



Student Academic Conference Abstract Books

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1999

## **Bridging the Disciplines: Student Academic Conference**

Moorhead State University

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**Bridging the Disciplines:**  
**STUDENT ACADEMIC**  
**CONFERENCE**

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*The MSU showcase of academic  
achievements*

**Conference Program**

**Wednesday - April 14, 1999**  
**Comstock Memorial Union**



Supported by Academic Affairs, Administrative Affairs, Student  
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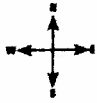
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### Special Thanks to:

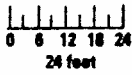
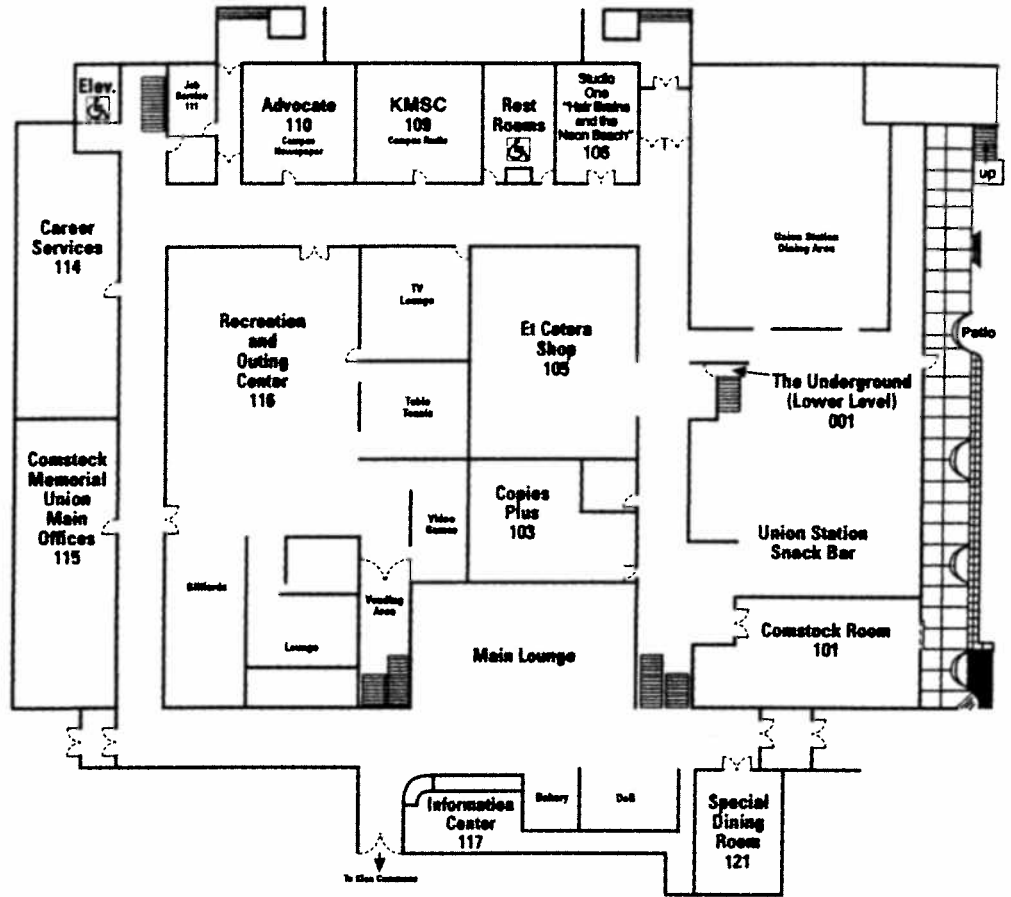
Layne Anderson, Events Services CMU; Jody Bendel, AV Graphics; Jan Guida and Jen Tagler, MSU Printing Services; Dave Holsen, Physical Plant; Psychology Department; Gloria Riopelle, Academic Affairs; Maxine Pianka, President's Office; Darel Paulson, Photography; Session Chairs; Conference Volunteers; and anyone who had any involvement with the success of this conference.



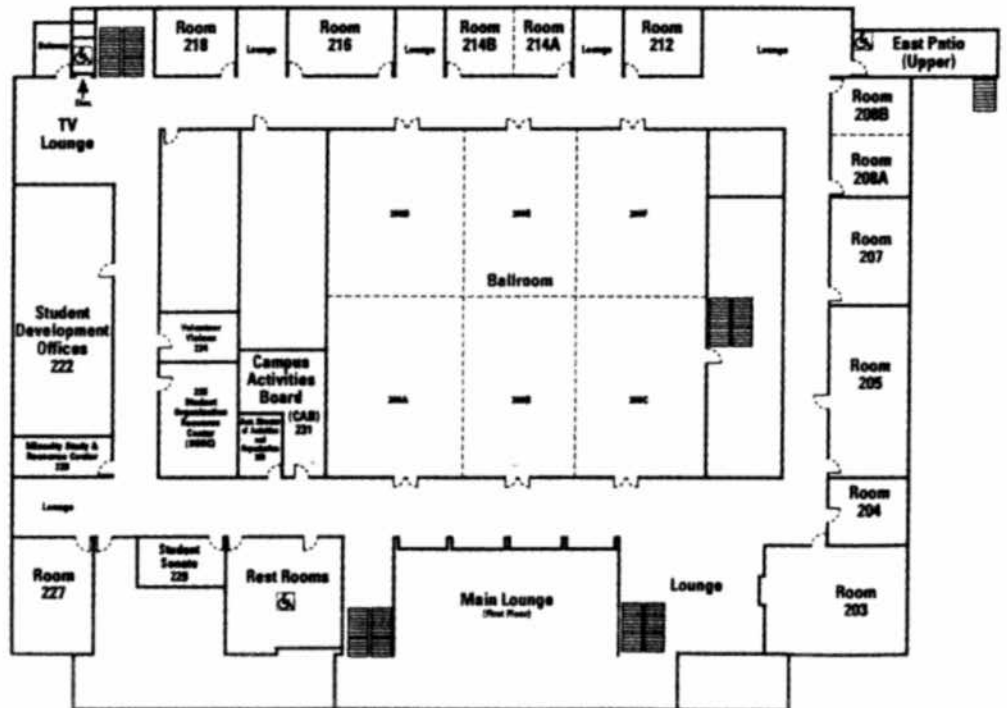
# Comstock Memorial Union



First Floor



Second Floor



The Comstock Memorial Union is a smoke-free environment.

# Conference Schedule

Wednesday, April 14, 1998

## 11:30 a.m. - 1:30 p.m. (2 hours) Luncheon—CMU Ballroom

*Menu:*

*Tossed Salad/Assorted Dressing*

*Choice of One:*

*Lime Grilled Chicken Breast with Pineapple Salsa and Rice Pilaf*  
*or*

*Vegetable Lasagne*

*Each served with:*

*Whole Green Beans and Baby Carrots*

*Dinner Rolls and Butter*

*Beverage*

*and Apple or Cherry Pie*

11:30 a.m. - 12:05 p.m. Luncheon Served

Welcome: Ryan Sylvester

Opening: Dr. Roland Barden, President

12:05 p.m. - 12:10 p.m. Introduction of Keynote: Breanna Vollmers, Honors Apprentice Scholar

12:10 p.m. - 12:50 p.m. Keynote Speaker: Dr. Shawn Dunkirk, Associate Professor of Chemistry

12:50 p.m. - 1:30 p.m. Panel Discussion: Students from Each Academic College

Jan Boe, Social & Natural Sciences

Kelly Rusk, Business & Industry

Jen Brokke, Education & Human Services

Michelle Redepenning, Arts & Humanities

## 1:30 p.m. - 1:40 p.m. (10 minutes) Break

## 1:40 p.m. - 3:10 p.m. (1.5 hours) Session 1—Various CMU Rooms \*

4 Presentations in each of the various CMU rooms  
(15 minutes to present/7 minutes discussion)

1:40 p.m. - 2:02 p.m.

2:02 p.m. - 2:24 p.m.

2:24 p.m. - 2:46 p.m.

2:46 p.m. - 3:08 p.m.

\* See Schedule by Room Location for Special Sessions with Different Times in rooms 203, 208, and 218

## 3:10 p.m. - 3:20 p.m. (10 minutes) Break

## 3:20 - 4:50 p.m. (1.5 hours) Session 2—Various CMU Rooms \*

4 Presentations in each of the various CMU rooms  
(15 minutes to present/7 minutes discussion)

3:20 p.m. - 3:42 p.m.

3:42 p.m. - 4:04 p.m.

4:04 p.m. - 4:26 p.m.

4:26 p.m. - 4:48 p.m.

\* See Schedule by Room Location for Special Sessions with Different Times in rooms 203, 208, and 218

## 7:30 p.m. "The Diary of Anne Frank"

Presented by the MSU Theatre in the Roland Dille Center for the Arts thrust theatre. This drama has won the Pulitzer Prize, the Tony Award and the Critics Circle Award. For tickets, call the MSU box office at 236-2271. Support your fellow students as they take the stage. FREE for MSU Students with I.D.



Greetings:

Moorhead State University students succeed. The University family is proud of the tradition of success its alumni have achieved. Through the opportunity to study under individual faculty who are active teacher-scholars, MSU students are mentored and encouraged to initiate and pursue their own scholarly and/or creative projects. These student projects often receive national recognition by the different academic disciplinary associations.

MSU recognizes the unique differences of its students and strives to develop each student as individuals. The personalized and topic specific mentoring results in some exceptionally creative and intellectually stimulating projects.

I encourage everyone to participate in the first Moorhead State University Student Academic Conference that is scheduled for Wednesday, April 14, 1999 in the Comstock Memorial Union. Come to see what today's University students are doing. Be prepared to be impressed with their intellectual curiosity and rigor. Be open to discover what new frontiers these students are exploring.

I encourage our students to participate either by submitting their works for presentation and sharing the results of their academic achievements with others, or by attending and observing what other MSU students are doing. Be open to new ideas, and perhaps even find a role model and mentor in the process. This is an excellent opportunity to actively participate in and be part of a University community that is committed to the pursuit of intellectual and academic excellence, and developing individuals to be the best that they can be!

The Moorhead State University Student Academic Conference promises to be a vital testament to the professionalism of the faculty and the potential of the students who are from this region. Help us salute their efforts and achievements! You are part of this rich community! Come join us!

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

Roland E. Barden, Ph.D.  
President

## Student Academic Conference Organizers



**Conference Advisor:**  
Dr. Andrew Conteh



**Conference Organizer:**  
Ryan Sylvester,  
Graduate Assistant



**Conference Assistant:**  
Breanna Vollmers,  
Honors Apprentice

### Conference Steering Committee:

The steering committee is made up of faculty and students that had been invited or were interested in planning and organizing the Student Academic Conference.

Dr. Bette Midgarden, Academic Affairs  
Dr. Sheila Coghill, English  
Les Bakke, Director of Computer Services  
Dr. Abbas Pezeshk, Chemistry  
Dr. Ernest Hallford, Psychology  
Dr. Linda Svobodny, Education  
Dr. Paul Harris, History  
Dr. James Gemar, Physical Education  
Dr. Ruth Dahlke, Music  
Dr. Kristi Groberg, History  
Dr. Hazel Retzlaff, English  
Dr. Vernon Dobis, Economics  
Dr. Don Clark, Art  
Dr. Allen Sheets, Art  
Dr. Konrad Czynski, Multicultural Studies  
Dr. Barbara Vellenga, Nursing  
Dr. David Olday, Sociology & Anthropology  
Dr. Deanne Borgeson, Special Education  
Carlin Borscheim, Student

Dr. Judith Strong, Academic Affairs  
Dr. Tracy Scholl, Philosophy  
Dr. Mary Shimabukuro, Biology  
Dr. Paul Kramer, Political Science  
Dr. Joel Charon, Sociology & Anthropology  
Dr. Susanne Williams, Mass Communications  
Dr. Lyndon Brown, Physical Education  
Dr. Timothy Borchers, Speech & Theatre  
Dr. Alan Davis, English  
Dr. Henry Chan, History  
Dr. Richard DuBord, Social Work  
Dr. Wil Shynkaruk, Art  
Dr. Joyce Torgerson, Multicultural Studies  
Dr. Scott Seltveit, Technology  
Dr. Marsha Weber, Accounting  
Linda Jensen, Social Work  
Harleigh Brown, Student Senate President

### Academic College Committees:

These committees were set up to review the presentation applications for their respective academic divisions.

#### College of Business and Industry

Dr. Aziz Kian, Technology  
Dr. Wayne Alexander, Business Administration  
Dr. George Sanderson, Accounting  
Dr. Dexter Lee, Accounting  
Mary Bader, Accounting  
William Hall, Mass Communications  
John Cooper, Economics

#### College of Social and Natural Sciences

Dr. Abbas Pezeshk, Chemistry Department  
Dr. Roger Sipson, Physics Department  
Dr. Jim Danielson, Political Science Department  
Michele Jacobson, Student  
Amy Grimes, Student  
Christie Delzer, Student  
Sarah Haeder, Student

#### College of Arts and Humanities

(Applications were reviewed by individual departments)

#### College of Education and Human Services

Dr. George Davis, Education  
Stacy Voeller, Library  
Jen Brokke, Student  
Jonathon Halvorson, Student

#### Publicity Committee

Ryan Sylvester, Chair  
Kristi Monson, Publications  
Glenn Tornell, Publications  
Jody Bendell, AV Graphics  
Jan Guida, Printing Services

## Keynote Speaker and Panel Members



### Keynote Speaker

**Dr. Shawn Dunkirk, Chemistry**

**Title: Creative and Research Activities--The Undergraduate Education You'll Remember**

Dr. Dunkirk was born and raised in Fargo. She received her undergraduate degree in Chemistry with a Bio-chem option from NDSU, and attended graduate school there and received her PhD with a Bio-chem emphasis. After that, she worked 1 1/2 years at the University of Minnesota Medical Center. After working with a biotechnology company as a senior investigator and product development manager she returned to Fargo and spent a year as an assistant professor in Bio-chemistry at North Dakota State University. She came to Moorhead State University in the fall of 1991.

Last year, she was a nominee for the national CASE Teaching Award at MSU (one of 3 MSU nominees). In fall of 1997, she received the MSU Excellence Award for excellence in teaching. She regularly attends national, regional, and local conferences of American Chemical Society. Dr. Dunkirk is a member of Project Kalidoscope, an organization to reform science and math education in schools. She enjoys community outreach to local k-12 schools by taking her chemistry students into the classroom to do demonstrations and lead classroom science activities. She is married to Richard Dunkirk, lives in Detroit Lakes, and has 2 daughters, Stephanie and Jennifer, 15 and 11 respectively.

### Student Response to the Keynote Address:

One student was nominated by faculty from each of the four academic college divisions to be part of the panel discussion following the keynote address.



#### Division of Social & Natural Sciences Jan Boe, Psychology

Jan is originally from Reville, SD. She is in her fifth and final year at MSU with a major in Psychology and a minor in Music. She is a member of several national honors societies: Alpha Lambda Delta, Psi Chi, and Phi Kappa Phi. She is currently co-president of MSU's Psi Chi/Psychology Club and MSU's Math

Club treasurer. She was awarded MSU's four year Honor's Apprenticeship Scholarship. Her future plans include graduate school for a PhD in Industrial/Organizational Psychology.



#### Division of Education & Human Services Jennifer Brokke, Special Education

Jennifer is a junior Special Education Major. She will receive a license in four areas of special education by May, 2000. She is very active in the field of education as Co-President of Education Minnesota Student Program (EMSP) and Chair of Student Council for Exceptional Children (SCEC). She is also a

member of the 1998-99 NEA Advisory Committee of Student Members, where she meets with eight other pre-professional teachers in Washington, D.C. three times during the year to make recommendations to the NEA President about the NEA Student Program.

Other campus involvements include: Assistant Orientation Coordinator, Resident Assistant in Dahl Hall (1997-98), and has been an MSU tour guide since 1997. Her future plans include teaching in a middle school or a high school setting. She would also like to get her Master's degree in an area of Special Education. Eventually she would like to be a Special Education Director.



#### Division of Business & Industry Kelly Rusk, Business Management

Kelly is from Las Vegas Nevada. He will graduate in May with a B.S. in Business Management, and a minor in Economics. An emphasis of his studies has been in conflict resolution. He traveled to Europe last summer to earn a diploma in negotiation and conflict resolution from the International Institute for

Mediation and Conflict Resolution at Erasmus University. He has been president of Phi Sigma Kappa, an all-conference cross country runner twice, works as a research assistant for Dr. Andrew Conteh, and currently running for The Athletes Foot and training to qualify for the Olympic trials in the steeplechase. In June he will begin graduate studies at the Monterey Institute for International Studies. Kelly will also be presenting twice at the Student Academic Conference.



#### Division of Arts & Humanities Michelle Redepinning, Speech Communications

Michelle is originally from Madison, MN, and is in her sophomore year at MSU. Her major is in Speech Communications with a concentration in Professional Communication and a minor in Political Science. Some of the activities she is involved with on campus include: Student

Senate, the Legislative/Internal Affairs Committee, Strategic Planning Committee, Arts & Humanities Deans Advisory Committee, and a Peer Advisor for the Speech/Theatre Department. After graduating from MSU she plans to attend Graduate School. Michelle's future plans are quite broad, ranging from a communications and political science consultant or researcher to becoming a college administrator.



