 208     | 2:50 p.m. |
| 118 | Candace Simmons      | Measuring the Return to Work Decisions of New Mothers  | CMU 214     | 1:00 p.m. |
| 99  | Sean Simpson         | The Effects of Physically Violent Video Games on Males   | CMU 203     | 1:40 p.m. |
| 29  | Rachael Smith        | PLCb is an Essential Intermediate in the Phenylephrine Stimulated Activation of NHE1 and ERK in Chinese Hamster Lung Cells   | CMU 203     | 2:50 p.m. |

| #   | Name              | Title  | Room          | Time      |
|-----|-------------------|--|---------------|-----------|
| 108 | Susan Sorenson    | Prairie Planting Partnerships: Indoor Germination Experiments  | CMU 101       | 1:00 p.m. |
| 94  | Susan Sorenson    | Neuroscience Laboratory and Classroom Activities   | Kise Line "D" | 2:00 p.m. |
| 11  | Brandy Spitzer    | Prescribed Burn of MSUM Regional Science Center's Buffalo River Site   | CMU 121       | 3:10 p.m. |
| 128 | Brandy Stearns    | Our Endangered Past: Preserving Cultural Heritage through Archaeology  | Poster Area   | 1:00 p.m. |
| 100 | Alissa Stein      | How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer   | CMU 216       | 1:20 p.m. |
| 111 | Jamie Stollenwerk | Preoccupation of Death   | Poster Area   | 1:00 p.m. |
| 133 | Breann Stoltz     | 1 Adrenergic Receptor Activation   | Poster Area   | 1:00 p.m. |
| 56  | Mary Suomala      | Russian and Finnish Relations: Yesterday and Today   | CMU 218       | 2:50 p.m. |
| 126 | Fumi Suzuki       | Embarrassability in Cultural Context: Difference Between U.S. and Japan  | Poster Area   | 1:00 p.m. |
| 52  | Leslie Swanson    | Academic Service Learning Across Disciplines   | CMU 208       | 2:50 p.m. |
| 96  | Dean Swenson      | BSCS - The Human Genome Project: Biology, Computers and Privacy  | CMU 227       | 3:10 p.m. |
| 36  | Aaron Sykes       | Comparative Analysis of Wash Effectiveness at Reducing-Colony Forming Units on Produce   | Poster Area   | 1:00 p.m. |
| 41  | Amy Tangen        | Magazine Advertisements and Their Effect on Women  | Poster Area   | 1:00 p.m. |
| 87  | Janice Terfehr    | Insane Integers  | CMU 200A      | 1:30 p.m. |
| 33  | Travis Thiel      | Odor-Induced Strike Behavior by Game Fish  | Poster Area   | 1:00 p.m. |
| 111 | Paula Thieschafer | Preoccupation of Death   | Poster Area   | 1:00 p.m. |
| 79  | Deanna Thompson   | A Research Proposal: Movements and Habitat Use by Female Painted Turtles ( <i>Chrysemys picta</i> ) in Western Minnesota   | Poster Area   | 2:30 p.m. |
| 64  | Roy Thomsen       | Economic Impact of Sports Facilities   | CMU 207       | 2:50 p.m. |
| 28  | Hillary Thronson  | Lysophosphatidic Acid and Phenylephrine Alter the Kinetic Characteristics of NHE1 in CCL39 Cells   | CMU 203       | 2:30 p.m. |
| 100 | Teri Tolk         | How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer   | CMU 216       | 1:20 p.m. |
| 108 | Holly Triska      | Prairie Planting Partnerships: Indoor Germination Experiments  | CMU 101       | 1:00 p.m. |
| 147 | Melissa Trout     | The Suppression of Hope: Irish Anti-Nationalist Themes in W.B. Yeats' Cathleen Ni Houlihan   | CMU 200A      | 3:10 p.m. |
| 7   | Melissa Tuset     | Regulation of Microtubule Assembly by MAPK Activity  | CMU 203       | 3:30 p.m. |
| 102 | Pat Tweeter       | A Prairie Home Companion at MSUM: Poetry and Music from ED 310   | CMU 216       | 1:40 p.m. |
| 26  | Susan VanCamp     | SCAN Test Results from the MSUM Central Auditory Processing Disorders Clinic   | Poster Area   | 1:00 p.m. |
| 18  | Jessica Varone    | Sports et Divertissements: A Compilation of Art, Literature, and Music   | CMU 216       | 1:00 p.m. |
| 88  | Angela Varriano   | NIH Curriculum   | Kise Line "D" | 1:00 p.m. |
| 99  | Casandra          | Vigesaa-Disse The Effects of Physically Violent Video Games on Males   | CMU 203       | 1:40 p.m. |
| 119 | Julie Vogel       | Protein-Protein Interactions of Citrate Synthase & Malate Dehydrogenase  | Poster Area   | 1:00 p.m. |
| 73  | Julie Vogel       | Evolution of the C4 photosynthetic pathway from C3 plants: The non-photosynthetic C3 ancestral form of the C4 photosynthetic pathway enzyme, pyruvate, orthophosphate dikinase, is also light regulated in leaves of C3 plants | Poster Area   | 2:30 p.m. |

| #   | Name              | Title   | Room        | Time      |
|-----|-------------------|---|-------------|-----------|
| 104 | Marti Volk        | Prader-Willi Syndrome: Behavior, Communication, Observation   | Poster Area | 2:30 p.m. |
| 76  | Justin Voog       | Epidermal Growth Factor Receptor Transactivation is Necessary for the Stimulation of Extracellular Signal-Regulated Kinase  | Poster Area | 2:30 p.m. |
| 72  | Adam Vossen       | Is photosynthetic electron transport linked to activation of pyruvate, orthophosphate dikinase (PPDK) in chloroplasts of plants possessing the C3 photosynthetic pathway? | Poster Area | 1:00 p.m. |
| 24  | Valerie Waldock   | Target Market Social Movement Analysis  | CMU 214     | 1:40 p.m. |
| 52  | Meghan Watkin     | Academic Service Learning Across Disciplines  | CMU 208     | 2:50 p.m. |
| 83  | Lisa Watkins      | Predicting Energy Consumption in Moorhead, MN   | CMU 207     | 2:00 p.m. |
| 127 | Troy Weber        | Building the \$10,000 Home Studio   | CMU 204     | 2:50 p.m. |
| 100 | Katy Wefel        | How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer  | CMU 216     | 1:20 p.m. |
| 22  | Mike Welken       | Issues in Terrorism in the 21st Century   | CMU 204     | 1:45 p.m. |
| 32  | Kaila Wells       | Production of American Steel: A Regression Study  | CMU 207     | 1:00 p.m. |
| 120 | Emily Wendell     | Positive & Practical Affects of Theatre for Anyone's Everyday Life  | CMU 208     | 1:00 p.m. |
| 111 | Sara Wiederholt   | Preoccupation of Death  | Poster Area | 1:00 p.m. |
| 80  | Heidi Williams    | Towards a Greater Understanding of Catalysis in Water   | Poster Area | 1:00 p.m. |
| 49  | Mistte Wingenbach | Internet Sales Tax  | CMU 207     | 1:40 p.m. |
| 102 | Monica Winter     | A Prairie Home Companion at MSUM: Poetry and Music from ED 310  | CMU 216     | 1:40 p.m. |
| 48  | Eric Winter       | Expression and Identification of Pyruvate, Orthophosphate Dikinase Regulatory Protein for Sequencing  | Poster Area | 2:30 p.m. |
| 145 | Tammie Yak        | Social Work Practice with a Refugee   | CMU 200A    | 2:30 p.m. |
| 93  | Dana Young        | Aquatic Wild Curriculum   | CMU 205     | 2:00 p.m. |
| 59  | Rhonda Zacharias  | Fetal Alcohol Syndrome: An Assessment of Physical, Behavioral and Communications Characteristics  | Poster Area | 1:00 p.m. |
| 78  | Candice Zemlicka  | Factors Influencing Successful Turkey ( <i>Meleagris gallopavo</i> ) Reintroduction in Minnesota: A Literature Review   | Poster Area | 2:30 p.m. |



# Abstracts

---

1

**Title:** Problems and Potentials of Developing Nations: A Kenyan Case Study

**Presenter(s):** September Luitjens, Chris Kauffman

**Department:** Anthropology & Earth Science

**Advisor:** Dr. Bruce Roberts

**Abstract:** Developing nations around the world face a number of difficulties in the process of development. Poverty, unavailable health care, stressed education systems, gender inequalities, and especially instability in the government face all developing nations. Many brave people give their lives to help the establishment of their independent nation. Last summer we were part of a study-tour of the Republic of Kenya. We will attempt to take these issues and bring them off of the television and books to the MSUM campus. We will show the people working and striving to have a happy life for themselves, their families, and their communities.

2

**Title:** Factors Involved in Punishment and Reward Rationales

**Presenter(s):** Trisha Daigle

**Department:** Psychology

**Advisor:** Dr. Ernest Hallford

**Abstract:** This study examined punishment and reward rationales for criminal versus meritorious behaviors of a stranger versus a friend. There was no effect for social relation, but retribution was rated highest for the crime and promoting good will was highest for the meritorious behavior.

3

**Title:** It's Not Child's Play: The Effects of Civil Wars on Children

**Presenter(s):** Heather Ehrichs

**Department:** Humanities

**Advisor:** Dr. Konrad Czysynski

**Abstract:** Although the majority of the American people have never personally observed the horrors of warfare, our history shares a common bond with those nation-states currently suffering from ongoing conflicts. This bond is the damage done to children who have been exposed to the wars adults create. The goal of this paper is to give the voices of children who suffered in conflicts (past and present) an opportunity to express the need for peace in the near future.

With this paper, I examine how children are psychologically, physically and socially affected when their environment is saturated with violent conflicts. In doing so I offer a comparison between the affects war had on the lives of five children who lived during the American Civil War and a few who the UN children's organization, UNICEF, interviewed in 1996 study. The parallels of these accounts proves that it is not the society or the country that results in this anguish but the institution of war itself.

By connecting the American Civil War with those wars still being waged, it is my goal to instill in the reader that the damage that was done to children during our own Civil War is still very much a reality. The numbers of children who are currently suffering in other countries far exceed those who suffered during the American Civil War. I show the rise of child participation in these conflicts and the drop in current minimum age requirements for active child participation in violent conflict.

The last point that is used to show a need for peace in this paper is the length of time that these conflicts are allowed to go on without resolution. The American Civil War lasted five years less than current ongoing conflicts and resulted in a peace that strengthened the nation-state. Peace is the only way to assure that children of the future are no longer exposed to the wars that surround them. The longer we, as members of the international community, allow these conflicts to be fought, more children will suffer the irreversible damage caused by war.

4

**Title:** Close

**Presenter(s):** Kara Miller

**Department:** Art

**Advisor:** Dr. Donald Clark

**Abstract:** I would like to display a conglomeration of original photographs. The collection displays personal style and a glimpse at the experimentation within black & white photography processes.

5

**Title:** The Tritone Paradox as Perceived by Korean Listeners

**Presenter(s):** Kara Miller

**Department:** Psychology

**Advisor:** Dr. Magdalene Chalikia

**Abstract:** A pattern of octave-complex tones, with the tones related by a tritone interval, is heard as descending or ascending, on the basis of an individual pitch class template. Results of Twenty Korean bilingual listeners presented with tritone stimuli will be compared with those of American monolingual listeners.

## 6

**Title:** Who Wants to Study a Millionaire

**Presenter(s):** Sonia Balliet, TaShana Huson-Snyder, Elizabeth Nawrot

**Department:** Psychology

**Advisor:** Dr. Elizabeth Nawrot

**Abstract:** Paralinguistic cues in the television program "Who Wants to be a Millionaire?" were studied. Study 1 investigated the host's tone of voice. It was hypothesized that subjects could use information from voice alone to guess the correct answer to a question more often than predicted by chance. Results showed that subjects were no better than chance at using visual and auditory cues. Study 2 investigated the nature of the host's prompting behavior. It was hypothesized that the longer the delay between a contestant's first response to a question and the host's reply, the more likely that the host would prompt the contestant to change their answer. It was found that the mean delay associated with prompts to keep a response was significantly shorter than the mean delay associated with prompts to change a response. The conclusion is that paralinguistic cues are available and could potentially affect contestants' behavior.

## 7

**Title:** Regulation of Microtubule Assembly by MAPK Activity

**Presenter(s):** Zulmarie Ortiz, Melissa Tuset

**Department:** Biology

**Advisor:** Dr. Ellen Brisch

**Abstract:** Microtubules (MTs) are an important cytoskeletal element found in most eukaryotic cells. In dividing cells, MTs form the mitotic spindle which rapidly and accurately segregates the replicated chromosomes to the opposite sides of the dividing cell. How cells control the assembly of the mitotic spindle has intrigued biologists for many years. The study of mitotic spindle assembly is a critical area of cancer research. Cells that are unable to segregate DNA into new cells will fail to divide. Thus identifying mechanisms or targets that regulate microtubule assembly may provide us with new strategies for halting division in cancerous cells. Sea urchin eggs are an excellent model system in which to study spindle assembly. Eggs are easily obtained from mature female sea urchins. These eggs provide an excellent source of clean protein suitable for microtubule protein preparations. Sea urchin eggs can be fertilized in vitro and will assemble into functioning mitotic spindles.

The regulation of microtubule assembly is currently thought to be controlled by the protein phosphorylation/dephosphorylation of Microtubule Associated Proteins (MAPs). These proteins bind to, copurify with and stabilize MTs. When MAPs become phosphorylated they lose their affinity for MTs, fall off and the MT shrinks. Thus MAPs can modulate the assembly/disassembly of MTs. Previous work has identified 44kD and 48 kD microtubule copurifying proteins as potential phosphorylation targets. The molecular weights of these proteins are suggestive of MAP Kinase (Mitogen Activated Protein) members. These family members, also called ERKs (Extracellular Receptor Kinases) play important roles in growth and mitogenic (potential cancer causing) pathways. Immunoblot analysis of sea urchin microtubule protein from our lab indicates that MAPK family members do indeed purify with MTs. Our goal is to determine how these MAP Kinase family members regulate cell division and spindle assembly.

