4th Annual Minnesota Conference of UNDERGRADUATE SCHOLARLY and CREATIVE ACTIVITY
Monday April 13, 2015
Welcome to the Fourth Minnesota Conference of Undergraduate Scholarly and Creative Activity

Minnesota Undergraduate Research Council

Bemidji State University, Troy Gilbertson
Inver Hills Community College, David Higgins
Metropolitan State University, Jennifer Schultz
Minnesota State University Moorhead, Oscar Flores
Minnesota State University, Mankato, Carlos Panahon and Karla Lasssonde
St Cloud State University, Carrie Barth
Southwest Minnesota State University, Emily Deaver
Winona State University, Mingrui Zhang and Michael Delong
It gives me great pleasure to introduce you to the Fourth Annual Undergraduate Scholars Conference, which celebrates undergraduate research at Minnesota State Colleges and Universities. The conference fosters collaboration and partnership among students and faculty across many of our campuses, and highlights their scholarly and creative accomplishments. Undergraduate students and their faculty mentors from seven universities and four community and technical colleges will meet in Winona to share their projects representing a broad set of disciplines.

Minnesota State Colleges and Universities provide students with an extraordinary education that meets their personal and career goals, enhances the quality of life for all Minnesotans, and sustains vibrant economies throughout the state. Hands-on research experience not only enable our students to participate in the process of discovery, it also builds curiosity, creativity, imagination, and teamwork. This annual conference makes a milestone for students to celebrate and share their discoveries and to celebrate the collaboration among our colleges and universities.

Thank you for participating in the 2015 MnSCU Undergraduate Scholars Conference.

Steven Rosenstone
Chancellor, Minnesota State College and Universities
Welcome to the fourth annual MnSCU Undergraduate Scholars Conference. It is a great honor for Winona State University to host this conference. It is our hope that the presence of this event on the campus of WSU will aid in the continued growth and success of undergraduate research throughout MnSCU.

Winona State University holds, as part of our mission, to be “a community of learners improving our world.” This is reflected in our commitment to undergraduate research across the entire campus. This community begins with the collaboration of an undergraduate student and faculty mentors as they work to address issues relevant to their discipline. The community grows through students sharing their work with other students, faculty, and citizens of the Winona area at our annual Judith Ramaley Celebration of Research and Creative Scholarship, which is now in its 9th year. This year, we have the good fortune to expand this community to other students and faculty within the MnSCU system! Our hosting the conference will further instill the significance of undergraduate research across our campus and beyond through the exchange of ideas, methods, and views of the many fields of study found across our campuses.

We are proud to host the MnSCU Undergraduate Scholars Conference and committed to doing our part in making this conference a showcase that demonstrates the value of research to our educational programs.

Sincerely,

Scott R. Olson
President, Winona State University
This event would have not been possible without support provided at Winona State University and the administration, staff, and faculty of MnSCU and our sister institutions. Thanks to President Scott Olson and Provost Pat Rogers for providing financial support and for their commitment to undergraduate research. We are also very appreciative of the continued support by John O’Brien and Lynda Milne of the MnSCU office of Academic and Student Affairs. Ann Durley and Blandine Berthelot, WSU Office for Camps and Conferences, provided all logistical support from registration to campus housing (and everything in between). Joe Reed, Stephanie Smidt, and Toni Zaborowski, Student Union, provided excellent support in helping us identify the best spaces to use for the symposium and were tolerant of modifications made along the way. Sarah Delano, Marking and Communications, built and maintained the symposium website and we also thank her for the many additions we requested along the way. Pat Malotka, Creative Services, design and lay out of this program. As always, the staff of Facilities Services provided excellent support setting up the event. We also thank Tom Hill and Stephanie Stango, Teaching, Learning, and Technology Services for ensuring that all technology used for the event was in good working order and Doug Johnson, IT Services, for the use of laptops for student presentations.

Of course, the symposium would not be possible without the students and faculty of the MnSCU institutions for their commitment to quality education and the initiative to engage research and creative scholarship as part of the educational experience. This includes the members of the MnSCU Undergraduate Scholar organizing council whose insights and passion for undergraduate research and scholarships have developed and sustained this celebration of our students.

Sincerely,

Mingrui Zhang, Ph. D.
Professor of Computer Science

Michael Delong, Ph.D.
Professor of Biology
Director of Large River Studies Center
SUNDAY, APRIL 12TH

6:00 – 8:00 p.m.  Check-in
Prentiss Hall

MONDAY, APRIL 13TH

7:30 a.m. – 12:00 p.m.  Check-in
Kryzsko Commons, East Hall

7:30 a.m. – 8:45 a.m.  Poster set up
Kryzsko Commons, East Hall

7:45 a.m. – 8:45 a.m.  Welcome and Breakfast
Kryzsko Commons, East Hall

8:45 a.m. – 10:15 a.m.  Oral Session I
Rooms 223, 225, 244, 246, 252 & River Room

10:15 a.m. – 11:45 a.m.  Poster Session I
Kryzsko Commons, East Hall

11:45 a.m. – 12:30 p.m.  Lunch Break
Kryzsko Commons, East Hall

12:30 p.m. – 2:00 p.m.  Oral Session II
Rooms 223, 225, 244, 246, 252 & River Room

2:00 p.m. – 3:30 p.m.  Poster Session II
Kryzsko Commons, East Hall
### ORAL SESSION I

#### Room 223  Moderator: Emily Deaver

**PRESENTATION #19:** Variation in Turtle Capture Rates over Summer Months in Clay County, Minnesota, Scott Buchholz and Blair Posusta

**PRESENTATION #119:** A Genetic Based Approach to Management and Stocking of Muskellunge, Douglas Zentner

**PRESENTATION #106:** Migration and Size Variance of Larval Northern Pike (Esox lucius) in the Tamarack River, Nathan Stott