## Why Hold an Academic Conference at Moorhead State University?

A student academic conference is one appropriate way to focus on the academic success and achievement of students in the arts and sciences and in professional programs in an institution with a sustained commitment to the liberal arts. This conference will create additional opportunities for faculty to build ties and establish new relationships with students. Few undergraduates know much about professional conferences. This conference will allow students to participate in the excitement of the intellectual exchanges, the social interactions, and new acquaintances made at conferences. Students are often frustrated by the narrow audience for their research work. Often they are only able to make a rushed presentation in front of a small seminar, and regrettably often write for an audience of only one - their professor.

\* Adapted from "Enhancing International Studies With Undergraduate Academic Conferences" by Arnold J. Oliver, Heidelberg College

This conference welcomes the participation of every department on campus. Students at Moorhead State University produce papers and projects, but do not always have a forum to share and defend their findings with other students. Those students that do have such opportunities are not always able to see what other students in other majors are working on. Consequently, this conference will seek to address some of these concerns, as well as address the following objectives:

- Moorhead State University will showcase the work of its students.
- Students will experience the excitement of intellectual exchanges.
- Students will develop public speaking skills.
- Students will learn the value of research.
- Students will share their knowledge with other students and faculty.
- Students will have a great experience to add to their resume.
- Faculty will have increased opportunity to work with students out of the classroom.
- Students and faculty will come together to network from various departments.
- Students will have an opportunity to practice presentations as they prepare for other conferences.

## Schedule by Room

Numbers correlate to the Abstracts starting on page 19.

### CMU 101

Session Chair: Dr. Virginia Klenk, Dean of Arts & Humanities

- 1:40-2:02 p.m. 17. Video Conferencing for Internship Classes and Supervision  
2:02-2:24 p.m. 14. The 1996 Presidential Campaign of Bill Clinton  
2:24-2:46 p.m. 49. Web Page Politics and Jesse Ventura  
2:46-3:08 p.m. 29. Who is Going to Pay for Public Services in Cyberspace

3:08-3:20 p.m. Break

Session Chair: Dr. Aziz Kian, Technology

- 3:20-3:42 p.m. 41. How to Files  
3:42-4:04 p.m. 43. Department of Technology Multimedia CD  
4:04-4:26 p.m. 88. Computer Animation  
4:26-4:48 p.m. 60. Speech to Text in a Changing World

### CMU 121

Session Chair: Dr. David Crockett, Vice President of Administrative Affairs

- 1:40-2:02 p.m. 62. Hungary-The Crash of 98, An Emerging Market in the Global Economy  
2:02-2:24 p.m. 04. Supplemental Instruction  
2:24-2:46 p.m.  
2:46-3:08 p.m.

### CMU 203 — SPECIAL SESSION

Session Chair: Dr. James Danielson, Political Science

- 2:00-2:45 p.m. 102. Job Satisfaction by Public Employees: Measurement and Policy Response  
2:00-2:45 p.m. 103. Providing Long-Term Care in North Dakota: New Methods  
2:00-2:45 p.m. 104. Providing Theurapeutic Recreation in City Park Systems  
2:00-2:45 p.m. 105. Recruiting and Training Staff to Treat Adolesents

2:45-3:00 p.m. Break

Session Chair: Dr. Roger Sipson, Physics

- 3:00-3:30 p.m. 18. Osmosis and Homeostasis in a Living System  
3:30-4:00 p.m. Break  
4:00-4:30 p.m. 52. The Nature of Waves and Sound  
4:30-4:52 p.m.

### CMU 205

Session Chair: Dr. Paul Kramer, Political Science

- 1:40-2:02 p.m. 101. Using Celebrities in Advertising: A sure bet or risky business?  
2:02-2:24 p.m. 08. Conducting the Strategic Planning for a Rural Hospital and Nursing Home  
2:24-2:46 p.m. 82. Web Server Creation and Administration  
2:46-3:08 p.m. 13. Drudge, The Starr Report and News: The Status of Online Journalism

3:08-3:20 p.m. Break

Session Chair: Dr. Steven Grineski, Dean of Education & Human Services

- 3:20-3:42 p.m. 106. Grapes Gone Sour  
3:42-4:04 p.m. 70. The Wonderful World of Weather  
4:04-4:26 p.m. 50. Glass-Steagall Act  
4:26-4:56 p.m.

## CMU 207

Session Chair: Dr. Bette Midgarden, Vice President for Academic Affairs

- 1:40-2:02 p.m. 30. Optimizing Transfection of Neonatal Cardiac Myocytes in Culture  
2:02-2:24 p.m. 31. Using Antisense Oligodeoxynucleotides to Decrease Na<sup>+</sup>-H<sup>+</sup> Antiporter Activity in Cultured Neonatal Heart Cells  
2:24-2:46 p.m. 35. Isolating Pseudomonas Species from Fish Tanks  
2:46-3:08 p.m. 92. The Virtual Cell  
  
3:08-3:20 p.m. Break

Session Chair: Dr. Mark Wallert, Biology

- 3:20-3:42 p.m. 44. Using the World Wide Web as an Aid in Teaching Science  
3:42-4:04 p.m. 54. Proper Marketing Research and Analysis Drives a Successful Business  
4:04-4:26 p.m. 38. The Ethical Criticism of The Grapes of Wrath  
4:26-4:48 p.m. 26. Test Generator for the Web

## CMU 208 — SPECIAL SESSION

Session Chair: Dr. Mary Shimabukuro, Biology

- 1:40-2:10 p.m. 91. Science Around the World  
2:10-3:40 p.m. 42. Teaching Evolution in the Classroom  
3:40-4:10 p.m. 11. Determining Speed on an Inclined Plane

## BALLROOM 200D

Session Chair: Dr. Hazel Retzlaff, English

- 1:40-2:02 p.m. 40. Interpretations of Seurat  
2:02-2:24 p.m. 01. "An Image of Africa: Racism in Conrad's Heart of Darkness": A Sociolinguistic Analysis  
2:24-2:46 p.m. 48. Uncovering the Harmful Messages in Women's Magazines  
2:46-3:08 p.m. 24. "Hold Me Father"  
  
3:08-3:20 p.m. Break

Session Chair: Dr. Roland Dille, President Emeritus

- 3:20-3:42 p.m. 53. Poetry Presentation  
3:42-4:04 p.m. 06. The Christian Views of Frederick Douglass  
4:04-4:26 p.m. 16. Bison Habitat Use and Herd Composition in Theodore Roosevelt National Park in the North Dakota Badlands  
4:26-4:48 p.m. 96. Single Later: Considerations in Adult Dating Practice

## CMU 214

Session Chair: Dr. Cliff Schuette, Counseling Center and Placement Services

- 1:40-2:02 p.m. 95. Verbal and Emotional Abuse: What is it?  
2:02-2:24 p.m. 02. The Use of Economic Aid in the Prevention of Conflict  
2:24-2:46 p.m. 61. The Greatest Gift, a video documentary on organ donation  
2:46-3:08 p.m. 64. Voice Therapy for Children: A Case Report  
  
3:08-3:20 p.m. Break

Session Chair: Dr. Carol Dobitz, Dean of Business & Industry

- 3:20-3:42 p.m. 03. The Process of Peace  
3:42-4:04 p.m. 55. The Non-Partisan League: 1915-1922  
4:04-4:26 p.m. 37. The Taino Revival  
4:26-4:48 p.m. 89. Readjustment of Vietnam Veterans and Changing Popular Attitude

## CMU 216

Session Chair: Dr. Roland Barden, President

1:40-2:02 p.m.

2:02-2:24 p.m. 59. A Non-radioactive *in Vivo* Method to Determine Phospholipase D Activity in Chinese Hamster Ovary Cells

2:24-2:46 p.m. 83. Access Databases for Faculty Search/Faculty Vitae

2:46-3:08 p.m. 84. Access Database for MSU's Student Technology Team

3:08-3:20 p.m. Break

Session Chair: Dr. Joseph Provost, Chemistry

3:20-3:42 p.m. 58. Identification and Activation of RhoA in Rat Ventricular Neomyocytes

3:42-4:04 p.m. 28. Ford Motor Company

4:04-4:26 p.m. 25. Nurturer or Oppressor: My Place in Schools

4:26-4:48 p.m. 07. Regulation/Deregulation of Telephone Companies

## CMU 218 — SPECIAL SESSION

Session Chair: Dr. Deanne Borgeson, Special Education

1:40-2:55 p.m. 05. The Impact of Disability on Child Development

2:55-3:00 p.m. Break

3:00-3:30 p.m. 93. Issues Related to Families with Chronically ILL/and or Medically Fragile Children

3:30-3:35 p.m. Break

3:35-4:50 p.m. 05. The Impact of Disability on Child Development

## CMU 227

Session Chair: Dr. Steven Butler, Vice President of Student Affairs

1:40-2:24 p.m. 63. Diversity Workshop: Archie Bunker's Neighborhood

2:24-2:46 p.m. 85. Using RealPublisher to Create an Online Training Module

2:46-3:08 p.m. 87. Using Netshow to Create a Multimedia Online Training Module

3:08-3:20 p.m. Break

Session Chair: Dr. William Packwood, Counseling and Student Affairs

3:20-3:42 p.m. 67. Battered Women

3:42-4:04 p.m. 68. Depression

4:04-4:26 p.m. 69. Anorexia Nervosa

4:26-4:48 p.m. 86. VRML (Virtual Reality Modeling Language) Project

## ALLROOM 200A

Session Chair: Dr. Terrie Manno, Music

1:40-2:02 p.m. 19. "December", a Composition for String Orchestra

2:02-2:24 p.m. 09. Imagy3

2:24-2:46 p.m. 34. Musical Collaboration: What does it take to make it work?

2:46-3:08 p.m. 90. Life Drawing

3:08-3:20 p.m. Break

Session Chair: Dr. Ron Jeppson, Dean of Social & Natural Sciences

3:20-3:42 p.m. 77. A Virtual Dissection Guide to Vertebrate Anatomy

3:42-4:04 p.m. 65. Benford's Law and the Significance of the First Digit Numbers

4:04-4:26 p.m.

4:26-4:56 p.m. 39. The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production

## MAIN LOUNGE

100. Gene Cloning via Tag-Team
15. Survival and Population Structure of a Gunnison's Prairie Dog Population in Colorado
20. An Attempt to Fabricate a Solid State Solar Cell
23. Identification of Cold Tolerant Mutants of Maize Pyruvate Orthophosphate Dikinase
27. Relativity
32. EPR Studies of Erythrocyte Membrane of Hypertensive and Normotensive Rats
33. Treacher Collins Syndrome: Dysmorphology and Effects on Speech, Hearing, Language, and Social Adaptation
45. Thermal Isomerization of 3-Phenyl-ortho-carborane
46. Alzheimer's Disease: Language, cognition and neurology
47. Sharing Science Assessment
51. Asperger's Syndrome and its Effects on Cognition, Social Behavior, and Language
71. Size-Dependent Shifts In Antipredator Behavior in Larval Convict Cichlids (*Cichlasoma nigrofasciatum*)
72. Avoidance of Injury-released Chemical Cues BY *Gammarus lacustris* (Crustacea: Amphipoda) and Corresponding Attraction by Their Predators *Dina parva* (Annelida: Hirudinea)
73. Demonstration of an Alarm Cue in a Platyhelminth (Turbellaria: Planariidae)
74. Investigating a disturbance pheromone in johnny darters (*Etheostoma nigrum*)
75. Effect Of Ration And Physical Condition On The Proliferation Of Epidermal Club Cells In Johnny Darters (*Etheostoma nigrum*)
76. A Test of the Antipathogenic Hypothesis for the Evolutionary Origin of Alarm Substance Cells in Ostariophysan fishes
78. Protein purification the lazy man's way: genetic engineering technology and affinity tagged proteins
79. Mutating corn genes in the laboratory: How we are genetically engineering cold tolerance in corn
80. Undoing mother nature's on/off switches in corn leaves...consequences for increased photosynthesis efficiency and increased yields in corn
81. Cutting and pasting DNA: How recombinant DNA technology is used to disassemble and reassemble genes for expression in the bacterium *E. coli*
94. The Effects of Word Valence on Primary Task Performance
97. The Politics of Spiritual Feminism Collaborative Quilt
99. The Effects Of Radiation On DNA: The Role Of P-Phenylene Diamine On Radiation Damage
12. Our Experiences at the Centennial American Physical Society Meeting
36. ADHD/ADD in Adults
107. Analysis of Creatine
22. To the Moon and Back
21. The Effects of Radiation on DNA
98. Orientation of Coenzyme B12 on DNA Fibers: an EPR Study
57. Vitamin E, Blood Pressure and Membrane Fluidity in Rats

## Conference Presenters ( in alphabetical order)

Numbers correlate to the Abstracts starting on page 19.

Name	Topic		
97. HUM 412	"Feminary" The Politics of Spiritual Feminism Collaborative Quilt	Main Lounge	Continuous
52. Marian Aanerud	The Nature of Waves and Sound	203	4:00-4:30 p.m.
12. Marian Aanerud	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
107. Christian Albano	Analysis of Creatine	Main Lounge	Continuous
34. Brent Alexenko	Musical Collaboration: What does it take to make it work?	Ballroom 200A	2:24-2:46 p.m.
37. Tamara Alfson	The Taino Revival	214	4:04-4:26 p.m.
05. Anne Anderson	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
36. Chandra Anderson	ADHD/ADD in Adults	Main Lounge	Continuous
36. Jena Anderson	ADHD/ADD in Adults	Main Lounge	Continuous
76. Sarah Anderson	A Test of the Antipathogenic Hypothesis for the Evolutionary Origin of Alarm Substance Cells in Ostariophysan fishes	Main Lounge	Continuous
46. Kristy Arens	Alzheimer's Disease: Language, cognition and neurology	Main Lounge	Continuous
103. Brian Arett	Providing Long-Term Care in North Dakota: New Methods	203	2:00-2:45 p.m.
95. Elizabeth Augustine	Verbal and Emotional Abuse: What is it?	214	1:40-2:02 p.m.
96. Elizabeth Augustine	Single Later: Considerations in Adult Dating Practice	Ballroom 200D	4:26-4:48 p.m.
100. Gary Bailey	Gene Cloning via Tag-Team	Main Lounge	Continuous
45. Sudeep Basnet	Thermal Isomerization of 3-Phenyl-ortho-carborane	Main Lounge	Continuous
25. Mary Bauer	Nurturer or Oppressor: My Place in Schools	216	4:04-4:26 p.m.
58. Matt Baumgartner	Identification and Activation of RhoA in Rat Ventricular Neomyocytes	216	3:20-3:42
12. Yilmaz Bayazit	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
88. Apoena Becker	Computer Animation	101	4:04-4:26 p.m.
57. C. Belmont	Vitamin E, Blood Pressure and Membrane Fluidity in Rats	Main Lounge	Continuous
63. MacDalton Berns	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
05. Tricia Beyer	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
81. Derrin Birch	Cutting and pasting DNA: How recombinant DNA technology is used to disassemble and reassemble genes for expression in the bacterium E. coli	Main Lounge	Continuous
78. Derrin Birch	Protein purification the lazy man's way: genetic engineering technology and affinity tagged proteins	Main Lounge	Continuous
82. Chris Blaze	Web Server Creation and Administration	205	2:24-2:46 p.m.
80. Monty Boschner	Undoing mother nature's on/off switches in corn leaves...consequences for increased photosynthesis efficiency and increased yields in corn	Main Lounge	Continuous
31. Christina Broadwell	Using Antisense Oligodeoxynucleotides to Decrease Na <sup>+</sup> -H <sup>+</sup> Antiporter Activity in Cultured Neonatal Heart Cells	207	2:02-2:24 p.m.
63. Kari Burgess	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
79. Alane Christlieb	Mutating corn genes in the laboratory: How we are genetically engineering cold tolerance in corn	Main Lounge	Continuous
81. Jeff Clauson	Cutting and pasting DNA: How recombinant DNA technology is used to disassemble and reassemble genes for expression in the bacterium E. coli	Main Lounge	Continuous
70. Tonya Courneya	The Wonderful World of Weather	205	3:42-4:04 p.m.
63. Christine Dahlberg	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
35. Paul Dambow	Isolating Pseudomonas Species from Fish Tanks	207	2:24-2:46 p.m.
61. Paul DeKrey	The Greatest Gift, a video documentary on organ donation	214	2:24-2:46 p.m.
11. Christie Delzer	Determining Speed on an Inclined Plane	208	3:40-4:10 p.m.
12. Christie Delzer	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous

05. Aleecia Dobitz	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
08. Lisa Eide	Conducting the Strategic Planning for a Rural Hospital and Nursing Home	205	2:02-2:24 p.m.
39. Lisa Elder	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
05. Jamie Emerson	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
39. April Erickson	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
34. Eric Falkner	Musical Collaboration: What does it take to make it work?	Ballroom 200A	2:24-2:46 p.m.
15. Cory L. Floden	Survival and Population Structure of a Gunnison's Prairie Dog Population in Colorado	Main Lounge	Continuous
05. Barbi Franzen	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
82. Tim Frese	Web Server Creation and Administration	205	2:24-2:46 p.m.
63. Heather Fritz	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
26. Michael Fuchs	Test Generator for the Web	207	4:26-4:48 p.m.
84. Neal Gamradt	Access Database for MSU's Student Technology Team	216	2:46-3:08 p.m.
83. Neal Gamradt	Access Databases for Faculty Search/Faculty Vitae	216	2:24-2:46 p.m.
63. Konnie Gohman	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
63. Jaime Goldsmith	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
40. Anna Mae Grams	Interpretations of Seurat	Ballroom 200D	1:40-2:02 p.m.
39. Anna Mae Grams	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
106. Charla Grenz	Grapes Gone Sour	205	3:20-3:42 p.m.
90. Susan Grim	Life Drawing	Ballroom 200A	2:46-3:08 p.m.
30. Amy Grimes	Optimizing Transfection of Neonatal Cardiac Myocytes in Culture	207	1:40-2:02 p.m.
63. Shelby Grinde	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
04. Shelby Grinde	Supplemental Instruction	121	2:02-2:24 p.m.
43. Dawn Groah	Department of Technology Multimedia CD	101	3:42-4:04 p.m.
54. Jim Haberman	Proper Marketing Research and Analysis Drives a Successful Business	207	3:42-4:04 p.m.
51. Jenni Hagen	Asperger's Syndrome and its Effects on Cognition, Social Behavior, and Language	Main Lounge	Continuous
101. Julie C. Hall	Using Celebrities in Advertising: A sure bet or risky business?	205	1:40-2:02 p.m.
01. Sarah Hall	"An Image of Africa: Racism in Conrad's <u>Heart of Darkness</u> ": A Sociolinguistic Analysis	Ballroom 200D	2:02-2:24 p.m.
33. Michelle Halverson	Treacher Collins Syndrome: Dysmorphology and Effects on Speech, Hearing, Language, and Social Adaption	Main Lounge	Continuous
91. Kamal S. Hamed	Science Around the World	208	1:40-2:10 p.m.
100. Grant Harrington	Gene Cloning via Tag-Team	Main Lounge	Continuous
05. Carrie Harthun	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
48. Joyce Hatton	Uncovering the Harmful Messages in Women's Magazines	Ballroom 200D	2:24-2:46 p.m.
42. Tanya Hendrickson	Teaching Evolution in the Classroom	208	1:40-3:40 p.m.
28. Lora Henning	Ford Motor Company	216	3:42-4:04 p.m.
61. Autumn Herda	The Greatest Gift, a video documentary on organ donation	214	2:24-2:46 p.m.
59. Jesse Hodap	A Non-radioactive <i>in Vivo</i> Method to Determine Phospholipase D Activity in Chinese Hamster Ovary Cells	216	2:02-2:24 p.m.
77. Jacob P. Holkup	A Virtual Dissection Guide to Vertebrate Anatomy	Ballroom 200A	3:20-3:42 p.m.
104. Leslie J. HovLand	Providing Theurapeutic Recreation in City Park Systems	203	2:00-2:45 p.m.
39. Jeremy Hulteen	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.