## 8

**Title:** Developing Cell Motility Assays to Investigate the Role of Myosin in Cell Movement

**Presenter(s):** Dr. Ellen Brisch, Damian Holznagel, Kelsey Foldsey

**Department:** Biology

**Advisor:** Dr. Ellen Brisch

**Abstract:** Cell movement is an essential process required throughout our lives. Embryonic cells must move and position themselves correctly; this insures that we develop with correct body parts in correct places. White blood cells move throughout our system to monitor for and remove infectious agents. Fibroblast and other cells move about in order to heal our wounds. Cell movement also facilitates the spread of cancer cells. Thus understanding how cells move is a key area of cell biology. Dictyostelium discoideum has emerged as an excellent model system for studying cell movement. These slime mold cells exist as free-living amoebae during times of plentiful nutrition. When food supplies decline, thousands of these individual amoebae move towards a central cell, join together and eventually produce spores that are then able to withstand rigorous periods of drought and starvation.

Cell movement requires the coordinated sliding of actin filaments by myosin motor proteins. We are interested in identifying how myosin motor proteins function in cell movement. Our approach is to use directed gene deletion techniques in order to remove myosin genes from wild type Dictyostelium cells. We are performing these gene deletions by transforming the pDTb9R vector (kindly provided by Margaret Titus, UMTC) into Dictyostelium cells. In order to evaluate these transfected cells we are developing a series of cell motility assays. These include phototaxis, chemotaxis and Cell Tracker (Molecular Probes) CMFDA staining. By comparing our myosin mutant cells with wild type cells we hope to gain an understanding of how myosin plays a role in coordinating cell movement.

9

**Title:** International Criminal Tribunal and the Rwandan Genocides

**Presenter(s):** Jill Brendemuhl

**Department:** History

**Advisor:** Dr. Dieter Berninger

**Abstract:** This paper is a study of the Rwandan Genocide and the creation of the International Criminal Tribunal for Rwanda. It begins with looking at the history of Rwanda and its political issues which include the Tutsi and the Hutu peoples. In the early 1900's Rwanda was a colony of Germany and was placed under Belgian jurisdiction in 1919. Initially the Tutsi minority were the power holders in Rwanda, and then in 1959 the Rwandan government was taken over by the Hutu majority who in turn oppressed the Tutsi. The machete genocide then began on April 6, 1994 when president Habyarimana was killed in a plane crash. This 100-day genocide is one of the shortest genocides in history but 800,000 Tutsi and Hutu moderates were violently murdered. In July 1994 the genocide came to a temporary halt. Then on December 8, 1994 the ICTR was created to bring justice to the Tutsi people that had been victimized. Today, the ICTR is still working on bringing the accused to trial.

10

**Title:** Circular-Flow Diagram in Market Economy

**Presenter(s):** Iryna Kolodchak

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

11

**Title:** Prescribed Burn of MSUM Regional Science Center's Buffalo River Site

**Presenter(s):** Brandy Spitzer, Jeffrey Erickson

**Department:** Regional Science Center

**Advisor:** Tony Bormann

**Abstract:** The MSUM Regional Science Center completed a prescribed burn this past fall 2001 with the help of MSUM Principles of Ecology and Evolution and Wildlife Ecology students. We will highlight prescribed burn technique and theory, and fire behavior. We will share our experiences in participating in the prescribed burn and how it has benefited us as Life Science Education majors at MSUM.

Fire is an essential dynamic in maintaining prairie ecosystem diversity. Fire eliminates invading brush and trees and reduces the number of non-native weeds, thus favoring the regeneration of native grassland species. In addition, fire reduces dense, dead vegetative cover, exposing the soil to sunlight and nutrients. Finally, fire converts dead, dry plant material to ash, returning nutrients to the soil. In the past, natural fires maintained prairie diversity, but today humans must participate in prescribed burns to preserve the prairie's unique structure and diversity.

12

**Title:** Women in Economics, Discrimination or Choice

**Presenter(s):** Cori Otto

**Department:** Economics

**Advisor:** Dr. Vernon Dobis

**Abstract:** In this presentation, I will discuss the absence of women in the academic field of economics. I will focus on whether this absence is due to discrimination in the field or if it is due to the choices women make at both the undergraduate level and the graduate level.

13

**Title:** The Fundamental Structure of Programming

**Presenter(s):** Chin Git NG

**Department:** Computer Science and Information Systems

**Advisor:** Dr. Michael Haugrud

**Abstract:** My presentation will focus on the three basic components of programming: sequence, selection and iteration.

14

**Title:** Comparison of Lists Implementation

**Presenter(s):** Chin Git NG

**Department:** Computer Science and Information Systems

**Advisor:** Dr. Daniel Brekke

**Abstract:** I will introduce the data structure of Array-Based List, Singly Linked Lists, Doubly Linked Lists and Circular Linked Lists (Singly and Doubly).

15

**Title:** A Thinking Game: Two and One

**Presenter(s):** Chin Git Ng

**Department:**

**Advisor:** Dr. NG Geok Lian

**Abstract:** In this presentation, I will demonstrate how to play Two and One chess game.

16

**Title:** A Clarification of Birth Order Effects on Juvenile Delinquency

**Presenter(s):** John Lyon

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** The research on Birth Order and Juvenile Delinquency is mixed. Some of the research links delinquency with first borns, others with later borns. Similar results have been seen in the study of Extroversion and birth order. A close analysis of the data showed that the operational definition of Extroversion caused the confusion. Similarly with delinquency there is a difference between a youth assaulting and injuring another and a youth engaging in recreational drugs with friends. The first is an act of aggression or assertiveness, a first born trait. The second is an act of cooperation and sociability, a later born trait. Therefore I am hypothesizing that if we test for birth order effects on crimes ranked either high on an assertiveness/aggressiveness scale or high on a sociability/group activity scale we will see clear effects.

## 17

**Title:** The Effect of Emotional Context in a Stroop-Like Task

**Presenter(s):** Arthur Chewakin

**Department:** Psychology

**Advisor:** Dr. Ernest Hallford

**Abstract:** The Stroop Effect proposes that when a literate individual attempts to selectively attend to the color of the ink in which a color-word is portrayed rather than the word itself, the individual becomes psychologically confused (Sternberg, 1999; c.f., MacLeod, 1991). In this study, the basic format of the Stroop Effect was applied with the exception that words versus X's were used instead of the traditional color descriptive words. Furthermore, the backgrounds on which the words were cast depicted scenes of a gruesome accident, a smiling young child, or a neutral white background.

It is usually thought that the Stroop task is largely automatic, hence it should be independent of emotional effects. However, phobic participants in a Stroop-like task in which phobia-related words were used had significantly slower response times to phobia versus neutral words (MacLeod, 1991). Nevertheless, it is unclear whether similar effects would exist in the general population. Moreover, the well-known "perceptual defense" phenomenon suggests that the general population is sensitive to some aspects of emotionality in a cognitive task. Thus one purpose of the present experiment was to examine this issue further.

The foregoing types of research have mainly focused on verbally based materials, thus it is not clear whether similar effects would appear when emotionality is varied in the background rather than in the words themselves. Certainly visual stimuli are usually far more compelling than verbal. Hence, an emotionally charged background should significantly hinder participant's RT. However, it's not clear whether negative versus positive backgrounds would differ in their effects, although it seems reasonable based on the foregoing verbal tasks to expect that negative would be slowest.

**Procedure:** Thirty-seven undergraduate students participated in exchange for course credit. Two repetitions (sixteen actual words versus X's) of three backgrounds (negative, positive, neutral) were shown. Each participant was asked to name the color of ink in which a sequential group of words or X's were printed.

**Results and Conclusions:** It's commonly found RT for the Actual Word condition was significantly slower than X's,  $F(1, 36) = 44.279, p = .000$ . More importantly, type of background also significantly affected RT,  $F(2, 27) = 28.793, p = .000$ . The negative background was considerably slower (Mean 9.5 sec) than were the other two backgrounds in each condition, 8.75 sec for positive and 8.2 sec for neutral. Clearly emotionally charged backgrounds, strictly speaking, disrupt participant's efforts to selectively maintain attention in a Stroop-like task.

## 18

**Title:** Sports et Divertissements: A Compilation of Art, Literature, and Music

**Presenter(s):** Jessica Varone

**Department:** Music

**Advisor:** Dr. Eric Hung

**Abstract:** By examining Erik Satie's collection of twenty-one piano miniatures entitled, Sports et Divertissements, I will explain the important contributions Satie has made to the interrelation of the arts as a whole. This work is perhaps the best example of Satie's unusual, yet innovative, compilations of art, music, and prose. Beginning with his participation in the anti-impressionist movement of the time, I will trace the integration of art into his musical works, specifically as it applies to Sports et Divertissements. This will include a brief history of his relations with various artists and writers and their influence on his composition. I will explore similarities of his music to the artistic styles of the early twentieth century, as well as trace his literary interests as they relate to his compositions. Questions I hope to answer include: What are Satie's views of artistic movements of his time, and what is Satie's ultimate goal in forming such a collage of artistry into one piece of music?

## 19

**Title:** The Fiction of the Seeing Eye in Conrad's Heart of Darkness

**Presenter(s):** Leslie Knudson

**Department:** English

**Advisor:** Dr. Padmaja Challakere

**Abstract:** "The Fiction of the Seeing Eye in Conrad's Heart of Darkness" examines and explores the narrative authority of Marlow in Joseph Conrad's Heart of Darkness. The limitations of Marlow as narrator arise from his vantage point embedded in English ideals which consequently, largely ignores the African perspective. The paper also examines the forms of evil that Marlow witnesses in the Europeans and his reactions to their behavior. Marlow represents the phenomenon of "seeing versus truth" in which objectivity is impossible as the story becomes filtered through the eyes of the seer.

## 20

**Title:** Improving Tax Education in the University Curriculum

**Presenter(s):** Holly Jorud

**Department:** Accounting

**Advisor:** Dr. Mary Bader

**Abstract:** This presentation addresses the environment of tax law and how its numerous changes affect student's ability to acquire basic tax information in university introductory tax classes. It proposes that universities should consider restructuring these introductory tax classes into two semesters and suggests a curriculum for these classes. This conclusion is reached through an assessment of personal experiences, the changing tax law, and opinions of students and employers.

## 21

**Title:** Seeing Beneath the Surface: Exploring the Historic Past with Geophysical Technology

**Presenter(s):** Jennifer Hawkinson

**Department:** Anthropology & Earth Sciences

**Advisor:** Dr. Rinita Dalan

**Abstract:** Geophysical technology can be applied in archaeological investigations to provide a picture of subsurface deposits. A prototype magnetic susceptibility logger designed for archaeological application provides a relatively non-invasive means for identifying and exploring buried sites and cultural deposits. After field-testing at an Early Plains Archaic site, this instrument was used at a historic site in northwestern Minnesota where it successfully identified areas of artifact concentration and soil transition.

## 22

**Title:** Issues in Terrorism in the 21st Century

**Presenter(s):** Sarah Phillips, Brianne Peterson, Nicole Bergeron, Mike Welken

**Department:** Political Science

**Advisor:** Dr. Andrew Conteh

**Abstract:** Sarah Phillips, Nicole Bergeron, Brianne Peterson and Mike Welken will discuss terrorism issues of the twenty-first century. The group will focus primarily on terrorism in national liberation movements, and the use of biological and chemical weapons.

## 23

**Title:** Women in Literature

**Presenter(s):** Kilee Kadrie, Carol Kahle, Deb Kvittum

**Department:** English

**Advisor:** Dr. Hazel Retzlaff

**Abstract:** We will present four papers examining women in American literature. Charisse Cobler's "Male Domination From Afar," represents the treatment of women in the Victorian Age by comparing the works of Henry James' *Turn of the Screw* and Charlotte Gilman's "The Yellow Wall-Paper." Kilee Kadrie's "Society Strangles Them Off: Women's Descent into Madness," observes societal structures failing the women in Charlotte Perkins Gilman's "The Yellow Wall-Paper" and Kate M. Cleary's "Feet of Clay," and ultimately causing their mental ruin. In "Nuns, Liberation, and Negation," Carol Kahle examines the onsequences of renunciation in the private and public lives of two women, one in a New England village, the other in the midst of the Mexican revolution. Deb Kvittum's paper, "Emily Dickinson: The Limitations of Science and Religion," explores how Dickinson goes beyond the boundaries of women's traditional themes into areas usually reserved for men, concluding that both science and religion fall short of adequately explaining the human condition.

## 24

**Title:** Target Market Social Movement Analysis

**Presenter(s):** Valerie Waldock

**Department:** Speech & Theatre

**Advisor:** Dr. Timothy Borchers

**Abstract:** The project that I am submitting to the Student Academic Conference is a social movement theory that I developed explaining how top down social movements use persuasion. Through research, I found that although there is a wealth of literature about social movements, there are no theories to explain how top down social movements use persuasion. In light of this I analyzed the mobilization process of Target Market, a youth movement that is working to combat the influence of big tobacco on youth. In my study I define Target Market as a top down social movement, discuss mobilization strategies used by Target Market, and draw implications of the study.

## 25

**Title:** Cohabitation

**Presenter(s):** Amy Bellefeville, Ursula Hermanson

**Department:** Speech & Theatre

**Advisor:** Dr. Scott Titsworth

**Abstract:** (No Abstract Submitted)

## 26

**Title:** SCAN Test Results from the MSUM Central Auditory Processing Disorders Clinic

**Presenter(s):** Susan VanCamp, Amy Fagerlie

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** We will define the normal development and skills of auditory processing. We plan to look at ten subjects' SCAN test results to detect the deficiencies in their auditory processing abilities. We will graph the results of our findings. Our purpose is to review how subjects' tested in the Minnesota State University Moorhead Central Auditory Processing Disorders clinic compare to the normed population.

## 27

**Title:** Stealthy Sniffing: Behaviorally Augmented Olfaction in Risk Assessment

**Presenter(s):** Joe Mullins, Oscar Noriega

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Predation is the grim reaper of natural selection. In aquatic environments, prey use chemical cues to detect and avoid predators. Chemical assessment requires water movement past the chemoreceptors in the external nares (nose) of fish. Because movement attracts predators, prey are presented with a behavioral conflict when assessing predation risk: how to assess predation risk without attracting the predator's attention. In this experiment we measured two different strategies used by fish to increase their awareness of chemical cues without gross motor movement. Darters live on the bottom. In response to risk they arch their noses into the water column to better access chemical information in the main flow. Characins, which typically reside in the water column, cease all movement and hover in the water column and engage in "fin flicking". This behavior fans water past their nose while keeping the body stationary. It is hypothesized that these strategies help prey species assess risk without significantly increasing their risk to predation.

## 28

**Title:** Lysophosphatidic Acid and Phenylephrine Alter the Kinetic Characteristics of NHE1 in CCL39 Cells

**Presenter(s):** Hillary Thronson, Genny Clausen.

**Department:** Biology

**Advisor:** Dr. Mark Wallert

**Abstract:** The Na<sup>+</sup>-H<sup>+</sup> exchanger isoform 1 (NHE1) regulates changes in intracellular pH (pHi) in various cell types. The exchanger is activated in two ways, by increases in the intracellular H<sup>+</sup> concentration (and thereby decreasing pHi), or by the activation of intracellular signaling pathways by hormones and neurotransmitters. NHE1 in Chinese hamster lung cells (CCL39) is activated in a dose-dependent manner by two agonists: phenylephrine (PE) and lysophosphatidic acid (LPA). NHE1 activation is analyzed using changes in pHi the addition of an agonist. Addition of 100mM PE causes a pHi increase of 0.12 +/- 0.03 units, while addition of 100mM LPA leads to an alkalization of 0.42 +/- 0.05 pHi units. To establish whether PE and LPA similarly alter the kinetic characteristics of NHE1, the pHi-dependence of the transporter was measured for pHi values ranging from 6.5 to 7.0. First, buffer capacity was measured over the aforementioned pHi range. Significant variation was discovered. The buffer capacity at pHi 6.5 was 30.1 mmol H<sup>+</sup> / liter cell water, and the buffer capacity at pHi 7.0 was 60.4 mmol H<sup>+</sup> / liter cell water. Second the rate from an intracellular acid load was measured in the presence and absence of an agonist. Both PE and LPA caused a shift in the pHi-dependence of NHE1 transporter in the alkaline direction. This is indicative of an alteration in the H<sup>+</sup>-sensing region of the transporter.

## 29

**Title:** PLCb is an Essential Intermediate in the Phenylephrine Stimulated Activation of NHE1 and ERK in Chinese Hamster Lung Cells

**Presenter(s):** Cheryl Sick, Rachael Smith

**Department:** Biology & Chemistry

**Advisor:** Dr. Mark Wallert

**Abstract:** Activation of the Na<sup>+</sup> - H<sup>+</sup> Exchanger (NHE1) in Chinese Hamster lung cells (CCL39) has been linked to a variety of hormones, growth factors, and oncogenes. Lysophosphatidic acid (LPA), acting through a G protein linked receptor, has been shown to stimulate NHE1 activity. Another G protein linked receptor found to cause activation of NHE1 is the  $\alpha$ 1-adrenergic receptor. When phenylephrine (PE), a specific  $\alpha$ 1-adrenergic agonist, is added to CCL39 cells, NHE1 is activated. Traditionally the  $\alpha$ 1-adrenergic receptor functions at least in part through the action of phospholipase Cb (PLCb). To determine the role of PLCb in Erk and NHE activation, three cell lines were studied. CCL39 cells served as wild type cells, while 2A-4b and D1-9b cells served as the PLCb deficient cell lines. In CCL39 cells, addition of 100  $\mu$ M PE caused an increase in steady-state pHi of 0.12 +/- 0.03 pH units. 100 nM phorbol myristate-acetate (PMA) similarly increased pHi 0.15 +/- 0.03. In the presence of amiloride, agonist addition caused no increase in pHi. Increase in pHi is thus attributed to the activation of NHE1. In the 2A-4b cells, 100  $\mu$ M PE addition caused a pHi increase of only 0.04 +/- 0.02 pH units, while PMA remained at 0.12 +/- 0.02 pH units. The D1-9b cells showed a similar pHi increase of 0.05 +/- 0.02 pH units upon 100  $\mu$ M PE addition, and a PMA increase of 0.13 +/- 0.03 pH units. Similar results were obtained in parallel studies, showing PMA stimulated Erk to the same levels in all three cell lines, while PE activation of Erk was dramatically decreased in the 2A-4b and D1-9b cells. These data strongly support a PLCb-dependent pathway in which PE activates Erk and NHE1.

### 30

**Title:** Gwiz High Expression Vector Provides Superior Transfection Efficiency and Protein Expression in Chinese Hamster Lung Cells

**Presenter(s):** Alison Metcalf, Brad Moran

**Department:** Biology & Chemistry

**Advisor:** Dr. Mark Wallert

**Abstract:** The ability to alter the genetic makeup of mammalian cells has become one of the centerpieces of biomedical research and the biotechnology industry. A variety of methods are employed to insert DNA, RNA and proteins into cells. One common mechanism is to use a mixture of cationic and neutral lipids to transfer DNA across the plasma membrane. These cationic lipid mediated transfection methods currently yield the highest transfection efficiency obtainable in eukaryotic cells. This project investigated the ability of the Gwiz High Expression Vector to insert the gene for green fluorescent protein (GFP) and cause the protein to be expressed at high levels in Chinese hamster lung cells. Fugene-6 was used as the lipid transfection reagent. Initially, we optimized the transfection of Gwiz GFP using Fugene-6 by testing various quantities of DNA, ratio of transfection reagent to DNA, and the presence or absence of serum and antibiotics. Optimal transfection occurred using 7.5 µg of DNA with a 3:2 ratio of Fugene-6 to Gwiz GFP and no serum or antibiotics present. Under these conditions nearly 60% of cells in the culture expressed GFP within 48 hours. Next we compared the transfection efficiency and protein expression of Gwiz GFP to another commercially available transfection reagent. Gwiz GFP had a transfection efficiency of nearly 60% while the competitors DNA vector only obtained 10% transfection efficiency. This was accompanied by a dramatic increase in protein expression.

### 31

**Title:** Parties and Interest Groups in the 2000 Election

**Presenter(s):** Nicole Bergeron, Michelle Redepenning, Brianne Peterson

**Department:** Political Science

**Advisor:** Dr. Barbara Headrick

**Abstract:** Nicole Bergeron, Brianne Peterson, and Michelle Redepenning will discuss the various roles that political parties and interest groups played in the 2000 election. Dr. Barbara Headrick will mediate the discussion.

### 32

**Title:** Production of American Steel: A Regression Study

**Presenter(s):** Kaila Wells

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** This paper is a regression study of the production of American integrated steel. It starts with an historical look at the markets of U.S. steel for the past century and how changes in the economy have affected production. The regression equation is meant to predict the effect the markets of steel (like automobiles) and outside factors (imports, energy prices) have on U.S. production. The study also includes tests on the significance of the regression and conclusions of the paper.

### 33

**Title:** Odor-Induced Strike Behavior by Game Fish

**Presenter(s):** Travis Thiel

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Fish use smell to find food, avoid predators and in courtship and spawning. We tested if minnow chemical alarm cues are more effective in attracting predators (pike, walleye, bass) than alarm cues of a tropical fish, or no alarm cues at all. We used wind-powered ice fishing tip-ups baited with a small jig lure and a small block of sponge. Sponges were soaked in either skin extract of fathead minnows *Pimephales promelas*, convict cichlids (*Cichlasoma (Archocentrus) nigrofasciatum* a tropical fish) or water (to control for the scent of the sponge and the absence of any injured fish cues). We recorded the number of times the tip-up flag was released for each sponge type. We found that tip-ups baited with minnow scent received significantly more visits than either cichlid scent or water. The data indicate that smell influences a predator's decision to attack a lure, and that minnow cues are significantly more likely to induce an attack than general cues released from an injured fish. These findings support predictions from alarm signaling theory and may lead to the development of a commercial attractant for the fishing industry.

### 34

**Title:** Cross-Curriculum Learning to Meet Minnesota Graduation Standards

**Presenter(s):** Timothy Erickson

**Department:** Mathematics

**Advisor:** Dr. Tim Harms

**Abstract:** Minnesota Graduation Standards require students to demonstrate knowledge through practical application and presentation of related material. In poster format, I will present abbreviated lesson plans that can be used in mid-level mathematics classes as well as industrial arts classes. The resulting student projects will meet Mid-level (grades 6-8) Content High Standards in three areas. These areas are Mathematical Applications-Space, Shape and Measurement; Applied Scientific Methods-Physical Systems; and Inquiry-Controlled Experiments.

### 35

**Title:** Walleye Survival School: A Tool to Enhance Minnesota's Walleye Resource

**Presenter(s):** Mariya Rzaszutak, Tonya Overbo

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Many aquatic animals do not inherently recognize their predators. Recognition is acquired. However, aquatic prey do inherently recognize injury-released chemical alarm cues from their own species as an indicator of predation risk. Predator recognition is acquired by associating predator cues (e.g., its odor) with injury-released alarm cues. This phenomenon has been well established for minnows and aquatic invertebrates. Here, we apply this knowledge to hatchery-reared walleye.

Hatchery fish are predator-naïve when stocked into lakes to enhance a local fishery. Losses to predation typically exceed 50% in the first year after stocking. In the first stage of a multi-part project, we attempted to establish 1) if walleye possess specialized skin cells that may contain alarm cues, 2) if walleye possess an aversive behavioral response to injured walleye skin, and 3) if juvenile walleye inherently recognize northern pike odor as an indicator of the presence of a predator, and 4) if walleye can use alarm cues in walleye skin to acquire recognition of pike. Preliminary results indicate that walleye possess epidermal club cells homologous to other percids (darters), and possibly analogous to ostariophysans (minnows). Behavioral observations are thus far consistent with an antipredator behavioral response to walleye skin extract. There was no indication of an inherent response to pike odor, but there was an antipredator response to pike odor following a single simultaneous presentation of walleye skin extract and pike odor. This project will continue next fall and ultimately lead to a field comparison of the survival of trained versus untrained walleye.

### 36

**Title:** Comparative Analysis of Wash Effectiveness at Reducing Colony-Forming Units on Produce

**Presenter(s):** Aaron Sykes, Damian Holznagel, Kristine Hakes, Lori Heitzman

**Department:** Biology

**Advisor:** Dr. Kathryn Wise

**Abstract:** The purpose of this experiment was to compare and evaluate different methods of washing produce. Washing solutions were tested to determine the effectiveness at removing microorganisms from produce. Two different washes were used in the experiment; Fit® household fruit and vegetable wash and a 9% bleach solution. These commonly used produce wash solutions were compared against washing with water alone. The washes were tested on broccoli and mushrooms to detect the number of colony-forming units (CFU's) per unit of surface area. The experiment was repeated and showed similar results for both produce types. The results suggested that Fit® was not more effective at reducing the number of CFU's on produce than washing with water alone. The bleach solution proved to be the most effective wash solution for reducing the number of CFU's per surface area on both produce types.

### 37

**Title:** Dark Matter in Spiral Galaxies

**Presenter(s):** Sara Jarolimek

**Department:** Physics & Astronomy

**Advisor:** Dr. Matthew Craig

**Abstract:** Most of the mass in and surrounding an individual galaxy is an exotic form of matter called dark matter. I am searching for a dark matter model that accurately explains and predicts structure on both large and small scales. The rotational motion derived from spectra of individual galaxies is used to deduce the structure of the dark matter halo of a galaxy. Using data collected by researchers at UC Berkeley, I will examine the structure of dark matter halos of a sample of spiral galaxies. This data will be compared to the structure predicted from simulations of dark matter halos. This comparison may yield insight into the nature of the dark matter.

### 38

**Title:** Having the Piss Scared Out of Them: Darters Sense Danger by Smelling Each Others' Urine

**Presenter(s):** Ashley Middleton

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Any mechanism that improves prey's ability to detect a predator benefit will be sharply promoted by natural selection. The probability of prey avoiding a predator's attack should increase if the predator's presence is detected at an early stage in the predation sequence. We studied disturbance cues in a series of experiments with darters (*Etheostoma* spp.). In the first experiment, we established that chemical cues released by disturbed darters invoke antipredator behavior in downstream darters. In the second experiment, we showed that a weak solution of ammonium chloride (to simulate a urine pulse) invokes similar antipredator behavior. In a third experiment, we showed that disturbed darters release a pulse of urinary ammonia. In a final experiment, we tested the olfactory sensitivity of darters to urinary ammonia and showed that the threshold sensitivity was sufficient for urinary ammonia to serve as a disturbance cue. This study suggests that darters release ammonia when disturbed and that other darters use this information as a form of early detection of predation risk.

### 39

**Title:** Nic Fit

**Presenter(s):** Samuel Heyn

**Department:** Speech & Theatre

**Advisor:** Dr. Theresa Carson

**Abstract:** A one-man show. The man recounts the events that occurred on the strangest, and in many ways the worst day of his life.



## 40

**Title:** Can Simple Flatworms Smell Whether Fish Ate Worms for Lunch?

**Presenter(s):** Jill Greenley, Tammy Lien, Aaron Hutcheson

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Aquatic animals use chemical cues to detect their predators. When a potential predator approaches, information about its predation threat benefit prey by allowing them to either initiate evasive behavior in the case of a clear threat, or to ignore the approaching individual in the case of no threat. There are moderate fitness penalties associated with fleeing from a zero-threat situation, but extreme fitness penalties for failing to recognize and respond when the threat is real and imminent. Past work has shown that minnows and insect larvae can detect predation risk by detecting chemical cues (or their metabolites) of their own species released from the digestive tract of the predator. Flatworms (Platyhelminthes, Turbellaria) are primitive animals with a 'brain' consisting of two cephalic ganglia. Previous work at MSUM showed that they avoid chemical cues from injured members of their own species and that they can use those cues to acquire recognition of novel predators. In this experiment we test if flatworms can smell the diet of a novel fish species. Convict cichlids were fed a diet of flatworms or flakes, and tank water from each diet type was then tested on naïve flatworms to see if they respond to the cues, and if they can then simultaneously acquire recognition of the fish's odor. It is hypothesized that although their brain is modestly endowed, predator recognition should be one of the first things to be promoted by natural selection.