39.	Steve Husby	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
55.	Morgan Huseby	The Non-Partisan League: 1915-1922	214	3:42-4:04 p.m.
05.	Leann Ishaug	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
57.	J. Iveland	Vitamin E, Blood Pressure and Membrane Fluidity in Rats	Main Lounge	Continuous
21.	Michele Jacobson	The Effects of Radiation on DNA	Main Lounge	Continuous
86.	Jeremy Jensen	VRML (Virtual Reality Modeling Language) Project	227	4:26-4:48 p.m.
82.	Jeremy Jensen	Web Server Creation and Administration	205	2:24-2:46 p.m.
46.	Jodi Jensen	Alzheimer's Disease: Language, cognition and neurology	Main Lounge	Continuous
05.	April Johnson	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
35.	Bryan Johnson	Isolating Pseudomonas Species from Fish Tanks	207	2:24-2:46 p.m.
44.	Sheri Just	Using the World Wide Web as an Aid in Teaching Science	207	3:20-3:42 p.m.
75.	Tara S. Kartes	Effect Of Ration And Physical Condition On The Proliferation Of Epidermal Club Cells In Johnny Darters (Etheostoma nigrum)	Main Lounge	Continuous
24.	Jade Kendall	"Hold Me Father"	Ballroom 200D	2:46-3:08 p.m.
47.	Monica Kirby	Sharing Science Assessment	Main Lounge	Continuous
12.	Monica Kirby	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
92.	Matthew Klaman	The Virtual Cell	207	2:46-3:08 p.m.
92.	Trevor Klein	The Virtual Cell	207	2:46-3:08 p.m.
49.	Rebecca L. Klindt	Web Page Politics and Jesse Ventura	101	2:24-2:46 p.m.
88.	Cory Knight	Computer Animation	101	4:04-4:26 p.m.
27.	Denise K. Knudson	Relativity	Main Lounge	Continuous
89.	Jonathon Kohler	Readjustment of Vietnam Veterans and Changing Popular Attitude	214	4:26-4:48 p.m.
23.	Amy Krider	Identification of Cold Tolerant Mutations of Maize Pyruvate Orthophosphate Dikinase	Main Lounge	Continuous
59.	Amy Krider	A Non-radioactive <i>in Vivo</i> Method to Determine Phospholipase D Activity in Chinese Hamster Ovary Cells	216	2:02-2:24 p.m.
59.	Jodi Lamoureux	A Non-radioactive <i>in Vivo</i> Method to Determine Phospholipase D Activity in Chinese Hamster Ovary Cells	216	2:02-2:24 p.m.
67.	Tasha Langdahl	Battered Women	227	3:20-3:42 p.m.
54.	Daryn Lecy	Proper Marketing Research and Analysis Drives a Successful Business	207	3:42-4:04 p.m.
12.	Kim Lester	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
20.	Jamal Lewis	An Attempt to Fabricate a Solid State Solar Cell	Main Lounge	Continuous
59.	Dan Loban	A Non-radioactive <i>in Vivo</i> Method to Determine Phospholipase D Chinese Hamster Ovary Cells	216	2:02-2:24 p.m.
35.	Larry Louisiana	Isolating Pseudomonas Species from Fish Tanks	207	2:24-2:46 p.m.
23.	Judi Loy	Identification of Cold Tolerant Mutants of Maize Pyruvate Orthophosphate Dikinase	Main Lounge	Continuous
32.	Judi Loy	EPR Studies of Ertrocyte Membrane of Hypertensive and Normotensive Rats	Main Lounge	Continuous
57.	Judi Loy	Vitamin E, Blood Pressure and Membrane Fluidity in Rats	Main Lounge	Continuous
68.	Leslie Mack	Depression	227	3:42-4:04 p.m.
05.	Melissa Mack	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
102.	Dan M. Mahli	Job Satisfaction by Public Employees: Measurement and Policy Response	203	2:00-2:45 p.m.
22.	Kathleen Malum	To the Moon and Back	Main Lounge	Continuous
58.	Isaac Manke	Identification and Activation of RhoA in Rat Ventricular Neomyocytes	216	3:20-3:42 p.m.
64.	Melissa McIntire	Voice Therapy for Children: A Case Report	214	2:46-3:08 p.m.
17.	Dr. Olivia Melroe	Video Conferencing for Internship Classes and Supervision	101	1:40-2:02 p.m.
73.	Melissa C. Millard	Demonstration of an Alarm Cue in a Platyhelminth (Turbellaria: Planariidae)	Main Lounge	Continuous



05.	Meagan Miller	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
61.	Jennifer Mitsch	The Greatest Gift, a video documentary on organ donation	214	2:24-2:46 p.m.
42.	Mike Mosey	Teaching Evolution in the Classroom	208	2:10-3:40 p.m.
42.	Lisa Mueller	Teaching Evolution in the Classroom	208	2:10-3:40 p.m.
71.	Joe Mullins	Size-Dependent Shifts In Antipredator Behavior in Larval Convict Cichlids ( <i>Cichlasoma nigrofasciatum</i> )	Main Lounge	Continuous
65.	Joel Nasstrom	Benford's Law and the Significance of the First Digit Numbers	Ballroom	3:42-4:04 p.m.
100.	Craig Nerby	Gene Cloning via Tag-Team	Main Lounge	Continuous
05.	Fawn Newman	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
93.	Fawn Newman	Issues Related to Families with Chronically ILL/and or Medically Fragile Children	218	3:00-3:30 p.m.
12.	George Newman	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
30.	Laura Nustad	Optimizing Transfection of Neonatal Cardiac Myocytes in Culture	207	1:40-2:02 p.m.
69.	Patt Olek	Anorexia Nervosa	227	4:04-4:26 p.m.
94.	Erik Olheiser	The Effects of Word Valence on Primary Task Performance	Main Lounge	Continuous
31.	Sarah Olmschenk	Using Antisense Oligodeoxynucleotides to Decrease Na <sup>+</sup> -H <sup>+</sup> Antiporter Activity in Cultured Neonatal Heart Cells	207	2:02-2:24 p.m.
60.	K. Jeffrey Ortner	Speech to Text in a Changing World	101	4:26-4:48 p.m.
04.	Kristopher Pauna	Supplemental Instruction	121	2:02-2:24 p.m.
50.	Kristopher Pauna	Glass-Steagall Act	205	4:04-4:26 p.m.
53.	Andrea Paxton	Poetry Presentation	Ballroom	3:20-3:42 p.m.
05.	Erica Petersen	The Impact of Disability on Child Development	218	1:40-2:55 p.m.
57.	M. Post	Vitamin E, Blood Pressure and Membrane Fluidity in Rats	Main Lounge	Continuous
32.	Matthew Post	EPR Studies of Erythrocyte Membrane of Hypertensive and Normotensive Rats	Main Lounge	Continuous
13.	Erica Prairie	Drudge, The Starr Report and News: The Status of Online Journalism	205	2:46-3:08 p.m.
39.	June Preuss	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
39.	Stephanie Pryor	The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production	Ballroom 200A	4:26-4:56 p.m.
15.	Kristen Radtke	Survival and Population Structure of a Gunnison's Prairie Dog Population in Colorado	Main Lounge	Continuous
16.	Kristen Radtke	Bison Habitat Use and Herd Composition in Theodore Roosevelt National Park in the North Dakota Badlands	Ballroom 200 D	4:04-4:26 p.m.
105.	Laurie Ray	Recruiting and Training Staff to Treat Adolescents	203	2:00-2:45 p.m.
14.	Michelle Redepenning	The 1996 Presidential Campaign of Bill Clinton	101	2:02-2:24 p.m.
05.	Jennifer Reif	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
07.	Robin Richter	Regulation/Deregulation of Telephone Companies	216	4:26-4:48 p.m.
08.	Jim Rush	Conducting the Strategic Planning for a Rural Hospital and Nursing Home	205	2:02-2:24 p.m.
02.	Kelly Rusk	The Use of Economic Aid in the Prevention of Conflict	214	2:02-2:24 p.m.
03.	Kelly Rusk	The Process of Peace	214	3:20-3:42 p.m.
05.	Renne Sauvageau	The Impact of Disability on Child Development	218	1:40-2:02 p.m.
15.	John P. Schoon	Survival and Population Structure of a Gunnison's Prairie Dog Population in Colorado	Main Lounge	Continuous
08.	Becky Schreck	Conducting the Strategic Planning for a Rural Hospital and Nursing Home	205	2:02-2:24 p.m.
16.	Karla J. Scoville	Bison Habitat Use and Herd Composition in Theodore Roosevelt National Park in the North Dakota Badlands	Ballroom 200 D	4:04-4:26 p.m.
05.	Jillian Selander	The Impact of Disability on Child Development	218	3:35-4:50 p.m.
19.	Matthew Shmigelsky	"December", a Composition for String Orchestra	Ballroom 200A	1:40-2:02 p.m.
45.	John Soderstrom	Thermal Isomerization of 3, Phenyl-ortho-carborane	Main Lounge	Continuous

98.	Jason Swenson	Orientation of Coenzyme B12 on DNA Fibers: an EPR Study	Main Lounge	Continuous
63.	Kim Syverson	Diversity Workshop: "Archie Bunker's Neighborhood"	227	1:40-2:24 p.m.
29.	Kenichi Takahashi	Who is Going to Pay for Public Services in Cyberspace	101	2:46-3:08 p.m.
16.	Heather R. Taylor	Bison Habitat Use and Herd Composition in Theodore Roosevelt National Park in the North Dakota Badlands	Ballroom 200 D	4:04-4:26 p.m.
09.	David Tesch	Imagy3	Ballroom 200A	2:02-2:24 p.m.
94.	Curtis A. Theis	The Effects of Word Valence on Primary Task Performance	Main Lounge	Continuous
38.	Mara Thomas	The Ethical Criticism of <u>The Grapes of Wrath</u>	207	4:04-4:26 p.m.
43.	Robert Toews	Department of Technology Multimedia CD	101	3:42-4:04 p.m.
12.	James Tollefson	Our Experiences at the Centennial American Physical Society Meeting	Main Lounge	Continuous
33.	Erin Trandem	Treacher Collins Syndrome: Dymorphology and Effects on Speech, Hearing, Language, and Social Adaption	Main Lounge	Continuous
89.	Shane Trego	Readjustment of Vietnam Veterans and Changing Popular Attitude	214	4:26-4:48 p.m.
18.	Eric Trembath	Osmosis and Homeostasis in a Living System	203	3:00-3:50 p.m.
05.	Allison Uecker	The Impact of Disability on Child Development	218	1:40-2:02 p.m.
99.	Aaron D. Vandermeer	The Effects Of Radiation On DNA: The Role Of P-Phenylene Diamine On Radiation Damage	Main Lounge	Continuous
77.	Aaron D. Vandermeer	A Virtual Dissection Guide to Vertebrate Anatomy	Ballroom 200A	3:20-3:42 p.m.
17.	Scott Vosper	Video Conferencing for Internship Classes and Supervision	101	1:40-2:02 p.m.
79.	Adam Vossen	Mutating corn genes in the laboratory: How we are genetically engineering cold tolerance in corn	Main Lounge	Continuous
62.	Robert Wagner	Hungary-The Crash of 98, An Emerging Market in the Global Economy	121	1:40-2:02 p.m.
72.	Erin E. Watkin	Avoidance of Injury-released Chemical Cues BY <i>Gammarus lacustris</i> (Crustacea: Amphipoda) and Corresponding Attraction by Their Predators <i>Dina parva</i> (Annelida: Hirudinea)	Main Lounge	Continuous
78.	Erin Watkin	Protein purification the lazy man's way: genetic engineering technology and affinity tagged proteins	Main Lounge	Continuous
06.	Mike Welken	The Christian Views of Frederick Douglass	Ballroom 200 D	3:42-4:04 p.m.
51.	Tanya Wentz	Asperger's Syndrome and its Effects on Cognition, Social Behavior, and Language	Main Lounge	Continuous
85.	Jason Weum	Using RealPublisher to Create an Online Training Module	205	2:24-2:46 p.m.
82.	Matt Weum	Web Server Creation and Administration	227	2:24-2:46 p.m.
87.	Matthew Weum	Using Netshow to Create a Multimedia Online Training Module	227	2:46-3:08 p.m.
61.	Jenny Wilde	The Greatest Gift, a video documentary on organ donation	214	2:24-2:46 p.m.
41.	Nicole Wright	How to Files	101	3:20-3:42 p.m.
74.	Krista L. Young	Investigating a disturbance pheromone in johnny darters ( <i>Etheostoma nigrum</i> )	Main Lounge	Continuous

## Abstracts

1.

**Title of Work to be Presented:** Chinua Achebe's Essay, "An Image of Africa: Racism in Conrad's Heart of Darkness": A Sociolinguistic Analysis

**Presenters:** Sarah Hall

**Department:** English

**Advisor:** Dr. Timothy Choy, Dr. Katie Meiners

**Abstract:** Heart of Darkness by Joseph Conrad has been accepted as one of the greatest novels written in the English language. The novel's place within the canon of British literature had hardly been questioned until 1975 when an African writer, Chinua Achebe, presented a Chancellor's Lecture at the University of Massachusetts entitled "An Image of Africa: Racism in Conrad's Heart of Darkness." Achebe, himself a celebrated writer from Nigeria, created a stir in literary academia when he called upon educational institutions to throw Conrad's novel out of the canon for his blatant racism.

Using the sociolinguistic paradigm of rhetorical criticism, I analyze Achebe's use of language in his arguments. I examine the relationship between language and society and Achebe's use of language to attack societal stereotypes generally and Conrad's specifically. For Achebe, language is a vital force in shaping his desired reality.

2.

**Title of Work to be Presented:** The Use of Economic Aid in the Prevention of Conflict

**Presenters:** Kelly Rusk

**Department:** Economics

**Advisor:** Dr. Vernon Dobls

**Abstract:** As an Economics Minor and my background in conflict resolution studies I am currently undergoing an independent study in the field of Economics involving the use of economic aid to prevent conflict. This study which I hope to present at the Student Academic Conference provides a clear definition of conflict, uses African countries as examples of countries that have used economic aid, and delves into the thought of how aid is used and what form it should be given in. This study into applied Economics is a hope to offer insight into the affairs of the world and how the global economy, as each country becomes concerned with stability and interdependence, aids those countries in need in order to prevent conflict and establish stability.

3.

**Title of Work to be Presented:** The Process of Peace

**Presenters:** Kelly Rusk

**Department:** Political Science

**Advisor:** Dr. Andrew Conteh

**Abstract:** My work in the area of conflict resolution has gone beyond the classroom and into a body of work I call the Process of Peace. It is this work I wish to present at the Student Academic Conference in April of 1999. The Process of Peace is one year of solid work stemming from my development of a 12 step approach to peace and includes many new thoughts such as developing a conflict timeline to observe and aid in the resolution of conflict, building of cooperation bridges in negotiations of parties in conflict, and finally the nurturing of peace. The 12 steps are not necessarily required by strict adherence in order to

obtain a peaceful resolution to a dispute, but rather the Rusk 12 step approach to peace offers insight into various issues that affect conflict resolution at any level. I have had my work validated by leaders of the world as I traveled to the 1998 International Student Symposium on Negotiation and Conflict Resolution, earned my Diploma and have now returned to present my completed work which I hope to publish, and present to the academic community of MSU.