## 41

**Title:** Magazine Advertisements and Their Effect on Women

**Presenter(s):** Amy Tangen, Olivia Mohs

**Department:** Mass Communications

**Advisor:** Dr. Susanne Williams

**Abstract:** Advertisements in women's magazines play a significant role in the socialization of women in the United States. The advertisements shown in popular magazines such as Cosmopolitan and Mademoiselle prove to be a guide for how woman act dress, and feel about themselves. We chose to look at ads from 1976 to present day to research how these images have shaped the social conception of womanhood. Woman are portrayed as sexual objects, passive, demure, childish, having objectified body parts, and are seen in unachievable roles. The key messages that came from our research deduce that advertising plays a huge role in how women perceive themselves and how they want the audience to perceive women.

## 42

**Title:** Asperger's Disorder: Differential Diagnosis, Social Behaviors and Effects on Educational Learning

**Presenter(s):** Anne Burgard, Corie Gronso

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** This project will present information about Asperger's Disorder. The three areas of focus for this project will include the differential diagnosis between Asperger's Disorder and Autistic Disorder, an observation of the social and behavioral functions of a child with Asperger's, and the effects the disorder has on educational learning.

## 43

**Title:** The Effects of Mood on Reaction Times of Females and Males

**Presenter(s):** Isabella Breiting

**Department:** Psychology

**Advisor:** Dr. Christine Smith

**Abstract:** The purpose of this study was to see whether being in a certain mood influences reaction time in choosing that same mood out of a small group of people. It was expected that people experiencing a very intense mood would more quickly choose that mood out of a group of four photographs. The results did not show a correlation between mood intensity and reaction time. With regard to prior research on gender, it was also expected that men would be faster to choose an angry face if they were in an angry mood, while women would be faster to choose a happy face if they were in either a happy or sad mood. This data was analyzed for difference between gender using a t-test and Pearson correlation matrix, neither which were significant.

## 44

**Title:** Determining Optimum Rents

**Presenter(s):** Susan Rose

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

## 45

**Title:** Photojournalism Gallery

**Presenter(s):** Ryan Hamner, Davina Doris, Asaimi Nagumo

**Department:** Mass Communications

**Advisor:** Dr. Regene Radniecki

**Abstract:** Photojournalism is a rather specialized way of looking at the world around us. Although it borrows techniques from many other photographic disciplines such as documentary, portraiture, fashion and commercial photography, it differs in that it is interpretive rather than representational. The display presentation will be a digital slideshow showing the work of 20 photojournalism students taken during the fall semester. The presenters will edit, prepare captions, digitally tone and arrange the images for the slideshow.

## 46

**Title:** A Critical Look at Web Information

**Presenter(s):** Lisa Klaudt

**Department:** Mass Communications

**Advisor:** Dr. Regene Radniecki

**Abstract:** The World Wide Web contains millions of pages of information on practically every conceivable topic. Anyone from a 10-year old elementary student to the leader of a country can be a Web publisher. And indeed they are. It is truly a democratic medium-a marketplace of ideas, if you will. In any publishing realm, however, it is possible for fiction, propaganda, and offensive, misleading or self-promotional information to be presented as fact. With all of the information available online, how can a Web surfer determine its credibility? This presentation will have two parts. The first will focus on techniques that Netizens can apply when surfing the Web for useful information (a sort of primer for critically looking at Web information), and the second part will demonstrate how anyone, even someone with limited resources, can publish on the Web.

## 47

**Title:** Synthesis of a Boron Containing Neuclocide for Boron Newtron Capture Theory

**Presenter(s):** Lisa Hansen, Michelle Johnson

**Department:**

**Advisor:**

**Abstract:** Boron, neutron capture therapy, BNCT, refers to the radiation generated from the capture of neutrons by boron nuclides. This radiation energy can be used to selectively destroy tissue and has been targeted towards the treatment of malignant tumors. The objective is to destroy tumor cells without damaging healthy cells. Our goal is to synthesize a DNA base, with several boron atoms incorporated. We have synthesized the starting material, tetrakis[dimethoxyboryl]methane. We will describe the reaction of the starting material with formamide and subsequent reactions to form the desired nucleoside.

## 48

**Title:** Expression and Identification of Pyruvate, Orthophosphate Dikinase Regulatory Protein for Sequencing

**Presenter(s):** Rebecca Mastel, Larry Louisiana, Eric Winter

**Department:** Biology

**Advisor:** Dr. Chris Chastain

**Abstract:** In the photosynthetic pathway of C4 plants, like corn, the enzyme pyruvate, orthophosphate dikinase (PPDK) plays a major role in regulating photosynthesis at a key step in the C4 photosynthetic pathway. PPDK is regulated by the enzyme pyruvate, orthophosphate dikinase regulatory protein (RP), which serves dual phosphatase/kinase roles thereby activating/deactivating PPDK. RP has proven to be hard to isolate for characterization, so not a great deal is known about its structure or functional properties. The isolation and sequencing of RP is presented using a novel double hybrid approach. The RP gene from a cDNA expression library serves as the prey in an E. coli cell line containing a PPDK clone as the bait. Colony screening confirms the presence of the prey construct and western blot immunoassay determines phosphorylation of PPDK by RP.

## 49

**Title:** Internet Sales Tax

**Presenter(s):** Mistte Wingenbach

**Department:** Accounting

**Advisor:** Dr. Mary Bader

**Abstract:** The question of whether or not to tax internet sales is one that is being heavily debated. The States want to collect the taxes to increase revenues and business don't want to go collect and remit the taxes if they don't have to. It is creating quite a controversy. Another question that comes up is how would the taxation of internet sales be carried out. The taxation of internet sales under our current system would be complex and burdensome, but steps need to be taken to promote equality.

## 50

**Title:** Infant Hearing Screening: Early Identification, Policy and Audiometric Procedures

**Presenter(s):** Robyn Hennessy, Laura Nyhus

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** Infant Hearing Screening: Early Identification, Policy, and Audiometric Procedures examines the role hearing plays in language development and the policy regarding newborn hearing screenings. Analysis of observations made at MeritCare Hospital in Fargo, ND demonstrates the electrophysiological procedures used to detect hearing loss in newborns. With legislation passed and/or pending in several states for the implementation of universal newborn hearing screening, this project emphasizes the importance of early identification and the consequences of late identification of infant hearing loss.

## 51

**Title:** Requirement of ERK 1/2 for NHE1 Activation by G-Protein Coupled Receptor Agonists

**Presenter(s):** Melanie Funfar

**Department:** Chemistry

**Advisor:** Dr. Joseph Provost

**Abstract:** The Na<sup>+</sup>/H<sup>+</sup> exchanger isoform 1 (NHE1) is a key regulator of intracellular pH (pHi) and cellular volume, and is found in nearly all mammalian cells. Alkalization of the intracellular pH, primarily by NHE1, is an early requirement for mitogenesis. The exchange activity of NHE1 is highly influenced by growth factors, hormones, and extracellular matrix proteins. Several G-protein coupled receptors, including alpha 1-adrenergic receptors, lead to the activation of NHE1 which may include mitogen activated protein kinases (MAPK). This study shows the relationship between G-protein coupled receptors, MAPK, and NHE1 in CCL-39 cells. Phenylephrine (PE) and Lysophosphotidic acid (LPA) stimulated both MAPK and NHE1. Activation of MAPK occurs in a dose and time dependent manner. Optimal MAPK activation was observed at ten minutes and displayed a maximum stimulation of 50 to 100 mM PE. Alpha 1-adrenergic stimulation (100 mM) also led to a rise in steady-state pHi of 0.12 +/- 0.03 pH units. High doses of anisomycin (100 mM for 30 minutes) activated both the specific MAPK isoform ERK and NHE1. Pre-treating the cells with the MEK inhibitor PD 098059 inhibited both PE and LPA stimulated MAPK phosphorylation and NHE1 transport. To further demonstrate the specificity of PE and LPA regulation of NHE1 and MAPK, CCL-39 cells were transfected with a dominant negative MEK Construct and modulation of NHE1 and MAPK activity was observed. These studies conclude that MAPK is directly involved in the G-protein coupled receptor activation of NHE1 in CCL-39 cells.

## 52

**Title:** Academic Service Learning Across Disciplines

**Presenter(s):** Dr. Lynn Harter, Melissa Carver, Judy Hendrickson, Ben Mattson, Leslie Swanson, Ali Simmons, Meghan Watkin, Stephanie Rotz, Katie Richardson, Laura Monfrooe

**Department:** Speech & Theatre

**Advisor:** Dr. Lynn Harter

**Abstract:** Students from various majors will share their experiences with service learning and its impact on their education.

## 53

**Title:** Food Manipulation: When is it Genocide?

**Presenter(s):** Casey Decker

**Department:** History

**Advisor:** Dr. Dieter Berninger

**Abstract:** The focus of my presentation is on how manipulation of a people's food supply can be a very effective weapon. In my paper I discuss the killing of the buffalo and its effect on Native Americans, England's role in the Irish Great Famine, and also the fate of the Ukrainian peasants under Stalin's rule. In all three cases the manipulation of food was successful in achieving massive death, but did any of them constitute genocide?

## 54

**Title:** Hypertrophic Cardiomyopathy

**Presenter(s):** Jerod Ochsendorf

**Department:** Athletic Training

**Advisor:** Dr. Dawn Hammerschmidt

**Abstract:** Have you ever wondered what causes sudden death in young people, especially young athletes? Sudden death has been occurring with increased frequency over the past few years. This power point presentation will focus on the condition of Hypertrophic Cardiomyopathy, it's causes, symptoms, and treatments.

## 55

**Title:** Emily Dickinson: Transcending Gender and Her Father

**Presenter(s):** Anna Martin

**Department:** English

**Advisor:** Dr. Sheila Coghill

**Abstract:** (No Abstract Submitted)

## 56

**Title:** Russian and Finnish Relations: Yesterday and Today

**Presenter(s):** Mary Suomala

**Department:** Political Science

**Advisor:** Dr. Andrew Conteh

**Abstract:** This paper deals with the changing relationship between Finland and Russia. Finland's whole identity cannot be examined without looking at the influence of Russia. Russia, on the other hand, views Finland in terms of convenience. Russia is not dependent on Finland, but values Finland's connection to the West. The relationship between Russia and Finland is shown in political agreements, economic agreements, and security agreements. The term Finlandization has been used to describe their relationship, and it has been beneficial for both Finland and Russia in the post-World War II era.

## 57

**Title:** Personality Traits in Relation to Helping Behavior

**Presenter(s):** Holly Oster, Ariane Broadland

**Department:** Psychology

**Advisor:** Dr. Christine Smith

**Abstract:** (No Abstract Submitted)

## 58

**Title:** Hypotonia in Down Syndrome and its Affect on Oral Motor Function and Articulation

**Presenter(s):** Erica Paulsen, Shannon Heglund

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** People with Down syndrome have recognizable physical characteristics and limited intellectual abilities, which are due to the presence of an extra 21st chromosome. Among the physical characteristics associated with Down syndrome is hypotonia, or low muscle tone. Hypotonia, which is caused by lower motor neuron lesion to neurons of ventral horns or cranial nerve nuclei, results from the interruption of the pathway connecting neurons via its axon with muscle fibers it innervates. This low muscle tone interferes with the correct production of phonemes.

The subject of this study is an adult male with Down syndrome.

To determine the degree that hypotonia affects the subject's articulation and oral motor function, the subject's oral cavity structure and function will be observed in the following areas: face, breathing, lips, jaw, teeth, tongue, hard and soft palate, uvula, fauces, and pharynx. In addition, a conversational speech sample will be obtained and analyzed with the Interactive System for Phonological Analysis (ISPA), a computer software program, to assess the subject's articulation characteristics.

## 59

**Title:** Fetal Alcohol Syndrome: An Assessment of Physical, Behavioral and Communications Characteristics

**Presenter(s):** Rhonda Zacharias, Heather Ford

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** We are doing our project on Fetal Alcohol Syndrome. In this project, we are going to cover four aspects of FAS. These aspects include physical characteristics, behavioral characteristics, and communicative characteristics, with an assessment being in the area of specific communicative characteristics. The assessment will be on a 10 year old, female, child with FAS. Her parents have signed an informed consent and no identifiable information about this child will be disclosed. The assessment of this child will include formal and informal testing. The formal testing will test the difficulty the child has with sequential verbal directions. We will be using The Token Test for Children. The informal testing will test if the child can remain on topic during conversation and how often the child interrupts during normal conversation.

## 60

**Title:** A Screenplay entitled "Pot Holes"

**Presenter(s):** Krista Reiner

**Department:** English

**Advisor:** Dr. Richard Zinober

**Abstract:** For my presentation at the 2001 Student Academic Conference I will be collaborating with a student film maker and student actors/actresses from MSUM's theater department to produce an eight minute excerpt from a screenplay I have written in my writing for film and the stage class. I will begin my presentation with a four-minute overview on the process involved in writing and producing one's own screenplay. After my four-minute oral presentation I will then show the eight-minute excerpt on videocassette. I want to present my work in order to give other students a better understanding of the process involved in taking a screenplay and turning it into the actual visual form. I believe that in doing this I will have educated my audience about the problems, time, and satisfaction involved in making one's own written words come alive on screen. I also think that the experience of seeing my own creative work come alive will teach me more about myself and my abilities as a writer, director, and editor.