4.

**Title of Work to be Presented:** Supplemental Instruction

**Presenters:** Kris Pauna and Shelby Grinde

**Department:** Counseling Center-Supplemental Instruction

**Advisor:** Heidi Paul

**Abstract:** The Supplemental Instruction program is offered by the Moorhead State University Counseling and Personal Growth Center to all students enrolled in traditionally difficult classes in the areas of Accounting, Biology, Chemistry, Math, Economics and Physics. As Supplemental Instruction Leaders, we have seen the benefits of the SI program to not only students, but also to professors and the leaders as well. We would like the opportunity to share our experiences and the results of the program in general at the Student Academic Conference.

The basic purposes of SI are to enhance student learning in high risk freshman and sophomore-level classes and to increase the retention of these students at the university. High risk classes are defined as those with 30% or higher combined rate of D's, F's and Withdrawals. Students in such classes typically have the highest risk for dropout as well as poor academic performance compared to those in classes with lower D, F, and W rates. Historically, such classes occur most frequently in the natural science and quantitative disciplines.

The SI model employs able students ("SI leaders") who have had the high risk course and are trained in SI instructional skills, course-relevant study strategies and collaborative learning methods. The leader then sits in the course and facilitates 2-3 outside review sessions a week for its students throughout the term. Students attend voluntarily. The classes served would include Accounting 230-231, Biology 102, 103, 104, and 114, Chemistry 106-107, 150, 160 and 360, Economics 202 and 204, Mathematics 129 and 134, and Physics 111, 112 (about 55 sections total.) Approximately 60% of students enrolled in these courses are freshman with the remainder mainly sophomores.

The presentation will include a Power Point presentation detailing results collected in previous years, a general philosophy of the program, and our personal experiences as Supplemental Instruction Leaders. Through this presentation we hope to increase awareness of the true benefits of the Supplemental Instruction Program.

5.

**Title of Work to be Presented:** The Impact of Disability on Child Development

**Presenters:** Students in Special Education 426/526

**Department:** Special Education

**Advisor:** Dr. Deanne Borgeson

**Abstract:** A panel of students from Special Education 426 (Infant Strategies) will provide overviews of various disabilities and the impact of each disability on child development. Information will include etiology and physical features of the disability, potential areas of delay, and implications for family life. Handout will be provided.

6.

**Title of Work to be Presented: The Christian Views of Frederick Douglass**

**Presenters: Mike Welken**

**Department: English**

**Advisor: Dr. Charles Bense**

**Abstract:** What I would like to present at the conference is a paper analyzing Frederick Douglass's attitude toward Christianity and how he separates his own values from those of the slave-holding South. This paper comes about as an English assignment from last semester for Dr. Charles Bense's English 101 class.

The paper is divided into 3 areas: Douglass's first concepts of religion, criticism of slave-holding religion, and the final truth of Christianity. Using specific passages from Douglass's "Narrative" the paper analyzes Douglass's own perspective of religion and how his faith assisted his escape from servitude. One of the underlying themes of the paper is education because in order for Douglass to comprehend religion he first had to learn to read.

7.

**Title of Work to be Presented: Regulation/Deregulation of Telephone Companies**

**Presenters: Robin Richter**

**Department: Economics**

**Advisor: Dr. Vernon Dobis**

**Abstract:** Presentation on the moves of deregulation and regulation of the telephone companies, a project for my Economics 315 class. I will focus on the Bell's with splitting up of the business and now back to the joining of them together. I will discuss the government and the business aspect of it and a basic economic theory for analysis of regulation. I also will take a look at the supply and demand conditions in the market too. The presentation will be done on Power Point.

8.

**Title of Work to be Presented: Conducting the Strategic Planning for a Rural Hospital and Nursing Home**

**Presenters: Jim Rush, Becky Schreck, and Lisa Eide**

**Department: Health**

**Advisor: Mr. Bruce T. Briggs**

**Abstract:** In December 1998, the Griggs County Hospital and Nursing Home Association of Cooperstown, ND completed a strategic plan maximizing community, employee, and Board involvement. The following summarizes the strategic planning process.

During the fall semester, six students and one instructor from MSU organized and conducted the strategic planning process for Griggs. Under the supervision of Health Services Administration program coordinator, Bruce Briggs, the students coordinated the planning process. Focus groups were held with employees, managers, and a resident family group. Twenty key informant interviews were also conducted.

At the Griggs Board meeting in November, the students presented the information obtained from the focus group sessions and key informant interviews. Participants answered surveys and developed initial desired outcomes and strategies to address important issues. This information was utilized to complete a draft of the strategic plan including mission, vision, strategies, and outcomes.

9.

**Title of Work to be Presented: Imagy3**

**Presenters: David Tesch**

**Department: Music**

**Advisor: Dr. Mary Roberts**

**Abstract:** IMAGY3 is the resulting composition from my studies of 20th century music this year. The form of presentation is a 15.54 minute Hi Fi VHS videotape of moving still shots with music. Composers I have studied this year include Philip Glass, La'monte Young, Steve Reich, and various commercial music producers including Sean Beaven and Billy Corgan.

Music for this presentation was produced in MSU music studios, including live musicians and electronically generated sound. Video production was filmed off campus and edited at my home. Inspiration for the video accompaniment stems from my recent attendance of Philip Glass's 'Monsters of Grace' performance at the University of Minnesota. While my composition is greatly different than any I have studied, it is a culmination of all the inspiration each event has provided in my composition degree.

The piece's main focus is on being able to immerse one's self in a non-consumer experience that provides the basis of realizing there is much more to a musical experience than standard melody, harmony, rhythm, and form. I have found that slow, detailed video provides a focal point for listeners to adhere to while experiencing this style of music. These video shots sometimes have significant meaning, while sometimes they have no meaning. This provides the third dimensional layer of contrast that our music of today is slowly losing.

11.

**Title of Work to be Presented: Determining Speed on an Inclined Plane**

**Presenters: Christie Delzer**

**Department: Physics**

**Advisor: Dr. Walter Worman**

**Abstract:** Often, students have misconceptions about how velocity, acceleration, and force correspond with one another. This workshop is designed for science teachers who are interested in learning about an activity designed to correct these misconceptions. The activity can be adjusted to be appropriate for any grade level, elementary school through introductory college physics. The materials used are inexpensive and are easily obtainable. This workshop will consist of a hands-on activity, an explanation of how the activity works, and suggestions on how to adjust the activity to meet the needs of different grade levels.

12.

**Title of Work to be Presented: Our Experiences at the Centennial American Physical Society Meeting**

**Presenters: Society of Physics Students**

**Department: Physics**

**Advisor: Dr. Spence Buckner**

**Abstract:** The American Physical Society (APS) is a national level association of scientists, engineers, students, and educators, which sets its mission as the advancement of knowledge and education in physics. This March, in Atlanta Georgia, the APS is holding their 100th annual national meeting. In addition to speeches, scientific presentations, and professional society meetings this centennial event will include special historical exhibits and a trade show featuring exhibits from research groups, national laboratories, and various corporations. Keynote

speaker invitees include various Nobel Laureates, as well as the President and Vice President of the United States. Seven to eight thousand participants from all over the world are expected to attend.

The Moorhead State University Chapter of the Society of Physics Students will be taking part in this meeting. Seven members will be attending the conference, and two of those seven will be making presentations there. Our group will report on its experiences at the conference, subjects addressed by conference speakers, and the work done for the conference presentations made by our own members.

### 13.

#### **Title of Work to be Presented: Drudge, The Starr Report and News: The Status of Online Journalism**

**Presenters: Erica Prairie**

**Department: Mass Communications**

**Advisor: Dr. Susanne Williams**

**Abstract:** How does the web change news journalism? Recently, many people seem to be asking questions—especially traditional journalists and those who are critical of the Internet becoming a viable news source. In order to help answer this question I have conducted a review of literature surrounding news and journalism online. I have divided the information into two categories: the main causes for concern about online journalism and what journalists think about news and journalism online. Finally, I draw several conclusions about the status of online journalism.

In summary, I found that the Web doesn't really change journalism, but rather that it enhances journalism. People are now, as a result of Internet journalism, able to be more informed because they can get up-to-date information that can't always be found in the local newspaper or other local media outlets. Because of this, people are able to become better educated about the events going on in the world around them, not only in their region, but in the next country as well.

### 14.

#### **Title of Work to be Presented: The 1996 Presidential Campaign of Bill Clinton**

**Presenters: Michelle Redepenning**

**Department: Speech Communication**

**Advisor: Dr. Tim Borchers**

**Abstract:** When Bill Clinton was re-elected as President of the United States in 1996, America stood at the brink of a pivotal point in history. For the first time in 32 years a Democrat was re-elected as President. Since 1992 while Clinton began his first term in office, America has seen a definite change in the political world and the way politics is done. Plagued with a history including allegations of marital infidelity, sexual harassment, marijuana use, avoiding the Vietnam War, and a real estate and FBI-file scandal, Clinton still walked away with and continues to hold over 50% of the popular vote. Under the advisement of Dick Morris, political consultant and co-author of his campaign message and advertising, a New Clinton Majority has emerged. Walter Fisher suggests that using "a drama or story is the most powerful and pervasive metaphor that humans use to persuade and explain events." Using Fisher's idea of the narrative, along with coherence, fidelity, this paper traces the 1996 Presidential Campaign of Bill Clinton.

### 15.

#### **Title of Work to be Presented: Survival and Population Structure of a Gunnison's Prairie Dog Population in Colorado**

**Presenters: John P. Schoon, Kristen M. Radtke, Cory L. Floden, and Dr. Donna M. Bruns Stockrahm**

**Department: Biology**

**Advisor: Dr. Donna M. Bruns Stockrahm**

**Abstract:** During the summers of 1991 through 1997, approximately 350 Gunnison's prairie dogs (*Cynomys gunnisoni*) were live-trapped on a 3 ha-portion of a larger colony in Archuleta County, Colorado. Because no distinction could be made between emigration and mortality, "survival" refers to those animals that were recaptured in consecutive years. Pup gender ratios were approximately 1:1, but adult ratios usually favored females. Between any 2 consecutive years, survival from pup to yearling age was generally greater for females than males, with male survival often less than 8% and female survival reaching up to 25-33% for 3 of the 6 years. If a female pup reached the age of 1 year, its chances of surviving to the next year increased. For the approximately 170 captured males, only 9 were captured for 2 consecutive years and 1 additional animal for 3 years. For the approximately 180 captured females, 22 were captured for 2 consecutive years; additionally, 3 females were captured for 3 consecutive years, 1 for 4 years, 2 for 5 years, and 2 for 6 years. None of these older females were captured in 1997, indicating probable death. Population turnover and survival could potentially influence genetic diversity of Gunnison's prairie dog populations.

### 16.

#### **Title of Work to be Presented: Bison Habitat Use and Herd Composition in Theodore Roosevelt National Park in the North Dakota Badlands**

**Presenters: Kristen M. Radtke, Heather R. Taylor, Karla J. Scoville, and Dr. Donna M. Bruns Stockrahm**

**Department: Biology**

**Advisor: Dr. Donna M. Bruns Stockrahm**

**Abstract:** During the summer of 1998, bison (*Bison bison*) habitat use, space use, and herd composition were studied in Theodore Roosevelt National Park near Medora, North Dakota. Bison gender and age class were determined when possible; locations were recorded on maps and a Global Positioning System. In mid-May before the rut, many lone bulls were scattered throughout the Park while females were not readily visible. As the rut progressed in July, bison congregated on the black-tailed prairie dog (*Cynomys ludovicianus*) towns. Our highest and most accurate count occurred on 16 July 1998 with 10 lone bulls scattered throughout the Park and one large herd of 273 animals on a single prairie dog town. Repeated counts of the 273 animals indicated there were at least 58 calves, and approximately 77 adult cows, 65 adult bulls, 11 subadult females (based on size and/or absence of calf), 30 subadult males, 28 subadults of undetermined gender, and 4 animals of unknown age or gender. By late August, the rut was about finished and bison had dispersed. Only small cow/calf bands with a few associated bulls or scattered, solitary bulls were seen. Current herd composition will also be discussed relative to past herd management practices.

17.

**Title of Work to be Presented: Video Conferencing for Internship Classes and Supervision**

**Presenters: Scott Vosper, and Dr. Olivia Melroe**

**Department: Psychology**

**Advisor: Dr. Olivia Melroe**

**Abstract:** The work that will be presented at the student academic conference is a video conferencing system developed for the School Psychology Graduate Program. This system allows internship students to participate in internship classes from across the country using the internet, computers, video cameras, and a conference phone. It is interactive in that the student at the remote location and the students in the classroom can see and hear one another. This system allows students to obtain internships at distant locations and still be able to satisfy course requirements. It has also been used to video conference with internship supervisors. While the result is not the same quality as video conferencing through a satellite system, it is very comparable and can be set up at a fraction of the cost.

This video conferencing system will be presented using a poster session and also live demonstrations. Demonstrations will include how to use video conferencing software, and general setup requirements.

18.

**Title of Work to be Presented: Osmosis and Homeostasis in a Living System**

**Presenters: Eric Trembath**

**Department: Biology**

**Advisor: Dr. Mary Shimabukuro**

**Abstract:** This workshop will use a video prepared by Robert A. Hirashy of University of Wisconsin, Richland. The video will demonstrate osmosis and the function of the contractile vacuole in the cellular slime mold, *Dictyostelium purpueum*. In addition participants will collect data on contractile vacuole activity in different osmotic environments. The objective of this presentation is to involve participants in an easy and convenient way to demonstrate osmosis and homeostasis in a living system. Participants will collect data on osmosis in hypertonic, hypotonic, and isotonic environments. The use of cooperative learning in this lesson will be discussed.

19.

**Title of Work to be Presented: "December", a Composition for String Orchestra**

**Presenters: Matthew Shmigelsky**

**Department: Music**

**Advisor: Dr. Terrie Manno**

**Abstract:** The Compositional Processes in "December," an original composition. This presentation features a large scale composition for string orchestra which I have been working on since early December. The presentation includes a description of the techniques, aesthetics, style relationships, and characteristics relevant to the composition and the compositional process.

Due to the relative scarcity of large string ensembles accessible to aspiring composers, realization of my composition is through Finale, a computer notation program that controls synthesizer patches (sounds) via MIDI (Musical Instrument Digital Interface). Although some potential string effects are not possible using representative synthesized string patches, I am able to produce a relatively accurate representation of my composition (which is designed for actual performers), through the use of computer software and MIDI devices.

20.

**Title of Work to be Presented: An Attempt to Fabricate a Solid State Solar Cell**

**Presenters: Jamal Lewis**

**Department: Chemistry**

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

**Abstract:** Many solid solar cells have been assembled with various degrees of success in recent times. This is yet another attempt to construct a solar cell based on nanocrystalline titanium oxide film sensitized with an organic dye as the photoanode of the cell. Special emphasis is made on the search for a stable counter electrode to increase the efficiency of the net output of the cell.

21.

**Title of Work to be Presented: The Effects of Radiation on DNA**

**Presenters: Michele Jacobson**

**Department: Chemistry**

**Advisor: Dr. Abbas Pezeshk**

**Abstract:** Exposure of dilute aqueous DNA to ionizing radiation at ambient temperatures results 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 the deoxyribose units. Exposure of frozen aqueous solutions of DNA to gamma radiation at 77 K resulting in direct damage to DNA and the formation of guanine-centered radical-cations and thymine radical-anions or cytosine radical-anions. In this report we present an EPR investigation of the yields of free radicals formed in gamma irradiated frozen DNA in the presence and absence of p-phenylene diamine, a radioprotector drug.

22.

**Title of Work to be Presented: To the Moon and Back**

**Presenters: Kathleen Malum**

**Department: Geology**

**Advisor: Dr. Russell Colson**

**Abstract:** The MSU Geology lab uses electrochemistry to study the chemical behavior of elements in melted rock. These experiments help us understand how chemical processes inside the Earth, moon, or other planets form the rocks and ore deposits found at the surface. The electrochemical method is inexpensive and relatively easy for undergraduate students to use.

Properties of cations such as iron, (Fe), or Nickel, (Ni), in silicate melts depend on direct interactions between the cation and chemical components in the melted rock. The experiments discussed address whether the presence of Phosphorous influences chemical behavior of silicate melts and the extent. Whether or how much P interacts directly with Fe or Ni in the silicate melts is also addressed.

The results of the P-Ni experiments show P has little effect on activity of Ni in silicate melts. This supported that Phosphorous does not effect the silicate melt, nor does it directly interact with Ni in the melt. However, P does strongly affect the activity of Fe, suggesting a strong chemical interaction between P and Fe in silicate melts. These experiments help us understand and simulate how melted rock might behave deep inside another planet, such as the moon or Mars.

23.