## 61

**Title:** Huntington's Disease: Dysarthria and Social-Emotional Issues

**Presenter(s):** Traci Haus, Leanne Lundeen

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** Our senior project will look at the effects of Huntington's Disease on an individual's speaking and swallowing abilities, as well as the social-emotional aspects of the disease. This project will involve administering the Assessment of Intelligibility of Dysarthric Speech to a subject with Huntington's Disease. This assessment will involve having our subject read a series of words and repeat a series of sentences. The purpose of this assessment is to measure intelligibility. Our subject has agreed to participate and will sign the informed consent form. This assessment will involve analyzing the results of the therapy session and presenting them on a poster board. None of the subject's information will be disclosed.

## 62

**Title:** Theatre Through the Ages

**Presenter(s):** Darcy Bakkegard, Michael Aspinwall, Melissa Deutsch, Phyllis Morgan, Rachelle Larson

**Department:** Speech & Theatre

**Advisor:** Dr. Theresa Carson

**Abstract:** From the beginning of time, theatre has had a strong influence on society, and society a strong influence on theatre. Changes in politics, religions, and tastes directly affected the course of theatre development. So how did theatre evolve into what it is today? In this presentation, we will provide a brief glance back into the ever-changing world of theatre, highlighting Greek and Elizabethan theatre traditions, as well as the movements in Realism and Musical Theatre, ending with where theatre is today. Through narratives about each period and monologues representing each tradition, we will show what makes theatre truly the art of all ages.

## 63

**Title:** Coverage of Women's Sports in the Media

**Presenter(s):** Kristin Leadbetter

**Department:** Mass Communications

**Advisor:** Dr. Susanne Williams

**Abstract:** During the past decades, women have been empowering themselves, particularly through sports. As women's sports have gained popularity, I researched what kind of attention, if any, the media has given to women's sports. In a content analysis of the magazine Sports Illustrated during the decade of the 1990s, I examined how coverage of women's sports has evolved. I decided to use Sports Illustrated for my research because it is the most widely distributed sports magazine today.

## 64

**Title:** Economic Impact of Sports Facilities

**Presenter(s):** Roy Thomsen

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** My presentation will present costs and benefits of building sports facilities and will focus on a particular city as a model (to be decided). It will examine the overall economic impact of sports facilities and will give information concerning league monopolies, income distribution, substitution effect.

## 65

**Title:** Archaeological Applications of Ground Penetrating Radar

**Presenter(s):** Aaron Fogel

**Department:** Archaeology

**Advisor:** Dr. Rinita Dalan

**Abstract:** Geophysical methodology has been successfully used in deep applications such as oil and mineral exploration for many decades. The first archaeological use of these methods dates to the 1930s but within the last thirty years new, more precise, methods of near-surface geophysics have been developed that are very useful for archaeologists. Ground Penetrating Radar (GPR) is one such method. This presentation will focus on the development and methodology of GPR as well as applications and limitations of the method as applied in archaeological research.

## 66

**Title:** Service Learning Benefits Faculty

**Presenter(s):** Barbara Nelson

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** Service learning is poised between the intersection of two major concerns of education: traditional classroom learning and active participation in the private and public sectors. Faculty can use service learning in a positive manner to bridge the gap between campus and community. Two institutions targeted in this study will be Fergus Falls Community College and Minnesota State University, Moorhead. Two core questions will be explored: (1) Does integrating a service learning component in course materials enhance students' interest in class material, increase class participation, and discussion? (2) Does service learning improve students' ability to apply what is learned in the classroom to the "real world"?

## 67

**Title:** Life as a Foreigner in Taiwan

**Presenter(s):** Brandi Hoppenrath

**Department:** Languages

**Advisor:** Dr. Jenny Lin

**Abstract:** The presentation titled "Life as a Foreigner in Taiwan", will overview my adventures as a student and tourist in Taiwan. As a foreigner, I learned many things that I would like to share with others (about culture, language, and travel.) The topics of my discussion include "foreigner" treatment, travel in Taiwan, religion (specifically Christianity and Buddhism), medical treatment, the educational system and specific events such as the Chinese New Year celebration and the most recent democratic election. The presentation will be conducted with the use of PowerPoint, handouts, photographs and other visual aids. Following the presentation I will be available to answer questions about Taiwan and the East Asian Studies program at MSUM.

## 68

**Title:** Quality Assessment of Magnetic Resonance Images and Variations of Image Quality Over Time

**Presenter(s):** Matthew Holzwarth

**Department:** Physics & Astronomy

**Advisor:** Dr. Ananda Shastri

**Abstract:** The purpose of this study is to measure the variation of magnetic resonance image quality over time. We used the guidelines established by the American College of Radiology (ACR). The tests were conducted using the standard ACR phantom that consists of a plastic cylinder filled with water and several plastic shapes. Various quality assessments of the phantom images were performed using the standard ACR procedure, including measuring different aspects of quality. We called these measurements "quality indices." These quality indices included geometric accuracy, percent signal ghosting, percent integral uniformity, slice position accuracy, and slice thickness accuracy. The quality indices were measured once a month for several months. The standard deviation of the quality indices will help show the quality of the images over a period of time.

## 69

**Title:** Traditional versus Nontraditional Gender Stereotypical Perceptions About Magazine Advertisements: What is Attractive?

**Presenter(s):** Teresa Imholte

**Department:** Psychology

**Advisor:** Dr. Christine Smith

**Abstract:** Times are changing, and people's attitudes about gender roles are transforming. This experiment looked at how people's attitude towards traditional and nontraditional gender stereotyped roles influenced whether they believed someone was attractive or not. Participants took the Sexiest Attitudes Towards Women Scale to determine their beliefs about traditional and nontraditional gender role stereotypes. Participants rated eight magazine advertisements based on attractiveness and whether they fit traditional or nontraditional sex role stereotypes. Results found that the nontraditional roles were considered more attractive, therefore they were more preferred. This provided evidence that the preference for nontraditional sex roles is not as strong as it was in the past.

## 70

**Title:** Effects of ionizing radiation on DNA: The role of spermine on radiation damage

**Presenter(s):** Jody Jacobson

**Department:** Chemistry

**Advisor:** Dr. Abbas Pezeshk

**Abstract:** Exposure of dilute aqueous DNA to ionizing radiation at ambient temperatures result in indirect damage to the DNA, major reactions being the addition of OH radicals to DNA bases and abstraction of C-H hydrogen atoms from deoxyribose units. In order to concentrate on direct damage processes, we have studied frozen aqueous solutions using EPR spectroscopy. Exposure of frozen aqueous solutions of DNA to gamma radiation at 77 K resulted in the formation of guanine-center radical cations, and thymine radical-anions or cytosine radical-anions. We have also investigated the effects of spermine on the formation of the DNA radical centers. Our preliminary results indicate that spermine has no effect on the guanine center.

## 71

**Title:** Japanese Influence in Taiwan

**Presenter(s):** Brandi Hoppenrath

**Department:** Languages

**Advisor:** Dr. Mita Takanori

**Abstract:** Did you know that for about 50 years Japan occupied Taiwan? Did you know that many Taiwanese people in their 60's-70's speak Japanese? Some words in the Taiwanese language actually are taken from the Japanese language (FYI: Taiwanese and is very different from the Mandarin dialect spoken in mainland China.) There are also many other cultural and social influences that are reflected in Taiwan daily life even today- including the educational system. Come and learn about the Japanese colonization of Taiwan and the influences that has had on Taiwanese society and development.

## 72

**Title:** Is photosynthetic electron transport linked to activation of pyruvate,orthophosphate dikinase (PPDK) in chloroplasts of plants possessing the C3 photosynthetic pathway?

**Presenter(s):** Adam Vossen

**Department:** Biology

**Advisor:** Dr. Chris Chastain

**Abstract:** (No Abstract Submitted)

## 73

**Title:** Evolution of the C4 photosynthetic pathway from C3 plants: The non-photosynthetic C3 ancestral form of the C4 photosynthetic pathway enzyme, pyruvate,orthophosphate dikinase, is also light regulated in leaves of C3 plants

**Presenter(s):** Julie Vogel, Christa Randklev, Sharon Dittmer

**Department:** Biology

**Advisor:** Dr. Chris Chastain

**Abstract:** (No Abstract Submitted)

## 74

**Title:** The Effects of Radiation on DNA: The Role of Spin Labels on Radical Damage

**Presenter(s):** Katie Rice, Jody Jacobson

**Department:** Chemistry

**Advisor:** Dr. Abbas Pezeshk

**Abstract:** Radiation damage to DNA is of interest from a purely mechanistic point of view and also because it is thought to play a major role in cellular damage, including cell death. Exposure of frozen aqueous solutions of DNA to gamma radiation at 77K resulting in direct damage to DNA and the formation of guanine radical cations and thymine radical anions or cytosine radical anions. In this study we present an EPR investigation of the yields of free radicals, guanine and thymine and/or cytosine, formed in gamma irradiated frozen DNA in the presence and absence of spin labels as radical protectors.

## 75

**Title:** EPR Studies of Cardiac Muscle of Hypertensive and Normotensive Rats

**Presenter(s):** Jill Greenley

**Department:** Chemistry

**Advisor:** Dr. Abbas Pezeshk

**Abstract:** Systemic hypertension is one of the major risk factors for coronary heart disease. Membrane fluidity of cardiac muscle was studied in spontaneously hypertensive (SHR) and Wistar-Kyoto (WKY) rats using spin labeling techniques and EPR spectroscopy. The values of the maximum splitting parameter for spin-label 5-SASL and the rotational correlation time for spin label 16-SASL incorporated in heart tissue membrane from both SHR and WKY rats were compared. Our data suggest an increase in membrane fluidity near the membrane surface probed by 5-SASL and a decrease in polarity detected by 16-SASL in SHR rats.

## 76

**Title:** Epidermal Growth Factor Receptor Transactivation is Necessary for the Stimulation of Extracellular Signal-Regulated Kinase

**Presenter(s):** Justin Voog, Andrew McCoy

**Department:** Biology & Chemistry

**Advisor:** Dr. Joseph Provost

**Abstract:** The lysophosphatidic acid (LPA) activation of extracellular signal-regulated kinase (ERK) by G-protein coupled receptor agonists, such as LPA, has recently been identified in a number of cell lines. However, the activation mechanism of ERK varies depending on cell line. G-protein coupled receptor agonists can also lead to epidermal growth factor receptor (EGFR) transactivation by a number of means, including a calcium or a Src family kinase dependent pathways; the later involving p60src. In other cell systems the G-protein beta gamma subunits are involved in activation of the EGFR and thus the activation of ERK. This project focuses on the mechanism underlying LPA-stimulated EGFR transactivation and ERK activation in CCL39 cells. LPA (10mM) induced a dramatic increase in the total tyrosine phosphorylation as judged by PY20 immunoblots. LPA incubation also lead to an increase in the tyrosine phosphorylation of the EGFR. As expected the general tyrosine kinase inhibitor, genestein, blocked ERK activation in LPA induced cells. LPA induced ERK activation was inhibited by EGFR kinase inhibitors, but autophosphorylation inhibitors did not prevent LPA induced ERK phosphorylation. Additional incubation with the non-receptor Src family inhibitor PP2 did not limit LPA activation of ERK. These results suggest that the signaling pathway of LPA in the activation of ERK must go through EGFR transactivation in CCL39 cells.

## 77

**Title:** Using a Geographic Information System to Address the "Selfish Herd" Hypothesis in Gunnison's Prairie Dogs

**Presenter(s):** Daniel McEwen

**Department:** Biology

**Advisor:** Dr. Donna Bruns Stockrahm

**Abstract:** Coloniality of Gunnison's prairie dogs (*Cynomys gunnisoni*) was studied with respect to selfish herd behavior in a subcolony from a larger prairie dog town in Archuleta County, Colorado (center, 37° 39' N, 107° 15' W). An intensive period of trapping was conducted during the summers of 1991 through 1997 with live-traps being rotated around the burrow entrances. Captured prairie dogs were ear-tagged, weighed, aged, sexed, and released. The burrow entrance at which each capture occurred was recorded. In 1996, the coordinates of each of these burrow entrances were ascertained with a Global Positioning System (GPS). Capture data and GPS data were loaded into an ArcView Geographic Information System where boundaries and centroids of three burrow subgroupings were mapped. The analyses were based on a total of 742 mapped burrow entrances (covering 3.15 ha) associated with 1,837 captures of 342 different animals. A spider diagram was used to calculate the distance of each burrow entrance to its closest centroid which could then be related to individual animal distances from the centers. We did several comparisons of distances from centers between different subgroupings of prairie dogs based upon sex, age, dispersal and life span. Adults were closer to the subcolony's centers than were pups. We also established that higher burrow densities were correlated systematically with closer distances to centers.

A correlation existed between burrow density and activity, indicating not only a possible selfish herd behavior motivation for spatial properties of burrow construction, but also for animal activities. We could not rule out selfish herd behavior as a possible explanation for coloniality among Gunnison's prairie dogs.

## 78

**Title:** Factors Influencing Successful Turkey (*Meleagris gallopavo*) Reintroduction in Minnesota: A Literature Review

**Presenter(s):** Candice Zemlicka, Elizabeth Johnson

**Department:** Biology

**Advisor:** Dr. Donna Stockrahm

**Abstract:** The Minnesota Department of Natural Resources (DNR) is currently working on a wild turkey (*Meleagris gallopavo*) reintroduction program in Minnesota. We are working with the DNR and the National Wild Turkey Federation on a literature review to address some of their questions relevant to the reintroductions. Our poster will address the following questions regarding wild turkey survival in Minnesota. What is their native range? Can they survive this far north? If not, what factors limit their range? What are their habitat requirements? What potential effect will predation have on the released populations? What kind of impact will reintroduced turkeys have on the other species in the area? Do turkey reintroductions into an area negatively impact other species that also eat mast (e.g., acorns), like deer and squirrels? Weather is also a major concern. What is the winter habitat of turkeys and what effects do the winter temperatures have on turkey survival and reproduction?