**Title of Work to be Presented: Identification of Cold Tolerant Mutants of Maize Pyruvate Orthophosphate Dikinase**  
**Presenters: Amy Krider and Judi Loy**  
**Department: Chemistry**  
**Advisor: Dr. Shawn Dunkirk**

**Abstract:** This study proposes to examine point mutations in the amino acid sequence of maize orthophosphate pyruvate dikinase, PPDK, in order to alter the cold sensitivity of this enzyme. PPDK is the enzyme responsible for catalyzing the reaction of pyruvate to phosphoenolpyruvate in C<sub>4</sub> photosynthetic plants. Unfortunately PPDK is a cold sensitive enzyme and is inactivated at temperatures below 12 C. This limits the growing range of C<sub>4</sub> photosynthetic plants to milder climates and limits overall biomass production of important food and animal feed crops like maize. However a cold tolerant form of PPDK was discovered in a C<sub>4</sub> like plant, *Flaveria brownii*. The amino acid sequences of the two types of PPDK were compared and they are ~70% homologous. Initial studies have shown that cold stability of *F. brownii* PPDK is located in the C-terminus. Point mutations to be made in the maize PPDK will be determined by examining the C-terminus of both types of PPDK for points of nonhomology. The cDNA of maize PPDK will then be point mutated at 4 of these sites in an effort to infer cold stability upon the enzyme. After expression of the point mutated enzyme in a bacterial system, it will be purified and assayed by size exclusion chromatography to determine if the mutation was successful in imparting cold tolerance.

24.

**Title of Work to be Presented: "Hold Me Father"**  
**Presenters: Jade Kendall**  
**Department: English**  
**Advisor: Dr. Marc Vinz**

**Abstract:** Presentation of an English paper.

25.

**Title of Work to be Presented: Nurturer or Oppressor: My Place in Schools**  
**Presenters: Mary Bauer**  
**Department: EECE - Elementary and Early Childhood Department**  
**Advisor: Dr. Beth Anderson**

**Abstract:** This presentation is about my beliefs in the current status of elementary schools in America. I plan to speak about the story of my life and how I made the decision to become a teacher of elementary children and an activist. Based on my readings and independent studies of the works of Paulo Friere and other social critics I have learned much about the way education systems oppress. As a system, education works to oppress all from the administrators to the teachers to the students. If we accept this notion of schools being places of oppression, teachers need to find a way to ease this oppression by reflection and subtle changes in our schools. There are methods of teaching students that can make a real difference in the lives of children instead of teaching by the way that the system perpetuates it. Little by little teachers can provide the leadership for curricular changes.

26.

**Title of Work to be Presented: Test Generator for the Web**  
**Presenters: Michael Fuchs**  
**Department: Computer Science Department**  
**Advisor: Dr. Rhonda Ficek**

**Abstract:** My proposal is a demonstration of a web browser based test generator. This test generator was written under the direction of Dr. Rhonda Ficek of the Technology and Computer Science Departments. It was written using Java Script and is capable of determining which browser is being used (Netscape or Internet Explorer) and then executing the appropriate code to allow the user to generate a test. The user enters the name of the test, selects the type of question, True False, or multiple choice answers from 3-5 choices, enters the question and the answers and submits the question to the generator. The generator outputs a test that is taken online. The test corrects itself, giving immediate feedback, and mails the results to the instructor. It requires a name to be submitted before it will correct the test, and it will also let the test taker know if they have inadvertently left any question unanswered.

27.

**Title of Work to be Presented: Relativity**  
**Presenters: Denise K. Knudson**  
**Department: Mass Communications**  
**Advisor: Dr. Wayne Gudmundson**

**Abstract:** The topic of my presentation will be titled "Relativity." The theme of my presentation is relative to the theory that Einstein holds. Einstein's theory of the universe is; showing that all motion is relative and treating time as a fourth dimension related to space.

The work that I will present will be in the form of a photo exhibit. I will have 15 to 20 black and white photographs. The size of the photographs will be 8 x 10. The photographs will be matted and framed. I will have subtitles for my photographs, two photos per one subtitle. I will also have my statement about my work typed and mounted, and possibly a quote from Einstein.

28.

**Title of Work to be Presented: Ford Motor Company**  
**Presenters: Lora Henning**  
**Department: Finance**  
**Advisor: Dr. Marsha Weber**

**Abstract:** I plan to discuss Ford Motor Company. The auto industry has gone through some major changes in the past few months. There are many similarities between what is going on today and what was going on in the early 1900s. I plan to discuss what was going on in the economy and the auto industry during both periods.

29.

**Title of Work to be Presented: Who is Going to Pay for Public Services in Cyberspace**

**Presenters: Kenichi Takahashi**

**Department: Accounting**

**Advisor: Dr. George Sanderson**

**Abstract:** My presentation topic is an issue about Internet Sales Taxes. As the internet commerce grows, we will have great benefits from the new technology and also we will face big problems with taxation issues. I will discuss about pros and cons about this fast-growing business, especially how this new business this new business change the way how we buy things, how we pay for them, and how local and states governments collect sales taxes on the purchases.

Congress has passed the Internet Tax Freedom Act, and it would prohibit local and states governments from collecting any sales taxes on the purchases through the Internet for three years unless online retailers have any kind of physical nexus in the state of the buyers. The three-year period is the time period to find a solution of the issue. This act could be a very big advantage for online stores and promote this new business to grow faster and faster. However, because sales taxes account for a substantial amount of local and state tax revenues, it would result in huge losses for those governments.

I would inform audiences of the significance of this issue. After listening to my presentation, audience will find out how convenient to shop on the Net, how their shoppings affect local and states governments, and think what we should treat this problems. I will suggests some possible solutions and I would like the audience to think about them.

30.

**Title of Work to be Presented: Optimizing Transfection of Neonatal Cardiac Myocytes in Culture**

**Presenters: Laura Nustad and Amy Grimes**

**Department: Biology**

**Advisor: Dr. Mark Wallert**

**Abstract:** The process of introducing nucleic acids into cells by non-viral methods is defined as transfection. Transfection can be obtained by a number of methods. Liposomal transfection reagents which incorporate synthetic cationic lipids with neutral lipids are currently the most successful method of transferring nucleic acids into cells. The major challenge with any transfection method comes in the fact that obtaining optimal transfection is an empirical process. Five different lipid transfection agents (Tfx-10, Tfx-20, Tfx-50, Fugene-6 and Lipofectin) have been tested to determine which gives the best transfection into neonatal heart cells. The pSV $\beta$  galactosidase gene was used as the reporter gene in these experiments. Cells, which have been successfully transfected with pSV $\beta$  galactosidase, will create a blue reaction product when treated with X-gal. Transfection efficiency was determined by visual inspection counting stained and unstained cells. In preliminary experiments Fugene-6 and Lipofectin gave the best results. These two agents were then tested at varying DNA concentrations and incubations times in order to optimize the results.

31.

**Title of Work to be Presented: Using Antisense Oligodeoxynucleotides to Decrease Na<sup>+</sup> -H<sup>+</sup> Antiporter Activity in Cultured Neonatal Heart Cells**

**Presenters: Christina Broadwell and Sarah Olmschenk**

**Department: Biology**

**Advisor: Dr. Mark Wallert**

**Abstract:** The Na<sup>+</sup> - H<sup>+</sup> antiporter has been demonstrated to play a key role in the regulation of intracellular pH in cardiac ventricular muscle cells. The antiporter is a Na<sup>+</sup> -dependent, amiloride-sensitive, proton extrusion mechanism which is activated by an increase in intracellular H<sup>+</sup> concentration. An antisense oligodeoxynucleotide based on the initial coding sequence of the NHE-1 isoform of the Na<sup>+</sup> - H<sup>+</sup> antiporter was used to study the effects of decreasing expression of this protein on pH regulation in neonatal cardiac ventricular myocytes. Ventricular myocytes from 1-5 day old rat pups were maintained in culture for 24 to 36 hours prior to treatment with lipofectin and antisense oligodeoxynucleotide. Cultured cells were treated with 20  $\mu$ g/ml lipofectin and 0.2  $\mu$ mol/liter antisense oligodeoxynucleotide for 8 hours. Na<sup>+</sup> - H<sup>+</sup> Antiporter activity measured at 24 and 48 hours following transfection showed a marked decrease in the rate of recovery from an intracellular acid load as compared to lipofectin and untreated controls demonstrating a reduced expression of the Na<sup>+</sup> - H<sup>+</sup> antiporter.

32.

**Title of Work to be Presented: EPR Studies of Ertrocyte Membrane of Hypertensive and Normotensive Rats**

**Presenters: Matthew Post, Judi Loy, Dr. Abbas Pezeshk, and Dr. Derick Dalhouse**

**Department: Chemistry**

**Advisor: Dr. Abbas Pezeshk**

**Abstract:** Systemic hypertension is a complex disease state resulting in chronically elevated arterial blood pressure. Differences in the membrane fluidity of erythrocytes were observed in spontaneously hypertensive rats (SHR) and Wistar-Kyoto rats (WKY). Changes in the membrane fluidity and in the blood pressure of both the hypertensive (SHR) and normotensive (WKY) rats were observed after treatment with probucol, an antioxidant. Rats were injected with probucol and weight and blood pressure data were maintained on them. Membrane fluidity was studied using electron paramagnetic resonance (EPR) spectroscopy and spin labeling techniques. Initial data indicate that treatment with an antioxidant decreases blood pressure and increases membrane fluidity.



**33.**

**Title of Work to be Presented: Treacher Collins Syndrome: Dysmorphology and Effects on Speech, Hearing, Language, and Social Adaptation**

**Presenters: Michelle Halverson and Erin Trandem**

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

**Advisor: Dr. Patrick Coppens**

**Abstract:** Treacher Collins Syndrome is a rare genetic disorder known for its distinctive abnormalities of the craniofacial area. Our research project intends to look at this syndrome from three areas while also demonstrating the relationship between the three areas. First, we will look at the medical and physical aspect of this syndrome, including etiology and common abnormalities. Second, we will look at the impact of these physical characteristics on speech and hearing abilities. Early intervention is crucial in children with Treacher Collins Syndrome, as they are at a predetermined risk for speech and hearing problems. Finally, we will look at language development and social adaptation of people with Treacher Collins Syndrome. Although mental deficiencies are rarely present in these cases, speech and hearing difficulties can have a detrimental effect on normal language development. An unusual physical appearance and resulting medical problems can play a large role in the type and quality of social interaction that is experienced by those with Treacher Collins.

**34.**

**Title of Work to be Presented: Musical Collaboration: What does it take to make it work?**

**Presenters: Eric Falkner and Brent Alexenko**

**Department: Music**

**Advisor: Dr. Terrie Manno**

**Abstract:** What is involved in the preparation of a violin-piano recital performance? In this presentation, we will describe the steps taken to prepare for a recital. Some areas to be discussed include the selection of repertoire, rehearsals, and the roles of the soloist and the accompanist. Since musical interpretation is extremely personal, the performers must come to a meeting of the minds on all aspects of the music in order to ensure a confident, effective, well resolved performance. The challenges of excellence in ensemble playing will be examined. Sample passages and techniques will demonstrate some of the more perplexing issues involved in collaborative performance. Questions from the conference attendees will be taken and the presentation will conclude with a violin/piano duo performance.

**35.**

**Title of Work to be Presented: Isolating Pseudomonas Species from Fish Tanks**

**Presenters: Paul Dambow, Bryan Johnson, and Larry Louisiana**

**Department: Biology**

**Advisor: Dr. Kathryn Wise**

**Abstract:** This experiment was done to determine if pseudomonads, a type of gram-negative bacteria, were present in fish tanks that contained fathead minnows (*Pimephles promelas*). Pseudomonads have been found to cause respiratory problems by infecting gills. *Pseudomonas* species are gram-negative rod shaped bacteria. Pseudomonads may be distinguished from other bacteria based on their metabolic traits. Water samples from four different fish tanks were collected. These samples were taken from the front, back, bottom and top of the tank. In addition to sampling the water, fish were swabbed around the gill and head area. The samples were cultured by placing them on a growth medium designed to favor the growth of *Pseudomonas aeruginosa* over other bacteria. *Pseudomonas aeruginosa* was expected to appear as fluorescent green colonies on this medium. The cultures were observed for growth within 24 hours. Samples from the back of the tank demonstrated heaviest bacterial growth. Surprisingly the majority of growth did not display the expected fluorescence. Additional testing proved most of the growth was of bacteria other than *Pseudomonas aeruginosa* including some of the fluorescing colonies. Remarkably, one of the fluorescent colonies gave results that exactly matched the results from a control culture of *Pseudomonas aeruginosa*.

**36.**

**Title of Work to be Presented: ADHD/ADD in Adults**

**Presenters: Jena Anderson and Chandra Anderson**

**Department: Speech Language Hearing Science**

**Advisor: Dr. Patrick Coppens**

**Abstract:** We would like to discuss Attention Deficit Disorder (ADD) in Adults through a poster presentation. We plan to address the neurological involvement of ADD, how ADD affects one's language and communication skills, as well as social behavior.

A brief introduction of our topic would differentiate Attention Deficit Disorder and Attention Deficit with Hyperactivity Disorder. We then would explain the abnormalities found in the prefrontal cortex, cerebellum, and basal ganglia in adults with ADD. Cerebral blood flow and neurotransmitter discrepancies would also be considered. Brain imaging of these areas would be included. The affect of these neurological areas on language and communication skills would be the next section discussed. This would be divided into sub-categories such as expressive language, pragmatics, written language, listening skills, and speech. This section would also deal with therapy techniques for adults with communication deficits associated with ADD/ADHD. The final section to be covered is social behavior. We plan to talk about how the communication deficits mentioned affect an adult with ADD emotionally, as well as his/her family relationships and employment. We would conclude our presentation with a overview of all sections discussed.

### 37.

**Title of Work to be Presented:** The Taino Revival

**Presenters:** Tamara Alfson

**Department:** Sociology/Anthropology

**Advisor:** Dr. Virginia K. Lawson

**Abstract:** This paper provides a look at how the Taino culture, once thought to be annihilated, has covertly kept itself and its language alive for 500 years. It is only now that individuals of the clan groups are publicly acknowledging their existence and identifying themselves as members. I will be examining an individual's self-identification with her ethnic and cultural group, a group which is not coterminous with a racial group. Genetic descent and cultural identity are not coterminous and acceptance into this group does not rely merely on genealogy. Another issue I will be addressing is why the culture has been kept private until recently using examples such as myths, spirituality/religion, and clan identification. The paper's information was obtained by interviews with an informant and literature research. I will also be in contact with other out of state informants, among them the group's tribal chief who is heading up the revival.

I will be presenting this paper as a lecture utilizing the overhead projector and following with a question and answer period.

### 38.

**Title of Work to be Presented:** The Ethical Criticism of The Grapes of Wrath

**Presenters:** Mara Thomas

**Department:** English

**Advisor:** Dr. Hazel Retzlaff

**Abstract:** I did this paper for my Capstone English "Protest Novels" seminar last fall. The instructor, Hazel Retzlaff, opened the door to many forms of literary criticism, but the one that fascinated me most was Ethical Criticism. An article we read in class by Wayne Booth, one of the foremost ethical critics, gave the advice: "teach your students to love both the seductions of story and the fun of criticizing those seductions." This has become my motto as an English major, as well as my focus on John Steinbeck's The Grapes of Wrath. Although it is hailed as one of the masterpieces of 20th Century Literature, there are many aspects about the book (sexism, especially) that need to be pointed out. I also discuss the way Steinbeck romanticizes the poor, creates stock characters, and tells "half-truths" which are very damaging. I will present this work in the form of a web page presentation.

### 39.

**Title of Work to be Presented:** The Twenty-first Century: Is it an Artistic Depression or a Peek of Popular Production

**Presenters:** Jeremy Hulteen, Anna Mae Grams, Stephanie Pryor (\* More names coming)

**Department:** Philosophy and Art

**Advisor:** Dr. Theodore Gracyk and Dr. Don Clark

**Abstract:** As the year 2000 questions the crash of the computer world, the year 2000 questions the crash of the meaning and utility of art. Artists worry and hope that art can save itself from the defragmentation that has occurred in our century. I propose to organize a panel discussion consisting of five panelists and one moderator to question these issues. Taking opinions from artists from Moorhead State University who are struggling through these problems, as well as opinions of philosophers who have studied the meaning and metaphysics of art and society, I

hope to bring forward many concerns and hopeful opinions about the assumed Artistic Depression of our time. Questions such as: In the art realm today, does the word "Good" retain any meaning?

Have artists themselves taken one (or two) too many steps in unforgivable directions? Are these directions such that a subjective and diversified artistic universe has been collapsed into a black hole where not even the slightest glimmer of artistic creation can avoid the downward spiral into the relativistic, jargon filled, elitist "art for art's sake" rationalization?

### 40.

**Title of Work to be Presented:** Interpretations of Seurat

**Presenters:** Anna Mae Grams

**Department:** Art History

**Advisor:** Dr. Kathleen Enz Finken and Dr. Anna Arnar

**Abstract:** The discourse of Art History is young but diverse in its methods. In my research paper and oral presentation for Bridging the Discipline, I plan to discuss Art Historical methods by analyzing the many interpretations of Neo-Impressionist painter George Seurat's A Sunday Afternoon on the Island of La Grande Jatte (1884-86, oil on canvas, 6'9 1/2" 10' 1 1/4", Art Institute of Chicago.)

This work depicts a diverse Parisian crowd at leisure. It is well known for the painting technique used by Seurat, called Pointillism, in which systematic dots of paint were applied to the canvas unblended, theoretically allowing the viewers to optically mix the colors. The scene depicted has become tremendously popular icon of leisure.

Aside from popular appeal, this work has been the subject of discussion by scholars from the time of its conception. This painting has launched much debate from scholars such as 19th Century Anarchist Felix Feneon to 20th Century Feminist Hollis Clayson. The painting has also been explored by Marxists, Formalists, and scientists in terms of its technique, social message and more. For this reason La Grande Jatte is a useful tool in exploring the many faces of the discipline of Art History.

### 41.

**Title of Work to be Presented:** How to Files

**Presenters:** Nicole Wright

**Department:** Student Technology Team

**Advisor:** Dr. Rhonda Ficek

**Abstract:** During the fall semester of 1998, Microbiology students, instructed by Dr. K. Wise, spent time compiling instructional files dealing with equipment, procedures, and media used in the lab. As the technical specialist, I assisted in the development of these files by teaching PowerPoint workshops, taking pictures with a digital camera, and linking all the individual files together forming one large product. This product was then burned onto CDs and distributed to all the students involved, as well as those students taking the course this spring.

For presenting, the "How To" files can simply be loaded on a computer and made available for people to explore. The CD is a great tool that Microbiology students are using frequently to help them through their lab sessions. Everything is in one place instead of having to search through several different reference books before the right information is found. This saves a great deal of time for both the student and the professor. Similar "How To" files could be developed for a number of courses offered at Moorhead State and this conference would be an excellent opportunity for students and faculty to be exposed to these possibilities.

42.

**Title of Work to be Presented: Teaching Evolution in the Classroom**

**Presenters: Tanya Hendrickson, Mike Mosey, and Lisa Mueller**

**Department: Biology**

**Advisor: Dr. Mary Shimabukuro**

**Abstract:** In past years, many teachers have felt uncomfortable teaching evolution for a variety of reasons. This has been recognized at the national level as a problem in the teaching of biology in the public schools. However, due to the lack of acceptance of evolution in the past, teachers are unable to demonstrate the concept of evolution in their classroom. The objective of this workshop is to demonstrate to teachers how to incorporate evolution into the classroom.

This workshop will teach teachers about evolution and give them examples of activities to do with their students. A general overview of the book, *Teaching About Evolution and the Nature of Science*, from the National Academy of Science, will be given on Power Point. The presentation will be followed by two activities chosen from, *Investigating Evolutionary Biology in the Laboratory* from the National Association of Biology Teachers.

43.

**Title of Work to be Presented: Department of Technology Multimedia CD**

**Presenters: Robert Toews and Dawn Groah**

**Department: Department of Technology**

**Advisor: Dr. Mike Ruth**

**Abstract:** The Multimedia CD that we would like to present was created in Senior Project and was intended to be sent to high schools to promote the Department of Technology at Moorhead State University. Many programs were used to create this Multimedia CD. Director 6.5 was the main program used in this project along with several others. The project took over a semester to complete.

The CD contains the following categories: Professors, Majors, Clubs and Fargo/Moorhead Area. Under the Professors area you will find video clips and other information about the professors in the department. When you go into the Majors category you will find a complete listing of all the required classes to complete each of the majors in the Technology Department.

Dawn and I will take a part of the CD and explain it. I will be taking you through the creation process and Dawn will take you on a tour through the Multimedia CD.

44.

**Title of Work to be Presented: Using the World Wide Web as an Aid in Teaching Science**

**Presenters: Sheri Just**

**Department: Biology**

**Advisor: Dr. Mary Shimabukuro**

**Abstract:** Teaching includes more than just lecture, more than just knowing and understanding the content of the subject being taught, it is making the subject interesting and fun for the students. I am going to focus on technology as an aid in teaching students science. Technology can be fun, exciting, and a great learning tool if used to its greatest potential. The internet can be used as an exploration device as well as an informative tool for everyone to learn and expand on concepts they already know, or would like to learn more about. Students are in class to learn both new ideas and concepts, as well as expand on those

already taught to them. A great way to help students learn material, key concepts, and exciting information is to make a web page for them. The students can review information already taught by the teacher, read through tutorials when stuck on tricky subjects, and explore new material not yet known to them. The student will never have any excuses about not knowing the assignment, what their grades are, or what is expected from them in the class. All of these things and more can be on the class web page. I am going to explore what I have found to be the best web sites science teachers have created. I will explain how useful web pages can be for every class, and what key things should be and can be included when making a web page. I will give a chance for everyone at the workshop to explore their thoughts and ideas as to what they think is important to include in a web page, therefore giving them the chance to reflect on what they have observed and learned and giving them a chance to become involved. I think this workshop will help all future teachers become more aware of what they can do to have the best teaching environment and the best learning tools available today.

45.

**Title of Work to be Presented: Thermal Isomerization of 3-Phenyl-ortho-carborane**

**Presenters: John Soderstrom and Sudeep Basnet**

**Department: Chemistry**

**Advisor: Dr. Gary Edverson**

**Abstract:** The mechanism of the isomerization of the icosahedral carborane molecules has been of interest to chemists since their discovery in the early 1960's. More recent work has shown that the mechanism may involve a 12-vertex nido-carborane intermediate, however, experimental evidence for this mechanism has been difficult to achieve. We have synthesized 3-diphenyl-ortho-carborane and heated it in an attempt to obtain further information about the rearrangement pathway. The thermolysis products have been characterized by <sup>11</sup>B NMR spectroscopy and the implications of these products on the mechanism of rearrangements in icosahedral carboranes will be discussed.

46.

**Title of Work to be Presented: Alzheimer's Disease: Language, cognition and neurology**

**Presenters: Kristy Arens and Jodi Jensen**

**Department: Speech Language Hearing Sciences**

**Advisor: Dr. Patrick Coppens**

**Abstract:** We would appreciate the opportunity to present a poster project on the topic of Alzheimer's Disease (AD). Alois Alzheimer discovered AD in 1906. The Alzheimer's Association now defines the disease as a progressive and degenerative brain disease in which brain cells die and are not replaced. The results are impaired memory, thinking and behavior.

Our poster will show the progressive stages of Alzheimer's Disease. We will also look at what parts of the brain are affected by Alzheimer's Disease and how these changes impact the linguistic and cognitive abilities of the patient.

At this time, it appears the areas of the brain most changed by AD are the hippocampus and the cerebral cortex. The hippocampus is responsible for turning short-term memory into long-term memory. Therefore, when the hippocampus develops the Neuritic Plaques and Neurofibrillary Tangles common to all AD

patients, the memory of the patient is greatly affected. These lesions on the cerebral cortex will eventually lead to aphasia in the patient.

It has also been found that many of the neurotransmitter levels in the brain of AD patients are drastically changed. We will discuss the neurotransmitters involved, and what impact that has on the patient as well.

#### 47.

##### **Title of Work to be Presented: Sharing Science Assessment**

**Presenters: Monica Kirby**

**Department: Physics**

**Advisor: Dr. Walter Worman**

**Abstract:** Moorhead State University hosts the Sharing Science program, which started in 1988. This program serves to help teachers teach science-related topics more effectively by providing workshops, lectures, and science shows. The Lake Park-Audubon School District has had a high return rate of teachers to the program; therefore is the location for our progress assessment. General science tests are created and administered to grades 1-12 with the main purpose of comparing the classes taught by Sharing Science teachers and those that are not. A poster will be made of some results from the past assessment as well as the current assessment

#### 48.

##### **Title of Work to be Presented: Uncovering the Harmful Messages in Women's Magazines**

**Presenters: Joyce Hatton**

**Department: Women's Studies**

**Advisor: Dr. Hazel Retzlaff**

**Abstract:** My presentation will be an exhibition and discussion of four collages I have made using women's magazines such as Cosmo and Glamour. To create the collages, I pick a main picture that expresses an anti-female idea, and using other pictures and captions I try to make that underlying idea more explicit.

Each of the collages I will be showing has a separate theme (within the theme of anti-female content in women's magazines), and so I will discuss each separately. The themes I will cover are the infantilization of women, glamorization of violence against women, the ideas of women's nature being pious and asexual, and advertising's simultaneous creation and alleviation of fears as well as other paternalistic traits of advertising directed towards women.

I will show slides of the collages, and also of pictures and articles that I haven't manipulated in case some of the audience are unfamiliar with the content of women's magazines.

#### 49.

##### **Title of Work to be Presented: Web Page Politics and Jesse Ventura**

**Presenters: Rebecca L. Klindt**

**Department: Speech Communication**

**Advisor: Dr. Tim Borchers**

**Abstract:** The 1998 Governor's race in Minnesota produced some surprising results. The election of Jesse Ventura, a third party candidate, shook the nation. Also shaking the nation is the massive wave of computer technology, specifically the information highway. Using Chesebro's model for analyzing communication technologies, it will be possible to examine possible relationships between Web page technology and Jesse Ventura's political

career. This model will help explore the type of information generated or not generated through Web technology, what can be communicated through Web pages, how this will possibly affect the political institution, and what are some possible positive and negative consequences of mixing technology and politics. This paper attempts to explore these relationships using Chesebro's model. I argue that Ventura's Web site is having a positive impact on his political career.

#### 50.

##### **Title of Work to be Presented: Glass-Steagall Act**

**Presenters: Kristopher Pauna**

**Department: Economics**

**Advisor: Dr. Vernon Dobis**

**Abstract:** In the wake of the Great Depression of the 1930's, Congress passed numerous acts to stabilize the banking industry in the United States. In 1933, the Glass-Steagall Act was passed and included numerous important components for banking regulation. The most important aspect of the Glass-Steagall act was the institution of Federal Deposit Insurance. This helped stabilize the banking industry and restored consumer confidence at a very unstable time. However, like numerous acts passed by Congress throughout history, the Glass-Steagall Act contained other components that seem counter-productive in today's environment.

The other inclusions in the Glass-Steagall Act were: a prohibition against interest paid on checking and other checkable accounts, an interest rate ceiling was put in place limiting the amount of interest that banks could pay on accounts, and there was a distinct separation between the brokerage and banking industries. While the interest rate ceiling and interest paid on checkable deposits components have been repealed, the separation of the banking and brokerage industry is still in place. This presentation will explore the origination of the Glass-Steagall Act, focusing on the aspects of Federal Deposit Insurance and the separation of banking and brokerage.

#### 51.

##### **Title of Work to be Presented: Asperger's Syndrome and its Effects on Cognition, Social Behavior, and Language**

**Presenters: Jenni Hagen and Tanya Wentz**

**Department: Speech Language and Hearing Sciences**

**Advisor: Dr. Bruce Hanson**

**Abstract:** Our project is designed to provide information on Asperger's Syndrome. We will discuss three areas: cognitive and neurological components, social behavior, and language. These areas will be integrated throughout the presentation. We will also note how these aspects differ from those of autistic and normal functioning. This information will be presented in the form of a poster session. Asperger's Syndrome (A.S.) was first discussed in 1944 by Hans Asperger. For many years it was thought to simply be a form of autism, specifically high functioning autism. In 1994, it was included in the DSMIV as a separate entity. Presently, information and resources on A.S. are scarce and underdeveloped. The exact cause of A.S. is unknown, however, case studies have revealed a variety of neurological anomalies that accompany this syndrome. It is a developmentally based syndrome as opposed to a degenerative syndrome. In terms of cognition, people with A.S. perform within the normal to very superior range on intelligence tests. Similar to their heightened performance on cognitive tasks, people with A.S. excel in their use of language and often use a pedantic style of communication. The hallmark of A.S. is their deficiency in the

area of social skills. Their interests are very narrow and the activities they engage in are very restrictive and repetitive. People with A.S. have difficulties interacting with peers for a variety of reasons, and we will discuss their social behavior at length.

## 52.

### **Title of Work to be Presented: The Nature of Waves and Sound**

**Presenters: Marian Aanerud**

**Department: Physics**

**Advisor: Dr. Gerald Hart**

**Abstract:** I will be presenting a workshop on the nature of waves, with a emphasis on sound in a non-mathematical way appropriate for all age groups and levels. It will include the use of slinkies, springs, and pans of water and other aids in order to make learning about waves fun and interesting. Informative demonstrations on the nature of waves and sound may be useful to teachers of all grades and levels.

## 53.

### **Title of Work to be Presented: Poetry Presentation**

**Presenters: Andrea Paxton**

**Department: English**

**Advisor: Lin Enger**

**Abstract:** The work I would like to present includes one short dialogue, "Talking to Darwin," and two short poems, "Enough" and "Everything Is Not All Right." The dialogue is a farcical conversation held between a stock religious character and a personality skin to Darwin, but not necessarily the man himself. They discuss evolution and creation theories, each character trying to sway the other; in the end, they simply sit and contemplate what the answers might be. "Enough" is not comic; the poem criticizes a central father figure who has betrayed his faith, his family and his friends. In the end, the speaker determines that everything Dad did was not enough. The other poem, "Everything Is Not All Right" has a crazed salesman speaker who sells some of the modern world's evils in four paragraphs: bomb maker's kits, germ warfare, violent crime novels, and "Moneygod Magazine." The poem is blatantly sarcastic, yet delivered in an energized comic way. With each work I would give a very brief introduction and then simply read each piece aloud.

## 54.

### **Title of Work to be Presented: Proper Marketing Research and Analysis Drives a Successful Business**

**Presenters: Daryn Lecy and Jim Haberman**

**Department: Business Administration**

**Advisor: Dr. Clyde Vollmers**

**Abstract:** Our presentation will cover the basics on how to properly research and analyze a company's market. The research involves finding out a company's target market, the best vehicle of advertising and distribution, identifying the proper marketing mix (includes Product, Price, Promotion, Place). The Analysis includes determining competitive strengths and weaknesses of our company and our competitors. The process includes completing a SWOT and 7-S analysis on our company. Also included is development of effective product and service strategies. This is a brief summary of the information we will present.

We will be constructing a PowerPoint presentation on the basis of actual research and analysis completed in a Marketing Management course. This will be an informal presentation hoping to give attendees a good insight on how marketing research and analysis can benefit them and their companies.

## 55.

### **Title of Work to be Presented: The Non-Partisan League: 1915-1922**

**Presenters: Morgan Huseby**

**Department: History**

**Advisor: Dr. Kenneth Smemo**

**Abstract:** The purpose of this presentation will be to exam the impact of the Non-Partisan League on North Dakota and Minnesota during the League's formation and during and after the First World War in it's historical context. This presentation will focus on four main points. First, the presentation will examine the farm economy of North Dakota during the early Twentieth century and how this would be the catalyst for the formation of the NPL. Secondly, The presentation will examine how the NPL began to take shape and why it had such a great impact so quickly. Thirdly, the presentation will focus on House Bill 44, the new state constitution for North Dakota, which the NPL drafted. The final point the presentation will focus on is the actions of the NPL and it's opponents during the First World War, specifically what was said and done about and to the NPL members and what the NPL actually did and said. It is hoped that this presentation will show how a socialist state came to be in North Dakota and the lasting impact that the actions of the NPL has to this day.

## 57.

### **Title of Work to be Presented: Vitamin E, Blood Pressure and Membrane Fluidity in Rats**

**Presenters: Loy, J., Post, M., Belmont, C., Iveland, J., Dalhouse, A.D., and Pezeshk, Abbas**

**Department: Psychology**

**Advisor: Dr. A. Derick Dalhouse**

**Abstract:** Vitamin E was found to lower blood pressure (BP) and increase membrane permeability in rats. This study investigated the effects of vitamin E on the BP and erythrocyte membrane fluidity in hypertensive (SHR) and normotensive (WKY) rats. Membrane fluidity was assessed using spin labeling technique and electron paramagnetic resonance (EPR) spectroscopy. Rats were given vitamin E, 3 days/week for 3 weeks and BP was measured once weekly, using the tail-cuff method. The EPR spectra of the spin label incorporated in erythrocyte of blood collected via heart puncture, was larger for SHR than WKY rats. Also, the EPR spectra of the spin label for vitamin E treated SHR and WKY rats were lower in their controls. The BP of SHR rats was higher than that of WKY rats, however, vitamin E treated SHRs had significantly lower BP than their controls, but the difference was not significant. These data suggest that antioxidants, like vitamin E, may be effectuating their beneficial effects on BP by altering the membrane permeability of cells.

## 58.

### **Title of Work to be Presented: Identification and Activation of RhoA in Rat Ventricular Neomyocytes**

**Presenters: Matt Baumgartner and Isaac Manke**

**Department: Chemistry**

**Advisor: Dr. Joseph J. Provost**

**Abstract:** RhoA is an important molecule involved in hormone signaling. Several cellular functions are regulated by RhoA, one of which is believed to be the sodium-hydrogen ion exchanger. RhoA is activated through a transmembrane receptor and is then translocated from the cytosol to the plasma membrane. Our research concentrates on RhoA in rat myocytes (heart cells) to determine the involvement of RhoA with the regulation of the

exchanger. To study RhoA, several methods were first developed: the process of breaking or lysing the cells, the technique to identify RhoA and lastly, to qualify RhoA present in the cytosolic and membrane fractions. The process, of detecting RhoA in rat neomyocytes was conducted by an immunoblot technique which involved, the separation of the crude proteins by size and the transfer of proteins to nitrocellulose paper. RhoA was then specifically identified by the use of antibodies. Heart cells were treated with various hormones known to activate the sodium-hydrogen ion exchanger and translocation of RhoA measured. Our data suggests that the hormones endothelin and angiotensin II increase the concentration of RhoA in the membrane fraction and decrease the amount in the cytosolic fraction. Phenylephrine is similar to the control.