## 79

**Title:** A Research Proposal: Movements and Habitat Use by Female Painted Turtles (*Chrysemys picta*) in Western Minnesota

**Presenter(s):** Deanna Thompson

**Department:** Biology

**Advisor:** Dr. Donna Bruns Stockrahm

**Abstract:** This poster will present an ecological study that will be conducted by several MSUM biology students and myself, beginning the spring and summer of 2001. The purpose of this project is to collect preliminary data on the movements and habitat use of painted turtles (*Chrysemys picta*), especially in females during the nesting season. Data will be collected on both male and female turtles, but only selected females will be fitted with radio transmitters. Turtles will be intercepted along rural roads throughout Clay County, marked, measured, and released. Females with radio transmitters will be tracked at periodic intervals, hopefully to their nesting sites. Nest information such as habitat type (including human use of the habitat), depth, temperature, Global Positioning System (GPS) location, soil moisture, and distance to nearest human disturbance will be recorded. Nests will be periodically monitored until the eggs hatch, then the hatchlings will be marked and followed if possible. Because this is our pilot study, any preliminary data from this year could lead to more complex studies in the future. Laboratory studies on turtle homing behavior, especially that of hatchling turtles, might also be planned for the future depending on the outcome of the study proposed here.

**80**

**Title:** Towards a Greater Understanding of Catalysis in Water

**Presenter(s):** Heidi Williams, Justin Klitzke

**Department:** Chemistry

**Advisor:** Dr. Donald Krogstad

**Abstract:** With growing industrial needs to minimize cost and comply with environmental regulations there is a push to use water as a solvent. For this to occur, there needs to be a better understanding of transition metal catalysis in the aqueous phase. Unfortunately, many previous studies were hindered by catalyst or substrate solubility in water. Therefore, we prepared a series of water-soluble, cis-[M(PTA)<sub>2</sub>X<sub>2</sub>] (PTA=1,3,5-triaza-7-phosphaadamantane; M=Pd; X=Cl, Br and M=Pt; X=Cl, Br, I) complexes and used them to study the catalytic intramolecular hydroamination of 4-pentyn-1-amine in water, methanol, and dimethyl sulfoxide (DMSO). Examination of the kinetic data shows a slight halide effect while the identity of the metal has a pronounced effect. What is most interesting, however, is the solvent effect. In all cases examined so far, water and methanol gave similar rates and conversions while DMSO was dramatically slower with smaller conversions. A discussion of these and other results will be presented.

**81**

**Title:** Measuring the Demand for Internet Usage

**Presenter(s):** Lori Gieselman

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

**82**

**Title:** Analysis on the Effects of Monetary Policy

**Presenter(s):** Mike Gesellchen

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

**83**

**Title:** Predicting Energy Consumption in Moorhead, MN

**Presenter(s):** Lisa Watkins

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

**84**

**Title:** The Plus and Negative of Integers

**Presenter(s):** Michele Becker, Marilyn Labrensz

**Department:** Mathematics

**Advisor:** Dr. NG Geok Lian

**Abstract:** We will use a variety of visual aids, demonstrations and manipulatives to explain the concept of integers.

**85**

**Title:** Mathematics on Both Sides of the "0"

**Presenter(s):** Karolyn Bates, Angie Greer

**Department:** Mathematics

**Advisor:** Dr. NG Geok Lian

**Abstract:** We will introduce the concept of integers using demonstrations of the "chip" model and number line model.

**86**

**Title:** You Never Thought Negatives Could Be So Fun!

**Presenter(s):** Jennifer Olson, Jamie Schwenn

**Department:** Mathematics

**Advisor:** Dr. NG Geok Lian

**Abstract:** We will demonstrate the mathematical modeling of the concepts of adding, subtracting and multiplying integers using manipulatives.

**87**

**Title:** Insane Integers

**Presenter(s):** Angie Hodge, Janice Terfehr

**Department:** Mathematics

**Advisor:** Dr. NG Geok Lian

**Abstract:** We will be demonstrating the concepts of integer multiplication, addition and subtraction. This will be done by using counting chips and a visual demonstration of the number line.

**88**

**Title:** NIH Curriculum

**Presenter(s):** Sarah Anderson, Angela Varriano

**Department:** Biology

**Advisor:** Dr. Mary Shimabukuro

**Abstract:** The National Institute of Health releases curricula, appropriate for K-12 students, every year. In 2000, three new curricula were released on the following topics: "Cell Biology and Cancer", "Emerging and Re-emerging Diseases", and "Human Genetic Variation". An overview of these curricula will be given. Examples of Activities from the "Human Genetic Variation" curriculum and the "Cell Biology and Cancer" curriculum will be presented.



## 94

**Title:** Neuroscience Laboratory and Classroom Activities

**Presenter(s):** Susan Sorenson

**Department:** Biology

**Advisor:** Dr. Mary Shimabukuro

**Abstract:** The National Association of Biology Teachers and the Society for Neuroscience developed the curriculum material, "The Neuroscience Laboratory and Classroom Activities" with the goal of bringing neuroscience instruction and activities into the classroom. This curriculum presents topics in neuroscience, such as auditory, visionary, and olfactory functions, in a manner in which students can design and conduct their own experiments. The manual is set up to integrate labs, discussion, and the learning cycle into the school curriculum. During this workshop, the material in this curriculum will be summarized and one activity will be demonstrated.

## 95

**Title:** Effective Use of Chemical Demonstrations in the Classroom

**Presenter(s):** Chris Petersen

**Department:** Chemistry

**Advisor:** Dr. Shawn Dunkirk

**Abstract:** The use of demonstrations in the classroom can be used as a technique to reach those students that may learn better through visual means. Demonstrations can also be effective in the classroom to capture and hold a student's attention for subject material that may be considered too difficult to learn if only presented in a lecture format or out of the text. If a demonstration is done properly, it can make "boring" lecture material come alive and stimulate discussion among the students. Demonstrations are remembered and it is expected that this will lead to better retention of material you are teaching. When searching for demonstrations consider the following questions. Will this be an effective demonstration? Can this demonstration be well correlated with your curriculum topic? Is this demonstration safe to use in your classroom setting? This presentation will contain information on sources for well-tested demonstrations, tips on effective execution of demonstrations, and examples of how to assess learning through demonstrations along with assessing safety. These points will be explained using demonstrations that have been effectively used in chemistry classes and outreach activities.

## 96

**Title:** BSCS - The Human Genome Project: Biology, Computers and Privacy

**Presenter(s):** Dean Swenson

**Department:** Biology

**Advisor:** Dr. Mary Shimabukuro

**Abstract:** The object of this workshop is to introduce participants to the BSCS curriculum entitled, The Human Genome Project: Biology, Computers, and Privacy, 1996, BSCS. The curriculum provides teachers with background information relating to the Human Genome Project (HGP) including aspects of science and technology underlying the HGP, and ethics and public policy relating to it. Seven classroom activities relating to the Human Genome Project are included in the curriculum materials and one of these activities will be demonstrated during the workshop.

## 97

**Title:** Discovering Biology through Hands-On Image Processing

**Presenter(s):** Morgan Niedringhaus, Zoe Lamm, Vian Abdulhakim

**Department:** Biology

**Advisor:** Dr. Mary Shimabukuro

**Abstract:** Three workshops will introduce its participants to the use of Hands-On Image Processing (HIP) curriculum in the science classroom. The curriculum was developed by the Image Processing for Teacher Project, in 1996, and was funded by the National Science Foundation. The HIP Biology curriculum utilizes "NIH Image," the imaging processing software developed by the National Institutes of Health, in every science lesson. The objectives of the HIP curriculum are to use the computer as a tool to enhance the understanding of fundamental science concepts through inquiry and hands-on exploration of real-world scientific data. Like scientists, students use image-processing software to develop hypotheses, collect and analyze data, and form conclusions from their results. The curriculum provides teachers with an explanation of the philosophy of HIP Biology, resources detailing how to use the image software, HIP activities to implement, and tools to assess the effectiveness of this curriculum in the classroom.

98

**Title:** Ontogeny of Chemically Mediated Antipredator Behavior by Convict Cichlids

**Presenter(s):** Shireen Alemadi

**Department:** Biology

**Advisor:** Dr. Brian Wisenden

**Abstract:** Parent convict cichlids defend their young against predators. The ability of the young to recognize injury-released alarm cues is unknown. In this experiment we tested if young were able to detect these cues, and how developmental stage contributes to their ability to respond. This will allow us to better understand if the young are able to respond appropriately to the given cue without parental care. We tested young in an enclosed environment to remove the effect of external stimuli. A flow through system was created that allowed the cue to be added from either side of the test tank. The young were given 5 minutes to acclimate to the test tank. After a pre-stimulus observation period, 10 mL of alarm cue was added to one side of the test tank. After the alarm cue was added the behavior of the convict cichlids was closely watched and videotaped to be able to analyze the fish behavior. In response to the cue, there was greater cohesion within the group initially, and also a type of examination behavior arose, shown by an attraction to the side of the tank where the injury release cue was added. In conclusion, young convict cichlids appear capable of detecting and responding to alarm cues. The behavioral response is constrained by the need for parental protection.

99

**Title:** The Effects of Physically Violent Video Games on Males

**Presenter(s):** Casandra Vigasaa-Disse, Sean Simpson, Patty Dahley, Bethany Geffre

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** The purpose of this study is to determine whether there is a correlation between the frequent playing of physically violent video games and violent actions among males in the Fargo/Moorhead, Detroit Lakes, and Pelican Rapids areas. The Hypothesis is that there is a correlation between physically violent males and males who participate in physically violent video games. The alternative hypothesis is, males who are frequently exposed to violent video games will experience negative effects, and will therefore be more likely to engage in violent behaviors.

100

**Title:** How the Emotional Coping Mechanisms are Affected by Individuals Who are Living with Cancer

**Presenter(s):** Amber Lehn, Katy Wefel, Alissa Stein, Teri Tolk

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** (No Abstract Submitted)

101

**Title:** Student Drinking and Law Enforcement

**Presenter(s):** Laura Eckroth, Ann Ficek, Shelly Grothen, Ann Higdem, Chris Johnson

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** (No Abstract Submitted)

102

**Title:** A Prairie Home Companion at MSUM: Poetry and Music from ED 310

**Presenter(s):** Dr. Steven Grineski, Pam Conn, Kari Henningson, Pat Tweeter, Andy Beyer, Monica Winter

**Department:** Foundations Program

**Advisor:** Dr. Steven Grineski

**Abstract:** In response to assignments given this fall semester in Steve Grineski's Ed 310 Social Foundations of Education class, students wrote poetry and stories, created songs and musical selections, put on plays and completed a variety of projects to demonstrate their understanding of course objectives. The five students presenting their work for the 2001 Academic Conference completed the following assignments: (1) Andy Beyer: A rap poem responding to the study of oppression in American schools. (2) Monica Winter: An original song responding to study of "What'd we do before technology in K-12 schools computers 'saved' our lives?" (3) Pat Tweeter: A poem responding to study of Horace Mann and the Common School Movement. (4) Pam Conn and Kari Henningson A poem based on Tracy Responding to study of Chapman's song: "Across oppression in American schools The Lines." Each student will briefly describe their work in relation to the specified assignment and then share their assignment with the audience.

103

**Title:** Cell Cycle Coordinated Mitochondrial Dynamics

**Presenter(s):** Kristopher Mortenson

**Department:** Biology

**Advisor:** Dr. Ellen Brisch

**Abstract:** Mitochondria function to provide cells with energy for all metabolic processes. Throughout the cell cycle, mitochondria are highly dynamic. They continuously move about and change shape depending on which stage of the cell cycle they are in. This process is termed mitochondrial dynamics. In *Saccharomyces cerevisiae*, the inheritance of mitochondria from mother cell to daughter bud during cell division is an essential feature of yeast cell growth. The analysis of mutants defective in mitochondrial morphology and inheritance has led to the identification of some of the proteins that control mitochondrial dynamics. Classically, temperature sensitive yeast mutants were used to identify cell cycle regulatory proteins. The analysis of mutants defective in events such as bud formation, DNA synthesis, spindle pole body duplication, and cytokinesis lead to the identification of proteins that control each of these integral steps in cell division. It is our hypothesis, that molecules that control cell division and cell cycle regulation play a key role in mitochondrial dynamics. We are currently testing our hypothesis by examining the following cell cycle mutants for defects in mitochondrial dynamics: *cdc4*, *cdc5*, *cdc14*, *cdc15*,

cdc16, cdc20, cdc23, cdc28. The specific mechanisms of how mitochondrial dynamics are regulated during the cell cycle are beyond the scope of this project. However, by identifying cell cycle mutants with mitochondrial defects we can build a model for how mitochondrial dynamics are coordinated during the cell cycle.

## 104

**Title:** Prader-Willi Syndrome: Behavior, Communication, Observation

**Presenter(s):** Melissa Horner, Marti Volk

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** Our senior project and poster board will focus on Prader-Willi Syndrome and its effect on the communicative process, specifically pragmatic skills. Pragmatics are the rules governing how one socially uses communication. We will focus on the area of pragmatics involving the initiation/response ratio in a conversational sample we will acquire through observation and informal assessment in the individual's home. The I/R ratio will determine the individual's ability to initiate topics as well as respond.

Our poster board will give a general overview of the disorder. This will include the cause, general characteristics, and prevalence. The second part we will display the behavior issues involved with the disorder such as hyperphasia, or overeating, and discipline issues. The third area will be communication impairment associated with Prader-Willi Syndrome like language and oral motor difficulties. The last thing we will show on our poster board is the observation and assessment we conducted.

## 105

**Title:** Parent Child Communication

**Presenter(s):** Kristi Moos, Kirsten Razzone

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** We will look at the five components of the Parent-Child Communication Program and show that changing the initiation/response ratios increases the effectiveness of parent-child interactions. We will also identify the legal basis for paternal involvement in interaction services. We will also do and assessment that will compare the initiation/response ratios of a mother and son interacting before and after implementation of the Parent-Child Communication Program. Our project will provide information concerning the Parent-Child Communication Program as well as the findings of our assessment on initiation/response ratios of before and after training parents in the Parent-Child Communication Program.