## 59.

### **Title of Work to be Presented: A Non-radioactive *In Vivo* Method to Determine Phospholipase D Activity In Chinese Hamster Ovary Cells**

**Presenters: Dan Loban, Amy Krider, Jodi Lamoureux and Jesse Hodap**

**Department: Chemistry**

**Advisor: Dr. Joseph J. Provost**

**Abstract:** Several lipids serve both structural roles in the cell membrane and as second messengers for hormone signaling. The major type of lipid of interest in our research is phosphatidylcholine (PC). Several important bioactive lipids are produced when the enzyme phospholipase D (PLD) acts on PC. PLD is a ubiquitous enzyme which hydrolyzes the head group from the lipid. PLD plays an important role in the signal transduction of many different hormones and growth factors. There are a variety of mechanisms by which the activity of PLD is controlled, however the exact role and regulation of this enzyme is not well understood and is under intense investigation. The current method for determining PLD enzymatic activity in intact (*in vivo*) cells involves the incorporation of radio-labeled fatty acids in cell cultures. In order to avoid the use of expensive and potentially hazardous radioactive lipids, a novel method using fluorescent labeled PC is being developed. The purpose of our research was to determine which type of fluorescent labeled PC was able to best incorporate into the cells. Then we determined, where in the cell the lipid was incorporated. The final phase was to investigate if the incorporated fluorescent lipid was useful for measuring PLD activity and the effectiveness of the new method to the standard radioactive method.

## 60.

### **Title of Work to be Presented: Speech to Text in a Changing World**

**Presenters: K. Jeffrey Ortnor**

**Department: Technology**

**Advisor: Dr. Aziz Kian**

**Abstract:** Today's world is forever changing the way we work to how we learn in an educational environment. A Speech Recognition program allows you to speak into an enclosed headset microphone in a normal tone of voice, and then they translate your words into written text.

This presentation will introduce how I have implemented this technology, in collaboration with the Department of Technology, in creating on-line course instruction. Now the instructor's hands become free for additional technological interaction with the students in the virtual classroom.

## 61.

### **Title of Work to be Presented: The Greatest Gift, a video documentary on organ donation**

**Presenters: Jennifer Mitsch, Jenny Wilde, Autumn Herda, and Paul DeKrey**

**Department: Mass Communications**

**Advisor: Dr. Martin Grindeland**

**Abstract:** First, Jenny Wilde will talk about how the class got the idea for this documentary. She will also talk about her personal experiences with organ transplantation and give out information to the audience.

Second, Jennifer Mitsch will talk about her experience as a producer for this documentary. She will talk about the LifeSource Organization and how they helped the class with information and interviews. Thirdly, Paul DeKrey will tell of his experience as the director of the documentary. He will explain the technical side of making this documentary. We will also be showing clips of the documentary during the presentation, so we will need a TV and VCR. We will close the presentation with a short question and answer session.

## 62.

### **Title of Work to be Presented: Hungary-The Crash of 98, An Emerging Market in the Global Economy**

**Presenters: Robert Wagner**

**Department: Business**

**Advisor: Dr. Peter Geib**

**Abstract:** (No abstract submitted)

## 63.

### **Title of Work to be Presented: Diversity Workshop: Archie Bunker's Neighborhood**

**Presenters: Hendrix Health Promotion Staff: Konnie Gohman, MacDalton Berns, Karl Burgess, Christine Bugess, Heather Fritz, Jaime Goldsmith, Shelby Grinde, Kim Syverson**

**Department: Student Affairs**

**Advisor: Mary Larson**

**Abstract:** Some prejudice is obvious, but other times it occurs more subtly. This interactive workshop places participants in a community-building simulation. Participants will face a variety of real-life situations and issues such as prejudice and an uncooperative system as they try to build their community. Processing and discussion will follow the community-building simulation as well as ideas for change. The main goal of Archie Bunker's Neighborhood is to increase cultural awareness and provide an opportunity to examine subtle prejudice and oppression within a community.

The main goal of Archie Bunker's Neighborhood is to increase cultural awareness and to enlighten people to the issues of oppression. It is also intended as a door by which different groups of people can begin a dialogue that will lead to a stronger appreciation and nurturance of diversity. The following are also goals:

- Explore the issue of institutional oppressions
- To experience what it feels like to be part of another "group"
- To examine the effect of oppressions in society
- To develop the commitment toward creating a better world
- To open a dialogue where issues can be discussed and hopefully one day solved

A minimum of 15 participants will be needed to enact the simulation!!

**64.**

**Title of Work to be Presented: Voice Therapy for Children:  
A Case Report**

**Presenters: Melissa McIntire**

**Department: Speech, Language, Hearing Sciences**

**Advisor: Dr. Bruce Hanson**

**Abstract:** As part of graduation requirements for a Master's Degree in Speech-Language Pathology a research project was completed based on a client treated at the Moorhead State University Speech and Language Clinic during spring semester, 1998. The client was a 5-year-old male diagnosed by an otolaryngologist with bilateral vocal nodules. The 12 week treatment consisted of a home therapy program including behavior modification techniques and parent training to decrease the client's use of vocal abusive behaviors. Pre-treatment and post-treatment data were taken using instrumentation which gave numerical data to describe different parameters of the client's voice. By the end of the 12 week program, the client decreased his use of vocally abusive behaviors and instrumentation showed an improvement in parameters of his voice.

Voice therapy for children with vocal nodules is often discouraged because it is difficult to modify vocal use with this population. For that reason this client was treated in a setting where he could immediately transfer the learned target behaviors. The family was also incorporated as much as possible so they could act as monitors for the client when the clinician was not present. The improvement in the client's vocal behaviors and voice parameters suggests the home therapy program was successful.

The presentation for the Student Academic Conference would include a brief literature review discussing voice therapy for children, an outline of the therapy procedures used during treatment, and a discussion of the pretreatment and post-treatment data taken with instrumentation.

**65.**

**Title of Work to be Presented: Benford's Law and the Significance of the First Digit Numbers**

**Presenters: Joel Nasstrom**

**Department: Mathematics**

**Advisor: Dr. Ari Wijetunga**

**Abstract:** Often the collection of data results in what may appear to be random numbers. Frequently this data is actually following a pattern. One pattern it may be following is called Benford's Law. It can be shown that data such as county populations, the Dow Jones Index, and tax information will follow this law.

Benford's Law is named after Dr. Frank Benford, a physicist at the General Electric company in the late 1930's. He derived a formula that showed that the first digits of data follow a frequency pattern. The result was that the number one appears in data 30.1 percent of the time, and the successive numbers frequency declines steadily to nine, which has a frequency of 4.6 percent.

Applications of this law have only begun to be found. States, such as California and New York, have used it to detect tax fraud. It is also believed that this law can be applied to computers accounting files to see how if they are prepared for the "Year 2000" problem. The possibilities of wide usage of Benford's Law as a tool for determining data accuracy is very likely.

**66.**

**Title of Work to be Presented: Battered Women**

**Presenters: Tasha Langdahl**

**Department: Counseling and Student Affairs**

**Advisor: Dr. Jill Schoen**

**Abstract:** This presentation on domestic abuse will include the following three areas: prevalence, characteristics, and methods of treatment. The primary focus will be on the battered women. Prevalence will include who is affected by this issue and how many. Defining characteristics will be discussed to facilitate recognition of these women. In addition, various methods of counseling treatment will be presented.

**68.**

**Title of Work to be Presented: Depression**

**Presenters: Leslie Mack**

**Department: Counseling and Student Affairs**

**Advisor: Dr. Wes Erwin**

**Abstract:** Depression will be the topic covered in this brief presentation. Prevalence will be discussed which will include depression rates and who is at risk. Symptoms of depression will also be covered to determine if you or someone you know may be depressed. Treatment methods will be presented which will involve medications and counseling methods which are most commonly used.

**69.**

**Title of Work to be Presented: Anorexia Nervosa**

**Presenters: Patti Olek**

**Department: Counseling and Student Affairs**

**Advisor: Dr. Bill Packwood**

**Abstract:** Anorexia Nervosa will be the topic of this presentation. The four areas to be covered are: prevalence, who and how many are affected; influences, factors that may influence the disorder; characteristics, how to identify who is affected; and, treatment methods, including therapy and counseling approaches.

**70.**

**Title of Work to be Presented: The Wonderful World of Weather**

**Presenters: Tonya Courneya**

**Department: Elementary Education**

**Advisor: Dr. David Cline**

**Abstract:** So often, science is a subject that is overlooked. I could have easily fallen into this trap but with the guidance from my cooperating teaching and science professor from MSU, I put my inhibitions aside and created a science unit on weather for my fourth grade students.

Studying weather can be extremely difficult and complex and so you need to be selective on what is most important to teach elementary age children. My unit focuses heavily on the atmosphere, air pressure, and forecasting. My presentation will be of a booklet that is comprised of lesson plans and activities to help the students learn the concepts of weather. My weather unit is highly student orientated and focuses on students applying their knowledge. They are responsible to teach the concept and explanation. The unit is cumulated by having the students complete an assessment package based on the Minnesota Graduation Standards.



I'll present my booklet at the academic conference and examples of my student's work. I would also present some visuals I have created to coincide with the activities and photographs of the students doing the activities.

**71.**

**Title of Work to be Presented: Size-Dependent Shifts In Antipredator Behavior in Larval Convict Cichlids (*Cichlasoma nigrofasciatum*)**

**Presenters: Joe Mullins**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** Cichlids are unusual among fishes in that they exhibit prolonged biparental care of their eggs and developing young. Convict cichlids are native to Central America. The period of care in their natural habitat lasts for more than 6 weeks. During this time both sexes cooperate in nest preparation and defense, tending the eggs and developing embryos, and guarding the free-swimming young. The point at which care ends, and the evolution of reproductive allocation to egg size versus egg number, are likely related to antipredator competence of the young. High-speed video analyses of antipredator responses of young convict cichlids are used to determine size-dependent shifts in antipredator behavior during the period of parental care.

**72.**

**Title of Work to be Presented: Avoidance of Injury-released Chemical Cues BY *Gammarus lacustris* (Crustacea: Amphipoda) and Corresponding Attraction by Their Predators *Dina parva* (Annelida: Hirudinea)**

**Presenters: Erin E. Watkin**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** Predation is a powerful agent of selection shaping animal behavior. Risk assessment is therefore an integral part of behavioral decision making. Physical and chemical properties of an animal's environment constrain the sensory modalities that most reliably inform about predation risk. Chemical cues from conspecifics released upon injury are reliable indicators of risk in aquatic environments. *Gammarus* are small invertebrates commonly found in local streams, ponds and lakes. Thirty traps (15 *Gammarus* cue, 15 control) were set in a local pot-hole lake for one hour each then removed. Traps scented with injured *Gammarus* cue caught significantly fewer *Gammarus* than traps baited with control sponges ( $P = 0.026$ ), indicating avoidance of the cue. Leeches (*Dina parva*) prey on *Gammarus*. Traps scented with injured *Gammarus* cue caught significantly more leeches than control traps ( $P = 0.005$ ). Thus, chemical cues from injured *Gammarus* indicate risk to conspecific *Gammarus* in their natural habitat and serve as an attractant for predators.

**73.**

**Title of Work to be Presented: Demonstration of an Alarm Cue in a Platyhelminth (Turbellaria: Planariidae)**

**Presenters: Melissa C. Millard**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** Animals must be able to find food, avoid being food and reproduce. Assessment of predation risk is critical for survival. In aquatic environments, chemical cues are the most pervasive and ancestral form of environmental information. Here, we demonstrate for the first time, antipredator behavior by a flatworm in response to injury-released chemical cues from their own species. The evolutionary antiquity of this group of organisms suggests that detection and response to chemical indicators of risk is very ancient indeed. This finding sheds light on the evolution of chemical alarm signaling.

**74.**

**Title of Work to be Presented: Investigating of a disturbance pheromone in Johnny darters (*Etheostoma nigrum*)**

**Presenters: Krista L. Young**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** The aquatic environment is well suited for the solution and dispersal of chemical cues. During a predation event prey are detected, attacked, captured and ingested. Chemical cues are released at each step. Disturbance pheromones are chemical cues released at the detection stage and allow nearby prey to initiate an escape before a predator initiates an attack. Here, we investigate a disturbance pheromone released by a small fish. A pulse of urinary ammonia is released when these animals are disturbed and likely serves as a warning signal to others of predation risk.

**75.**

**Title of Work to be Presented: Effect Of Ration And Physical Condition On The Proliferation Of Epidermal Club Cells In Johnny Darters (*Etheostoma nigrum*)**

**Presenters: Tara S. Kartes**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** Specialized cells in the epidermis of fishes in the superorder Ostariophysi (minnows, etc, 64% of all freshwater fishes) contain a chemical that signals predation risk. These cells have no duct to the outside and their contents can only be released by injury, such as an attack by a predator. These cells have a metabolic cost, demonstrated by previous ration experiments. Evolutionary biologists have been puzzled for some time because investment into these cells benefit nearby minnows but do not necessarily benefit the minnow that made the energy investment into the cells. Darters (member of the unrelated superorder Acanthopterygii) have recently been discovered to possess a parallel system of epidermal club cells. In this experiment, we tested to see if the degree of investment into darter club cells is conditional upon dietary energy content.



76.

**Title of Work to be Presented: A Test of the Antipathogenic Hypothesis for the Evolutionary Origin of Alarm Substance Cells in Ostariophysan fishes**

**Presenters: Sarah Anderson**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** Minnows, catfishes, characins, etc (superorder Ostariophysi) represent 64% of all freshwater fish species. A defining character of this group is the presence of epidermal cells that contain an alarm substance, that when released upon injury, signals predation risk to neighboring fish. The fact that the signal sender often dies (is eaten) in the process of sending the signal raises important questions about how this system could be sustained by natural selection over evolutionary time. One hypothesis, is that the cells confer an antipathogenic benefit and that the alarm signaling function is only a fortuitous by-product. In this experiment, we exposed fathead minnows to cercaria of a digene parasite (*Ornithodiplostomum ptychocheilus*) to determine 1) if the number of cells is influenced by exposure to parasitic attack, and 2) if minnows with androgen-suppressed numbers of alarm substance cells are more susceptible to parasitic infection.

77.

**Title of Work to be Presented: A Virtual Dissection Guide to Vertebrate Anatomy**

**Presenters: Aaron D. Vandermeer and Jacob P. Holkup**

**Department: Biology**

**Advisor: Dr. Brian Wisenden**

**Abstract:** A full appreciation for the evolutionary processes underlying the diversity of form among vertebrates can be achieved only through careful anatomical study of a range of vertebrate species. To that end, dissection guides of vertebrate anatomy in the form of illustrated books, are available to assist student learning. Pictorial guides often use simple line drawings or idealized sketches that do not accurately portray the internal anatomical structure. These guides frustrate anatomical study as much as they help. For this project we used digital camera technology to photograph a series of carefully prepared dissections of lampreys, sharks, salamanders and cats. Labels were then added to these images and the images were then saved ("burned") to a CD to be made available to zoology students. The low cost of the CD and the realism of photographed dissections should facilitate a rewarding learning experience for students of anatomy.

78.

**Title of Work to be Presented: Protein purification the lazy man's way: genetic engineering technology and affinity tagged proteins.**

**Presenters: Derrin Birch and Erin Watkin**

**Advisor: Dr. Chris Chastain**

**Abstract:** We have cloned a gene from corn and placed it into the bacterium *E. coli* for genetic engineering purposes. Using recombinant DNA technology, we can make corn protein encoded by this gene in the bacterium. Further, using genetic engineering tools, we have fused a "velcro" affinity tag on this protein that allows us to easily recover and purify large quantities of this corn protein from *E. coli*.

79.

**Title of Work to be Presented: Mutating corn genes in the laboratory: How we are genetically engineering cold tolerance in corn**

**Presenters: Adam Vossen and Alane Christlieb**

**Department: Biology**

**Advisor: Dr. Chris Chastain**

**Abstract:** One of the many tools of the genetic engineer is the tool termed site-directed mutagenesis. With this tool, any part of the gene can be changed or altered with exacting precision. One project in our laboratory for which we are using this tool is to confer cold stability to a photosynthesis gene from corn. By making precise changes in this gene, we hope to make the process of photosynthesis in corn less vulnerable to cool temperatures and therefore increase yields in Northern latitudes.

80.

**Title of Work to be Presented: Undoing mother nature's on/off switches in corn leaves...consequences for increased photosynthesis efficiency and increased yields in corn**

**Presenters: Monty Boschner**

**Department: Biology**

**Advisor: Dr. Chris Chastain**

**Abstract:** Many enzymes that are part of the photosynthetic process have an on/off switch, in a manner of speaking, so they can be turned off at night when they are not needed. Using precise genetic engineering techniques, we have altered the on/off switch of a photosynthetic enzyme from corn. What we have done is changed the enzyme so it cannot be "turned off" during the night. This is expected to allow increases in photosynthesis because it would eliminate the slow "turning on" process required at the beginning of each day.

81.

**Title of Work to be Presented: Cutting and pasting DNA: How recombinant DNA technology is used to disassemble and reassemble genes for expression in the bacterium *E. coli***

**Presenters: Jeff Clauson and Derrin Birch**

**Department: Biology**

**Advisor: Dr. Chris Chastain**

**Abstract:** Recombinant DNA technology is loosely defined as the cloning and manipulation of DNA from organisms. This technology has fostered many applications such as the creation of wonder drugs and DNA detection of diseases. It is also the main driving force of the biotechnology industry. In our laboratory, this technology is used on a routine basis. This presentation will introduce to the layperson how genes can be removed from the corn plant as DNA and made to function in a bacterium.

82.