## 106

**Title:** Finding the Past in the 21st Century

**Presenter(s):** Julie Gallagher

**Department:** Anthropology & Earth Science

**Advisor:** Dr. Michael Michlovic

**Abstract:** This project will address four questions: What is archaeology? Why do we search for past cultures? How do we know where to look for the sites, and what technologies do we employ? What do archaeologists hope to learn through their research?

These are the questions everybody asks about archaeology. The answers to these questions provide an understanding of the discipline, the techniques, and technology employed in investigations, and kinds of questions archaeologists hope to address.

## 107

**Title:** MSUM's China Tour 2000

**Presenter(s):** Amanda Craven, Kristi Rosholt

**Department:** Languages

**Advisor:** Dr. Jenny Lin

**Abstract:** With the use of slides, Amanda Craven and Kristi Rosholt will give a brief description of MSUM's China Tour in which they participated in the spring of 2000. Some cities and sights, as well as aspects of Chinese culture, will be explored. The impact of the tour on the speakers themselves, will be the main focus of this presentation.

## 108

**Title:** Prairie Planting Partnerships: Indoor Germination Experiments

**Presenter(s):** Susan Sorenson, Holly Triska, Tanya Becker

**Department:** Biology

**Advisor:** Dr. Alison Wallace

**Abstract:** We will describe several experiments in progress to determine the most successful ways to grow prairie seedlings in an indoor setting. The purpose for these experiments is to share our results with Moorhead Public School third grade classrooms, who are also growing seedlings in preparation for transplanting into a prairie restoration plot at the MSUM Regional Science Center. These experiments are looking at factors such as planting depth, watering technique, temperature, humidity, pot size, and nutrient levels on seedling germination and survival rates of several native prairie plant species. In addition to sharing our results, we will demonstrate an online database we are using to communicate our findings with third grade students and teachers. We will describe future projects, which include experiments involving the transplant survival rates in the restoration plots, and the development of a web site of prairie plant growing tips for teachers and students.

## 109

**Title:** Panel Discussion of Irish Literature

**Presenter(s):** Carol Kahle, Kathryn Hutter, Jessica Johnson

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** Three students will discuss their papers on Irish literature.

## 110

**Title:** Does Lack of MSUM Parking Cause Frustration and/or Erratic Driving

**Presenter(s):** Ronda Hoff, Melissa Lee, Kelli McCarthy

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** Our group's study came about from personal experiences and observations made by each member. This study explores the correlation between the shortage of Minnesota State University-Moorhead campus parking spaces and how it exacerbates the student driver's feelings of anger and frustration resulting in aggressive, erratic, and sometimes dangerous driving behavior:

This study will be done in three different time scenarios:

1. Directly following the vehicle being parked.
2. When the vehicle is leaving the parking spot.
3. Randomly while the subject is not in the parking lot environment.

The final paper will contain literature review on the subject and also the information gained from surveys taken on the MSUM camps. The confidentiality of all participants will be protected. This is a voluntary survey. There are no foreseen risks for the participants. The benefit of this study would be to decrease problems that cause frustration over parking.

## 111

**Title:** Preoccupation of Death

**Presenter(s):** Sara Wiederholt, Marissa Heley, Jamie Stollenwerk, Paula Thieschafer

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** This study is designed to compare and contrast the preoccupational anxieties concerning death between male and female MSUM students. This research is being conducted for the Social Work Research Methods course: 360.

A survey containing statements dealing with concerns of death will be used. The participants will be asked to rate each statement using a Likert scale. After taking the survey, each participant will have an individual score, higher scores indicating higher levels of death anxiety.

The results will be split into two separate categories; male and female. From this process a mean score will be produced for both sexes.

The goal of this study is to determine whether or not there is a difference between the sexes and their death anxieties. It is expected that the average female score will be higher than the males.

## 112

**Title:** Party Patrol and Student Drinking Behavior

**Presenter(s):** Shonda Nettetstad, Norma Kallstrom, Susan Fowler, Erica Heitmann, Amy Gruenhagen

**Department:** Social Work

**Advisor:** Dr. Shawn Ginther

**Abstract:** The newly developed Party Patrol has increased the public's awareness of the amount of college-aged drinking and has also increased the consequences of this behavior. This research examines the effects of the Fargo-Moorhead Party Patrol on the drinking behaviors of local four-year state university students. To gather data, we are anonymously surveying North Dakota State University and Minnesota State University, Moorhead students. Although our findings may not be available at the time of the conference, we hope to find that the Party Patrol has had an effect on the drinking behavior on the local state university students.

## 113

**Title:** Burnout in Human Service Agencies

**Presenter(s):** Ann Marie Onesti

**Department:** Public and Human Service Administration

**Advisor:** Dr. James Danielson

**Abstract:** Many businesses and organizations in the work world are experiencing high rates of employee turnover, absenteeism, and increased medical bills just to name a few. Some speculate these effects can be attributed to stress in the workplace. When stress is prolonged over time it can lead to burnout. What causes this stress and how does it lead to burnout? This session will share information about burnout research conducted and findings in a local human service agency.

## 114

**Title:** Implementation of a Campus One Card Program

**Presenter(s):** Jeff Cadwell

**Department:** Public and Human Service Administration

**Advisor:** Dr. James Danielson

**Abstract:** This study addresses the issues and challenges involved in implementing a single electronic card for each student and staff member at Concordia College Moorhead. The study will examine the costs and benefits associated with this initiative along with the technological and administrative challenges. Experiences from other colleges will be explored for possible "lessons".

### 115

**Title:** Clean-Up Week Impact and Alternatives

**Presenter(s):** Eric Peterson

**Department:** Public and Human Service Administration

**Advisor:** Dr. James Danielson

**Abstract:** This study examines the present policy of "Clean-Up Week" for the city of Moorhead. It will explore possible alternatives, including ending the practice, expanding it to two weeks or possibly rescheduling it for two separate timeframes. Implications for staff, costs, and landfill use will be addressed.

### 116

**Title:** Analysis of Sick Leave Policy

**Presenter(s):** Krista Shaw

**Department:** Public and Human Services Administration

**Advisor:** Dr. James Danielson

**Abstract:** This is a policy analysis study designed to explore causes and possible solutions for problems associated with the current sick leave policy in a human service association. It will address alternative policies, their costs and benefits, by exploring the lessons from other similar types of organizations.

### 117

**Title:** Effects of College Experience and Word List Relation on Short and Long Term Memory

**Presenter(s):** Mark S. Jesinoski

**Department:** Psychology

**Advisor:** Dr. Elizabeth Nawrot

**Abstract:** Research has shown that memory can be effected by age, time and mental associations of similar stimuli. By comparing college students in both short and long term memory tests the researcher expects to find more efficient uses of memory among seniors. Eighty undergraduate freshmen and senior students will be randomly assigned to either a semantically related or unrelated word list group. Hypotheses predict college level seniors will recall more words at a higher level of accuracy than freshmen. Semantically related word list groups will have greater word recalls and intrusions than semantically unrelated groups. Also word recalls will decrease while word intrusions increase from short to long-term trials. Although not yet complete preliminary data shows consistency with the hypotheses. The proposed findings could be useful in the study of cohort differences in memory ability, as well as having application in the area of eyewitness testimony.

### 118

**Title:** Measuring the Return to Work Decisions of New Mothers

**Presenter(s):** Candace Simmons

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No Abstract Submitted)

### 119

**Title:** Protein-Protein Interactions of Citrate Synthase & Malate Dehydrogenase

**Presenter(s):** Shanna Rix, Julie Vogel

**Department:** Chemistry

**Advisor:** Dr. Joseph Provost

**Abstract:** The Metabolon Theory illustrates that enzymes in the TCA cycle aggregate to form Metabolons in the Mitochondrial Matrix. The reason for this is the high protein concentration in the matrix. This leads to better substrate channeling and higher rates of product formation. Our aim was to determine the specific interactions between Malate Dehydrogenase and Citrate Synthase using affinity chromatography. Citrate Synthase was covalently bound to a CN-Br Agarose column. The column was developed with cytosolic and mitochondrial Malate Dehydrogenase. These interactions under various additions of selected metabolites were also determined. These physical interactions were determined by measuring the enzyme activity of Malate Dehydrogenase in the fractionation samples of the column.

### 120

**Title:** Positive & Practical Affects of Theatre for Anyone's Everyday Life

**Presenter(s):** Emily Wendell

**Department:** Speech & Theatre

**Advisor:** Dr. Theresa Carson

**Abstract:** A quick little look at the fun and useful ways the theater can have an affect on anyone. You'll see how not only going to the theater, but also involvement in the theater, can be a positive experience. We'll talk, listen, goof around, and most of all have a great time.

### 121

**Title:** Mao's Great Famine: Causes and Consequences

**Presenter(s):** Sarah Phillips

**Department:** History

**Advisor:** Dr. Henry Chan

**Abstract:** China has traditionally suffered from a cycle of famine and drought due to flooding of rivers and other natural disasters. The famine that occurred in the 1950's was dramatically different from all those that had preceded it because this famine was largely man made. It affected the entire nation, from the capital city of Beijing to the smallest village and had the highest death toll. It was the ideological views and political policies of one man, Mao Zedong, which are largely responsible for this event. This however is a very simplistic view of the causes of a complex problem. I hope to show that there were a number of diverse causes and also highlight the resulting consequences of this event; both for Mao Zedong himself, the government of the People's Republic of China and the nation as a whole.

## 122

**Title:** South of the Clouds: Experiences in Yunnan, China  
Spring 2000

**Presenter(s):** Sarah Phillips

**Department:** East Asian Studies

**Advisor:** Dr. Jenny Lin

**Abstract:** "I want to go to China to see the panda bears and temples." I wrote this caption on a drawing I did in the second grade. In the spring of 2000 my long-held dream was about to come true. This slide presentation and discussion will highlight my adventures both on my three-month study abroad trip through the School for International Training, and my experiences working as an English teacher at an orphanage school for the duration of my stay. The focus of my study abroad trip, and the focus of my discussion, will be the immense diversity of people and cultures present in Yunnan province and throughout China as a whole.

## 123

**Title:** International Law and Genocide: A Historical Perspective

**Presenter(s):** Sarah Phillips

**Department:** History

**Advisor:** Dr. Dieter Berninger

**Abstract:** The entering into force of the United Nations Convention on Genocide was a turning point in international law. Many have argued that without the horrifying events of World War II and the atrocities committed by Nazi Germany, this event would never have come to pass. I agree that the events of this time were a strong catalyst for wide spread support of this Convention, I do not believe it was the sole cause for its passage. The history of International Law has been one of an increasingly important role in the world community. In this paper I trace the historical, political and legal developments that occurred prior to World War II which laid the foundation for the passage of the UN Convention on Genocide. The legal justification for prosecution of the crime of genocide is not solely contained in this one UN document. Rather, it is a further development of International Law, which is informed and based on what has occurred in the past.

## 124

**Title:** Creative Writing

**Presenter(s):** Jade Kendall

**Department:**

**Advisor:**

**Abstract:** Observing life and its Creator through prose and poetry.

## 125

**Title:** So You Want A Tattoo

**Presenter(s):** Elizabeth Jacobs, Amy Heeren

**Department:** Hendrix Health Center

**Advisor:** Lynn Peterson

**Abstract:** So You Want A Tattoo is an educational program developed to provide information on; choosing the right artist and studio, safety measures, how to choose a design and body location for the tattoo, and other considerations. The program also includes information regarding tattoo removal and cover-ups.

## 126

**Title:** Embarrassability in Cultural Context: Difference Between U.S. and Japan

**Presenter(s):** Fumi Suzuki

**Department:** Psychology

**Advisor:** Dr. Christine Smith

**Abstract:** Embarrassment is one of the basic emotions that people encounter in everyday life. A past study revealed that individual difference of interdependency and independency has impact on embarrassability of which definition is a person's general susceptibility to embarrassment. An interdependent person is more likely to have high embarrassability and vice versa. To the contrary to the fact that Asia is known as a culture of interdependency, the past study also found that the individual difference is a better predictor of embarrassability than ethnocultural background between European Americans and Asian Americans. However, Asian Americans are usually exposed and influenced by American culture that emphasizes independency. Thus, it was hypothesized in this study that pure Asians would be even more interdependent and embarrassable, and that Americans would be even more independent and less embarrassable. Participants were American students of European origin at MSUM and Japanese students at Oberlin University, Japan. A revised version of questionnaires used by Singelis and Sharkey (1995) were used, and they were consisted of three parts: Self-Construal Scale, Embarrassability Scale, and short demographic questions. The result partially supported the hypothesis. Americans were more independent and less embarrassable, and Japanese were less independent and more embarrassable. However, there was not a big difference between interdependency.

## 127

**Title:** Building the \$10,000 Home Studio

**Presenter(s):** Troy Weber

**Department:** Music Industry

**Advisor:** Dr. Michael Missiras

**Abstract:** This paper will discuss the choices one would face when assembling the equipment needed for a powerful, PC based audio recording studio. The focus will be on a facility designed to record solo performers with maximum capabilities for mixing and scalability through rental equipment or interfacing with an existing professional facility. Categories of equipment will be presented and explained with several options listed, along with a specific recommendation based on the authors personal experience building the studio described above.

Who does this paper address? Musicians and Audio Engineers will be the primary audience, though any multi-media producer may realize some benefit. Some of the tasks that the proposed facility could accomplish: Composers who need a notation workstation along with the ability to directly realize their pieces, Songwriters and Producers who build arrangements one part at a time, DJs and Dance Music Producers who need the sonic impact of software synthesizers and the flexibility of computer sequencing, Audio Engineers who might track instruments in another facility and then mix at home, Any one who want to own the whole studio and experiment at their leisure.

The facility described here will be capable of recording at least eight tracks simultaneously, provide hardware and software based effects processing for mix-down, facilitate mastering and CD-RW burning sufficient for professional use. While this paper will focus on the PC computer most of the hardware and similar software is available for the Macintosh platform. This paper will ignore studio construction and acoustics topics, an area too large to reasonable cover within this context.

## 128

**Title:** Our Endangered Past: Preserving Cultural Heritage through Archaeology

**Presenter(s):** Melissa Baltus, Kelsey Lowe, Brandy Stearns

**Department:** Anthropology & Earth Science

**Advisor:** Dr. Michael Michlovic

**Abstract:** Archaeology is a rich source of information on cultural heritage, however, archaeological sites are non-renewable resources. Once destroyed, these sites are lost forever. Archaeological sites in the Red River Valley are endangered by urban renewal, flood control projects, agricultural development, and natural processes.

Two major archaeological sites in the Red River area illustrate the need to carefully manage historic resources endangered by flood control and by urban renewal projects. One site is a 500 year old Native American village, the second a European-American urban site; both are endangered by development projects.

Archaeology is an integral part of responsible management of these cultural resources. It is important that information be salvaged from these sites, and others like them, through archaeological research before they are destroyed and lost forever.

## 129

**Title:** Archaeology of the Myers Site: 21NR62

**Presenter(s):** Theresa Barket, Elizabeth Melland, Shane Butler

**Department:** Anthropology & Earth Science

**Advisor:** Dr. Michael Michlovic

**Abstract:** Archaeological site 21NR62 is located on the northeastern face of Frenchman's Bluff in Norman County, MN. The site was discovered by a local resident who collected artifacts from the area following local lore about Frenchman's Bluff. The initial survey produced an historic artifact scatter centered on a rock feature, which was later identified as a house foundation. In the summer of 2000 a Minnesota State University Moorhead Archaeological field school did a test excavation of the site consisting of ten units. Several categories of artifacts were recovered ranging from farm equipment to domestic debris. The foundation is an unrecorded residence, and the construction technique indicate that it was an early settler farmstead. The abandonment debris in the vicinity of the feature dates from the 1930's to about 1950. This site provides a base-line for future archaeological work on historic sites in the northern Midwest and Plains.

## 131

**Title:** U2 Saving Rock?

**Presenter(s):** Paul Schaefer

**Department:** Music

**Advisor:** Dr. Eric Hung

**Abstract:** With the turn of the new year, the Irish rock band U2, has been heralded around the country on magazine covers, television programs and in interviews, as the saviors of rock and roll. While the band itself seems to be somewhat indifferent to these marketing strategies, we may still ask the question of how U2 has been able to gain such a lofty title? Furthermore, how is it that a group of four men pushing forty years of age, are able to compete in a world dominated by teen idols? The general commentary has been asking U2, about their feelings of rivalry with the exploding phenomenon of "boy-bands" on the scene. One response of lead singer Bono is, "Pop tells you everything is OK," when he is still convinced of rock's ability to, "be a force of change"(qtd. in Gundersen 1D-2D).

## 132

**Title:** Empirical Formula of Soluble Metal-Ammonia Complexes

**Presenter(s):** Holly Beimdiek

**Department:** Chemistry

**Advisor:** Dr. P.A.B. Marasinghe

**Abstract:** Due to the relatively low formation constants and presence of multiple chemical equilibria, the empirical formula of soluble metal-ammonia complexes of the type  $M(NH_3)_x^{n+}$  can not readily be determined directly by standard methods. Metal-ammonia complexes are formed via a series of reactions. The purpose of this work is to establish a general technique to quantitatively determine the empirical formula of complex ions of the type  $M(NH_3)_x^{n+}$  utilizing the stoichiometry of the multiple equilibria that exist in solutions containing  $Mn^{+}$  ions and ammonia.

## 133

**Title:** 1 Adrenergic Receptor Activation

**Presenter(s):** Rebecca Kuehn, Breann Stoltz

**Department:** Biology & Chemistry

**Advisor:** Dr. Joseph Provost

**Abstract:** The Sodium Hydrogen Exchanger (NHE) plays an important role in maintaining osmolarity as well as pH in most mammalian cells. Mitogen Activated Protein Kinase (MAPK) plays a vital role in the intermediate activation of the exchanger. Classically, MAPK is activated by growth factors, signals of cell stress, and various agonists. G Protein Coupled Receptors (GPCRs) are responsible for regulation of both MAPK and NHE activity; however, the exact mechanism is not clear. The overall goal of this study was to determine if  $\alpha_1$  adrenergic receptor activation by Phenylephrine (PE) results in the activation of MAPK and NHE. Furthermore, this study focused on the determination of MAPK and NHE activation occurring through a Protein Kinase C (PKC) dependent pathway in Chinese Hamster lung (CCL39) cells. In earlier studies, the use of the MAPK Kinase (MEKK) inhibitor, PD, blocked both MAPK and NHE activation. To further demonstrate this, the dominant negative form of MEKK was over-expressed in the CCL39 cells, and tested for MAPK and NHE activation by PE. Upon addition

of PE, no stimulation of either MAPK or NHE occurred. This demonstrates MAPK activation is required for the stimulation of NHE. Next, to show PKC dependence in the PE activation of MAPK and NHE, the use of the non-specific protein kinase inhibitor, Staurosporine, as well as the PKC specific inhibitors RO-31-8220 and Bisindolylmaleimide I (BIM), were used. Incubation of cells with 0.1 mM Staurosporine, 0.1 mM RO-31-8220, or .1 mM BIM, each resulted in lowered phosphorylation levels of MAPK after PE addition. This illustrates that PKC is needed for the activation of MAPK and thus, NHE. Collectively, this study indicates a1 adrenergic receptor activation by Phenylephrine (PE) activates MAPK and NHE, through a PKC dependent pathway.

### 134

**Title:** A Study of Attitudes in an Adult Stutterer: Beliefs, Anxiety, and Behavior

**Presenter(s):** Karen Bauer  
Christina Lawver

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** We plan to submit a senior project focused on the attitudes of an adult stutterer. As a method of narrowing our research, we have decided to study the following three subcategories: beliefs, anxiety, and behavior. We chose to administer three assessments (questionnaires) because none of the aforementioned assessments are in any way comprehensive. We are confident that we will be able to successfully tie all of our information into one focused project on the attitudes of an adult stutterer. We will administer the following tests: Erickson's S-Scale, and two portions of Brutten's SSC dealing with anxiety and behavior. An individual who stutters has granted us permission to observe and collect data regarding her attitudes toward disfluent speech.

### 135

**Title:** Drug Rehabilitation Center Study

**Presenter(s):** Jeremy Johnson

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No abstract submitted)

### 136

**Title:** Last Call: Is the Fargo/Moorhead Restaurant Industry too Saturated

**Presenter(s):** Toby Christianson

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No abstract submitted)

### 137

**Title:** Derivation of NHL Attendance

**Presenter(s):** Bryan Brenden

**Department:** Economics

**Advisor:** Dr. Oscar Flores

**Abstract:** (No abstract submitted)

### 138

**Title:** Translating Friel's Historical Approach

**Presenter(s):** Kristin Garaas

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** (No abstract submitted)

### 139

**Title:** Cathleen Ni Houlihan and Riders to the Sea: Blending Nationalistic Sympathies with Artistic Visions

**Presenter(s):** Dean Hulse

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** Passion possesses a wardrobe rather than a single ensemble. For the political zealot whose goal it is to conscribe, propaganda is the likely garment of choice. But for the artist, it is the flowing fabric of limitless imagination that feels best. As the nineteenth century folded into the twentieth, the green colors of Irish politics and Irish literary culture clashed. Irish nationalists expected literature stitched with patriotism and revolutionary fury, but prominent Irish writers were inspired to sew their verse and prose so that threads of knowledge could form new patterns of thought, but not necessarily with a nationalistic hue.

### 140

**Title:** Lady Gregory's Contributions to the Irish Cultural Renaissance

**Presenter(s):** Bob Jansen

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** My presentation will illustrate how Lady Gregory, through the great number of plays she wrote and her contributions to other playwrights and their works, along with her personal resources, her self-developed and nurtured spirit of cultural nationalism, and her personal passion to promote the dignity of Ireland, was the glue that held together the movement to establish the Irish National Theatre and the resulting Irish cultural revival and renaissance. Particularly important and inspiring examples of Lady Gregory's contributions are two plays: *Rising of the Moon* and *Cathleen Ni Houlihan*. Both featured strong symbolic imagery that encouraged politically nationalistic sentiments.

### 141

**Title:** African Higher Education System

**Presenter(s):** Michael Redlinger

**Department:** Political Science

**Advisor:** Dr. Andrew Conteh

**Abstract:** The decolonized African continent has impacted post secondary educational opportunities for African and international students alike. The new challenge for the African university lies in adapting and evolving to better meet the social and cultural needs of African communities. Bureaucratic colonial models of higher education offer little in the way of ameliorating African ills, and a new approach is needed. The American land grant model of post secondary education will be evaluated as a possible solvency mechanism to Africa's higher education woes.



## 142

**Title:** Similarities in the Lives and Art of Emily Dickinson and Vincent Van Gogh

**Presenter(s):** Adam Bursack

**Department:** English

**Advisor:** Dr. Challakere

**Abstract:** (No abstract submitted)

## 143

**Title:** Cognitive Defects Associated with Closed Head Injury

**Presenter(s):** Sara McCaslin, Torie Post

**Department:** Speech/Language/Hearing Sciences

**Advisor:** Dr. Louis DeMaio

**Abstract:** The main focus of our project is memory. Recall versus recognition and the amount of cognitive effort needed for memory. Advantages and limitations of cognitive aids for memory rehabilitation such as diaries, appointment calendars, and car and key finders, will be discussed.

The second part of our Senior Project involves administering the Scales of Cognitive Ability for Traumatic Brain Injury (SCATBI), written by Brenda Adamovich and Jennifer Henderson, to a former client of the Minnesota State University Moorhead Speech and Language Clinic. We will compare the results of this test with the test taken when the client first received therapy.

## 144

**Title:** The Tritone Paradox: Confidence Ratings among Swedish Bilingual Listeners

**Presenter(s):** Fredrik Leinfelt

**Department:** Psychology

**Advisor:** Dr. Magdalene Chalikia

**Abstract:** The tritone paradox, as described by Deutch (1986, 1987), consists of two tones that are separated from each other by a half-octave. The tones are presented to the listener successively, and the listener decides whether or not the second tone in the pair is perceived as ascending or descending. Each tone consists of six octave-related harmonics whose amplitudes are determined by a spectral envelope. Due to the nature of the half-octave, different listeners can perceive the same pair as descending or ascending. The present study examined how confident Swedish participants were when making the ascending or descending judgement on the presented stimuli.

## 145

**Title:** Social Work Practice with a Refugee

**Presenter(s):** Tammie Yak

**Department:** Social Work

**Advisor:**

**Abstract:** The composition of the Fargo-Moorhead community has changed within the last ten years. According to statistics provided by Lutheran Social Services, there has been a large increase in both the numbers of refugees coming into this area and the different ethnic backgrounds from which they come. Social workers providing services for diverse populations face many challenges. In order to better serve refugee families, knowledge of their issues, concerns, and differences are a must for practitioners.

## 146

**Title:** Happiness: Prohibited; Impenetrable Barriers in Friel's Translations

**Presenter(s):** Dave Christensen

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** Boundaries, in our minds, are the sorts of things made to be crossed; limits are nothing more than goals we intend to surpass. Ideally, none of us is held back from what we have the potential to achieve, and thus, we confidently set out to do what we will do. The characters of Brian Friel's Translations, though, face impenetrable boundaries that inevitably stifle the achievement of goals. Barriers exist dramatically for the characters Manus, Sarah, Yolland and Marie. These impenetrable boundaries ultimately destroy the hope for successful happiness for each of these characters.

## 147

**Title:** The Suppression of Hope: Irish Anti-Nationalist Themes in W.B. Yeats' Cathleen Ni Houlihan

**Presenter(s):** Melissa Trout

**Department:** English

**Advisor:** Dr. Sandra Pearce

**Abstract:** Ireland's nationalistic cause became a prominent theme for several writers in the nineteenth century. In his writing, Yeats articulated Irish life quite literally, without continuously including a resounding theme of nationalism, and was loyal to the artistic visions of his day rather than political issues. His literary autonomy is demonstrated in Cathleen Ni Houlihan. Yeats depicted a future of hope and a life of promise for Michael in his decision to marry Delia; when he chooses instead to join the nationalistic cause, he abandons all of these bright expectations for an uncertain fate. Therefore, Yeats' play Cathleen Ni Houlihan has anti-nationalistic tones, for the author does not glorify the purpose of the war and instead emphasizes personal sacrifice and tragedy.



*From all of us at  
the Comstock  
Memorial Union,  
congratulations on  
your participation  
in the 3rd Annual  
Student Academic  
Conference.*

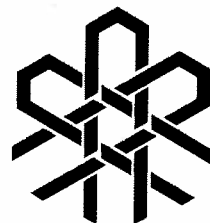


**CMU Mission Statement**

Comstock Memorial Union is an innovative, student centered organization and facility. We deliver valued services and programs that enhance campus life and inspire University involvement and commitment.

- Campus Activities Board** — student activities and programs
- The Center for Leadership and Organizations** — student organization and leadership resources
- The Compass** — campus information
- Copies Plus** — photocopies, presentation services, and a full-service graphics studio
- Etcetera Shop** — convenience and gift shop
- Event Services** — conference and catering facilities
- Recreation and Outing Center** — games and outdoor equipment
- Underground** — nonalcoholic dance club

For more *information*  
contact the CMU at (218) 236-2261.



**Comstock  
Memorial  
Union**

MSUM Bookstore MSUM Bookstore MSUM Bookstore

MSUM Bookstore

MSUM Bookstore

# MSU Moorhead Bookstore:

MSUM Bookstore

MSUM Bookstore

## Providing

on campus  
*resources*

MSUM Bookstore

MSUM Bookstore

in support of  
*YOUR*

MSUM Bookstore

MSUM Bookstore

## academic achievements

MSUM Bookstore

MSUM Bookstore

MSUM Bookstore

– Notes –

– Notes –

– Notes –



**Student Academic Conference Web Site:**  
**[www.mnstate.edu/acadconf](http://www.mnstate.edu/acadconf)**