**Title of Work to be Presented: Web Server Creation and Administration**

**Presenters: Tim Frese, Chris Blaze, Matt Weum, Jeremy Jensen**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** Creating a web server running Microsoft Windows NT to host web sites for academic use is a difficult process. Four members of MSU's Student Technology Team (Tim Frese, Matt Weum, Chris Blaze, and Jeremy Jensen) were assigned to create and manage two web servers for the MSU campus

community. The creation of a web server entailed such operations as installing an operating system, creating partitions on the drive to host webs, creating and managing the users of the machine, and creating and maintaining the users webs in the machines. The members of the team learned a great deal about networking issues as well as management during this process. As the university moves to a more online campus environment, the web server will play a major role in supporting the infrastructure. One of the web servers <http://classweb.moorhead.msus.edu> is currently being used by faculty and staff and MSU. It is the only server on campus that has the WebBoard electronic discussion software. The other server will be used to deliver multimedia materials via the Internet and to host a video library for the Audio Visual services at MSU. We will be presenting the steps we have learned in successful creation of web servers along with the ongoing maintenance issues.

### **83.**

#### **Title of Work to be Presented: Access Databases for Faculty Search/Faculty Vitae**

**Presenters: Neal Gamradt**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** Neal Gamradt (member of Rhonda Ficek's Student Technology Team) has developed two databases to assist with faculty searches and generation of vitae for faculty. Microsoft Access was used to develop the databases. Kathryn Wise (Biology) assisted Neal with the design of the tables for the faculty search database. Judy Strong (Academic Affairs) assisted Neal with the design of the faculty vita database. The database allows reporting of faculty activity with respect to presentation of papers, publications, and conference/workshop attendance in the form of a vita. A demonstration of the capabilities of these databases will be provided.

### **84.**

#### **Title of Work to be Presented: Access Database for MSU's Student Technology Team**

**Presenters: Neal Gamradt**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** Neal Gamradt has developed a database for the Rhonda Ficek's Student Technology Team. The database tracks the training / expertise of the various members of the group as well as their schedules and the projects they have worked on for the team. A demonstration of the capabilities of the database will be provided.

### **85.**

#### **Title of Work to be Presented: Using RealPublisher to Create an Online Training Module**

**Presenters: Jason Weum**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** Jason Weum created an online training module for faculty and staff at Moorhead State University to deliver instruction on Netscape's Messenger E-Mail. A product called RealPublisher was used to create the training module. The module is one of a series that have been developed to deliver interactive training, allowing users to learn basic and intermediate software programs through a presentation in a graphical format. The modules incorporate both audio instructions and picture output to enhance the user knowledge of a program through examples. The training modules are created through the following process. First there must be a situation calling for the delivery of a RealMedia presentation. Jason organized the materials and created a script describing the basic operation of Netscape Messenger e-mail. Then the entire script was recorded using a microphone attached to the computer. Next, screen images were captured from the Messenger Mail program to coincide with the script. Finally the audio and the screen images were combined using a product called Real Publisher into a format that can be served over the Internet. The result is a fully functional presentation complete with audio and pictures. The lessons are available via the Internet and on CD-ROM. They can be used on IBM or Macintosh computers.

### **86.**

#### **Title of Work to be Presented: VRML (Virtual Reality Modeling Language) Project**

**Presenters: Jeremy Jensen**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** I have worked with VRML (Virtual Reality Modeling Language) to produce 3D interactive web sites. I will demonstrate some of the work I have done on an IBM personal computer with a sound card and speakers. People will be able to experiment with the 3D web environments provided.

### **87.**

#### **Title of Work to be Presented: Using Netshow to Create a Multimedia Online Training Module**

**Presenters: Matthew Weum**

**Department: CSIS**

**Advisor: Rhonda Ficek**

**Abstract:** The work that I would like to present centers on the creation of multimedia, online training modules using a product called NetShow. These modules are interactive training programs that incorporate both audio instructions and images to enhance the user knowledge of an application through examples. First, materials for the module are collected and organized. Images are captured from the computer screen and audio files are recorded with a microphone attached to the computer. The images and audio are synchronized using a product called NetShow. The training module can be delivered via the Internet: <http://classweb.moorhead.msus.edu/chenault/libdb/> or via CD-ROM. These presentations run on IBM platforms using Windows.

**88.**

**Title of Work to be Presented: Computer Animation**  
**Presenters: Apoena Becker and Cory Knight**  
**Department: Technology**  
**Advisor: Dr. Wade Swenson**

**Abstract:** The work shown will be the result of what was learned on the classes Tech 216 (3D CAD) and Tech 490 (3D Animation), and through independent research. The presentation consists of 10 to 15 minutes of different Computer Animations. The animations vary from short (10 to 20 seconds) works done in class to final projects and independent work (1 to 1.5 minutes). It is meant to show the skill of the creators of the projects as well as the technology available at MSU.

**89.**

**Title of Work to be Presented: Readjustment of Vietnam Veterans and Changing Popular Attitude**  
**Presenters: Jonathan Kohler**  
**Department: History**  
**Advisor: Dr. Paul Harris**

**Abstract:** This presentation will address the issue of Vietnam Veterans and their readjustment to life in America after the war. It will present facts and figures addressing alcoholism, divorce, unemployment and other areas affecting Vietnam Veterans. Information will be obtained through oral interviews of Vietnam Veteran counselors as well as Vietnam Veterans themselves. Published Government studies will be used as well.

The presentation will be given in lecture format with a discussion and question and answer forum after the initial lecture. The lecture itself will run approximately ten to fifteen minutes. The whole presentation will not be longer than twenty five minutes.

Transcripts of the oral interviews will be available upon request to anyone who wishes to have a copy.

**90.**

**Title of Work to be Presented: Life Drawing**  
**Presenters: Susan Grim**  
**Department: Art**  
**Advisor: Dr. Anna Arnar**

**Abstract:** Life Drawing focuses on the bone and muscle structure of the human figure. I have chosen a life drawing to represent my interests in art. The piece I will be displaying will establish my prowess in my artistic ability with expressing the human form. The approach I have chosen for expression is a drawing of a significant person in my life. By choosing this type of person, I will know the battle that wages inside them and know the sympathy and compassion I feel towards them. With my knowledge of them, my artistic talent, and with the understanding of the human body: I hope to successfully show my ability not to only express the human form, but human spirit as well.

**91.**

**Title of Work to be Presented: Science Around the World**  
**Presenters: Kamal S. Hamed**  
**Department: Biology**  
**Advisor: Dr. Mary Shimabukuro**

**Abstract:** Objectives of the project: This workshop will introduce participants to a new science program entitled Science around the world (SAW). Energy supply, water quality, and diet and health issues are available units in this project. As countries draw closer together, it is important to raise our student's awareness of attitude and values in other societies. However, perspectives on their causes and resolution differ from country to another. By joining Science around the world, students can compare their findings with others worldwide.

Who can use the units? The level of knowledge and skills required in the units make them generally suitable for secondary (high school) students, although some teachers have expressed an interest in using skills required in the units make them generally suitable for secondary (high school) students, although some teachers have expressed an interest in using them with younger students. Each of the different SAW regions have developed the units to fit their own needs.

Each unit begins with an introduction, maps, and then involves the collecting of information, data and opinions. The results are combined for the whole class in order to exchange with schools in other countries. The information can be sent by mail e-mail or fax.

How much time is involved? A unit usually takes one or two hours in the classroom and possibly a homework session to complete the preparatory work. Another lesson is required later to discuss the information received from other schools. The material is designed so that students and teachers need work only in their own language.

**92.**

**Title of Work to be Presented: The Virtual Cell**  
**Presenters: Trevor Klein and Matthew Klamon**  
**Department: NDSU Biology**  
**Advisor: Dr. Mary Shimabukuro**

**Abstract:** Learning about the cell is vital to understanding the world around us. All living organisms have cells. In order to make advances in cell biology, we must first become familiar with what makes up an organism.

The virtual cell is an excellent teaching tool to help students learn about the cell, parts of the cell, and the different functions that go on inside the cell. The virtual cell provides the visual aspects of the cell, showing the organelles and the parts that make up those organelles. The virtual cell also provides an interaction with the computer and also the cell is an interactive environment in which students perform experiments individually or with a classmate.

This visual aspect of this educational environment is built using the Virtual Reality Modeling Language. The interactions are controlled by a Java interface, and the underlying data is managed and delivered to the user by a MOO (MUD Object Oriented) server. The virtual cell provides students with an opportunity to interact with the course materials in a fun way while learning cell biology.

**93.**

**Title of Work to be Presented: Issues Related to Families with Chronically ILL/and or Medically Fragile Children**

**Presenters: Fawn Newman**

**Department: Special Education**

**Advisor: Dr. Deanne Borgeson**

**Abstract:** This presentation provides an overview of the literature related to family-centered practices for interventionists working with chronically ill and/or medically fragile infants, toddlers, and young children. Advancements in medical technology have resulted in the need for interventionists to understand and assist families and children with complicated needs. The session will discuss various stresses experienced by families and new literature on grieving. Strategies for assisting parents with coping, recognizing and managing grief, and experiencing some degree of normalcy in their every day lives will be provided. Information will be given in a lecture format with corresponding handouts and time for audience questions and comments. An overhead projector is requested for the presentation.

**94.**

**Title of Work to be Presented: The Effects of Word Valence on Primary Task Performance**

**Presenters: Erik Olheiser and Curtis A. Theis**

**Department: Psychology**

**Advisor: Dr. E. W. Hallford**

**Abstract:** According to Zajonc's (1980) "primacy of affect" hypothesis, affective information should interfere with a Stroop task at subliminal exposure durations. Suggestive results have been found using word stimuli at supraliminal durations (Pratto & John, 1991). Results of the current experiment were insignificant and, therefore, do not support Zajonc's hypothesis.

**95.**

**Title of Work to be Presented: Verbal and Emotional Abuse: What is it?**

**Presenters: Elizabeth Augustine**

**Department: Women's Studies**

**Advisor: Dr. Hazel Retzlaff**

**Abstract:** This presentation is the result of an Independent Study done on Verbal and Emotional Abuse. Verbal and emotional abuse take place not only on their own in a relationship, but often are in conjunction with physical abuse. While bruises and broken bones, etc., are visible and eventually heal, the verbal and emotional abuse is often invisible, causing it to be overlooked. Therefore, attention isn't always given to healing the blows to the psyche and self-esteem.

Handouts will be available. I will require an overhead projector. Please note that I will be doing two presentations and will need them scheduled with reference to that.

**96.**

**Title of Work to be Presented: Single Later: Considerations in Adult Dating Practice**

**Presenters: Elizabeth Augustine**

**Department: Anthropology/Sociology**

**Advisor: Dr. Marjorie Brunton**

**Abstract:** This presentation will center on qualitative research done with adults ages 30's - 60's regarding their dating practices. The question was asked: "What traits do you look for or

issues do you consider when considering someone to date?" All respondents were asked to state five traits/issues. The class was ANTH 303R: the Recitation portion of Cross-Cultural Gender.

As I will also be giving a presentation on Verbal and Emotional Abuse, I would request the committee schedule with that in mind. Also, if it is possible to schedule this presentation later in the day, some of the interviewees may choose to attend.

**97.**

**Title of Work to be Presented: The Politics of Spiritual Feminism Collaborative Quilt**

**Presenters: HUM 412: "Feminar" Spring, 1997**

**Department: Women's Studies**

**Advisor: Dr. Phyllis May-Machunda**

**Abstract:** This artwork is a collaborative quilt done by members of the HUM 412: Spring, 1997, "Feminar" in Women's Studies. The title of the "Feminar" was The Politics of Spiritual Feminism and is thus the title of the work. There are artists statements for most of the quilt blocks and information regarding the work already in display form. there is a sleeve on the top back side of the piece for hanging purposes. I was chosen to be the "Keeper of the Quilt" with the charge to care for it and have it displayed as often as possible, especially at MSU.

**98.**

**Title of Work to be Presented: Orientation of Coenzyme B12 on DNA Fibers: an EPR Study**

**Presenters: Jason Swenson**

**Department: Chemistry**

**Advisor: Dr. Abbas Pezeshk**

**Abstract:** EPR data are reported to describe the orientation of coenzyme B12 bound to DNA fibers. Photolysis of the coenzyme B12 - DNA system, using a He-Ne laser, leads to the homolytic cleavage of the Co-C bond, forming one or more transient radicals as well as a strong signal which may be due to an exchange-coupled Co(II)...free radical state. Analysis of the EPR spectra indicate that the exchange-coupled system has a g-value of 2.08. The results of this investigation will be interpreted.

**99.**

**Title of Work to be Presented: The Effects Of Radiation On DNA: The Role Of P-Phenylene Diamine On Radiation Damage**

**Presenters: Aaron Vandermeer**

**Department: Chemistry**

**Advisor: Dr. Abbas Pezeshk**

**Abstract:** Exposure of dilute aqueous DNA to ionizing radiation at ambient temperatures results 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 the deoxyribose units. Exposure of frozen aqueous solutions of DNA to gamma radiation at 77 K resulting in direct damage to DNA and the formation of guanine-centered radical-cations and thymine radical-anions or cytosine radical-anions. In this report we present an agarose gel electrophoresis investigation of DNA breakage caused by irradiation.

**100.**

**Title of Work to be Presented: Gene Cloning via Tag-Team**  
**Presenters: Gary Bailey, Grant Harrington, and Craig Nerby**  
**Department: Biology**  
**Advisor: Dr. Chris Chastain**

**Abstract:** I. Do Tall Grass Prairie Grasses Generate Gene Diversity Through Polyploidy? Cloning and sequencing the gene for PPK from Big Bluestem

II. Neurotransmitter Systems in Plants? The search for a plant Acetylcholine-receptor gene

Our proposed project is to clone two genes from two different plants. Both experiments will run simultaneously. In Project I, we will attempt to isolate Pyruvate Orthophosphate Dikinase (PPDK), a C4 photosynthesis gene from the C4 grass *Andropogon gerardii* (Big Bluestem). This will be done by screening a Big Bluestem cDNA library using a maize PPK gene probe. We will then compare the sequence to a known cold-tolerant C4 plant. We will use the cloned PPK gene to probe a genomic Southern blot for observing PPK gene diversity in the Big Bluestem genome. This will test the "polyploidy and adaptation to harsh environment" theory. In Project II, we will screen a tobacco cDNA expression library for a plant Acetylcholine receptor (ACh-R) gene using ACh-R monoclonal antibodies raised against the  $\alpha$ -subunit of ACh-R. We will then compare the cloned sequences to animal ACh-R sequences using a gene and protein database. The goal of this project is to provide the first evidence of the existence of ACh-R in plants and its obligatory physiological system.

**101.**

**Title of Work to be Presented: Using Celebrities in Advertising: A sure bet or risky business?**  
**Presenters: Julie C. Hall**  
**Department: Mass Communications**  
**Advisor: Dr. Suzanne Williams and Bill Hall**

**Abstract:** Celebrities are prominent tools in today's advertising creative strategies. The use of celebrities can be a powerful enhancement of product image and brand name recall. However, misuse of celebrities can be a detriment to product image and sales. I have written a paper and prepared a presentation that discuss the benefits and risks associated with the use of celebrities in advertising.

**102.**

**Title of Work to be Presented: Job Satisfaction by Public Employees: Measurement and Policy Response**  
**Presenters: Dan M. Mahli**  
**Department: Public Human Services Administration**  
**Advisor: Dr. James Danielson**

**Abstract:** (No abstract provided)

**103.**

**Title of Work to be Presented: Providing Long-Term Care in North Dakota: New Methods**  
**Presenters: Brian Arett**  
**Department: Public Human Services Administration**  
**Advisor: Dr. James Danielson**

**Abstract:** (No abstract provided)

**104.**

**Title of Work to be Presented: Providing Therapeutic Recreation in City Park Systems**  
**Presenters: Leslie J. HovLand**  
**Department: Public Human Services Administration**  
**Advisor: Dr. James Danielson**

**Abstract:** (No abstract provided)

**105.**

**Title of Work to be Presented: Recruiting and Training Staff to Treat Adolescents**  
**Presenters: Laurie Ray**  
**Department: Public Human Services Administration**  
**Advisor: Dr. James Danielson**

**Abstract:** (No abstract provided)

**106.**

**Title of Work to be Presented: Grapes Gone Sour**  
**Presenters: Charla Grenz**  
**Department: English**  
**Advisor: Dr. Hazel Retzlaff**

**Abstract:** My report discusses John Steinbeck's female characters in *Grapes of Wrath*. The historical context and social issues of the Depression Era, which I explore in this presentation, may have led to Steinbeck's characterizations. The report takes a moderately feminist stance and ultimately finds fault with Steinbeck's portrayal of women.

**107.**

**Title of Work to be Presented: Analysis of Creatine**  
**Presenters: Christian Albano**  
**Department: Health, Physical Education**  
**Advisor: Dr. Donna Terbizan**

**Abstract:** An alarming statement in the internet by a high school student read: "Last year my high school football team went to state for the first time ever. I learned this year that our coach basically requires the team to take creatine. If they don't they are forced to sit on the bench (Brumley, 1998)." The implications of creatine use has been controversial. Ergogenic aids such as creatine has seen an increase in sales leading to increased usage among high school and college athletes (Schnirring, 1998). Creatine's claims of improving athletic performance has been debatable. When three college wrestlers died in 1997 using severe weight-cutting methods, the controversy and awareness began due to these reports being misconstrued. Many believed that creatine was the cause of death, but after further analyses no implication of the substance has been made (Schnirring, 1998). The popularity of ergogenic aids such as creatine are becoming mainstream and physical educators will have to be knowledgeable of this performance enhancing nutritional supplement.

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