**PRESENTATION #40:** Fossil Fuel Free Fish House, Hunter Edberg and Randall Riehl

**PRESENTATION #50:** Quantification of Phenolics in Kombucha Tea, Patrick Hager

**PRESENTATION #123:** Xenopus Embryo Development upon Exposure to Downstream Water from an Effluent Plant, Jaden Witt

#### Room 225  Moderator: Laura McCauley

**PRESENTATION #4:** Temperatures of 2-D Rings, Brandon Allen

**PRESENTATION #74:** Uprights, Robert Mahrer

**PRESENTATION #63:** RPG Grid Brawl: A Study of Artificial Intelligence Using a Board Game, Jackson Kisling

**PRESENTATION #49:** Right Tetrahedron: Pythagorean Quadruples, Shrijana Gurung

**PRESENTATION #37:** How does additive manufacturing process parameters affect the material properties in stainless steel – bronze composite?, Michael Doyle

**PRESENTATION #122:** Visualizing Elementary Complex Functions, Tianxia Jia

#### Room 244  Moderator: Cassandra Schreiber

**PRESENTATION #70:** Subgroup Pro-Ana, Julia Lautizi and Trae Boldthen

**PRESENTATION #39:** Life as an Undergraduate TA: Sustaining Life Student/ Peer Relationships in the Classroom, Jessica Dulz and Randall Riehl

**PRESENTATION #101:** Student Ratings of Female Professors with Foreign-Accented Speech at Minnesota State University Moorhead, Johanna Scheu

**PRESENTATION #84:** Special Education Teacher Training and Knowledge of Behavior Assessment and Intervention Practices, Jennifer Nelson and Lauren Bennewitz

**PRESENTATION #117:** Literate Language Features in the Procedural Narratives of African-American and European-American 5th Graders, John Zehnder
Room 246  
**Moderator: Heather Sklenicka**

PRESENTATION #91: *Intercultural Communication, Service Learning, and the Study of Poverty Abroad*, Daniel Perno

PRESENTATION #75: *The Communist and Democratic Influence on Russian Ballet: From the Soviet Union to Russia*, Brenda Martinson

PRESENTATION #1: *Effect of different Factors on the Number of Photovoltaics Installation in the US*, Iwnetim Abate

PRESENTATION #96: *Monstrosity from the Medieval to the Renaissance*, Jessica Reich

PRESENTATION #87: *Children as Monsters are the Products of Society*, Kyle Olsen

PRESENTATION #68: *St. Marina: A Lesson in Spiritual Endurance*, Samantha Koshowany-Wilken

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Room 252  
**Moderator: Chip Panahon**

PRESENTATION #72: *American Sniper and Self Loathing*, Benjamin Lencowski


PRESENTATION #47: *The Little Mermaid and the Fear of Change*, Shandy Giron

PRESENTATION #15: *Bones of the Soup: An Exploration of J.R.R. Tolkien’s Methodology*, Devan Bierbrauer

PRESENTATION #67: *Why do people become bullies?*, Debra Koenig

PRESENTATION #24: *American Hopes and Fears in The 100*, Raul Cervantes

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River Room  
**Moderator: Mingrui Zhang**

PRESENTATION #77: *Budget Surpluses of the 1990’s*, Krista Migneault

PRESENTATION #56: *Masculinity in the Shawshank Redemption*, Sean Hudson

PRESENTATION #99: *A Fantasy Farmer*, Marten Salfer

PRESENTATION #6: *Biblical Influences on MLK’s “I Have a Dream” Speech*, Rayne Anderson

PRESENTATION #65: *Better Than You: America’s Distaste for The Mentally Disabled*, Kaylie Knipe
PRESENTATION #5: The Effects of Teleoanticipation on Power in Powerlifters, Chris Ampe, Garrett Conn, Brad Gillingham and Brittney Anderson

PRESENTATION #7: “I am a gym-goer”: Self-as-Doer Identity Predicts Physical Activity Behaviors, Claire Arvidson and Courtney Swanson

PRESENTATION #8: Reaction of 1-{2-[diphenylboryl]benzyl}-2,2,6,6-tetramethylpiperdine with hydrogen, Taysir Bader and Kshitij Gurung

PRESENTATION #14: Self-as-Doer Identity and Exercise Activities: A Qualitative Analysis, Ryan Berres

PRESENTATION #17: High PT Jet Analysis Using Monte Carlo Simulation, Kevin Brom

PRESENTATION #18: MN Child Welfare Considerations for African American Families, Tossia Brown, Barbra Elfstrand, Micheline Mutombo Floyd Harris, Katie Peters, Shari Roach and Marcy Vang

PRESENTATION #20: Detecting emotional expressions with missing features, Nyabang Buom, Rita Fonder and Mark Jankowski

PRESENTATION #22: WSU Students' Opinions and Habits on Organic Food, Oksana Carlier

PRESENTATION #23: Case Study: Ankle-brachial index in Postural Orthostatic Tachycardia Syndrome (POTS), Annette T. Carr

PRESENTATION #27: Comparative Trematode Biota of Healthy Waterbirds Harvested from Lake Winnibigoshish Minnesota, Timothy Christopherson, James Mitchell, Miriah Linville, Okhumhekho Kassim and Connor Hutton

PRESENTATION #53: Classroom Prevalence of Methicillin Resistant Coagulase-Negative Staphylococcus Species Isolated Students, Samantha Holien

PRESENTATION #54: The Precarity of Safety: Bystander Intervention Praxis as a Challenge to Systemic Violence on Campus, Emily Homan, Mike Krug, Sarah Swanson, Jacob Stock and Kyler Steffe

PRESENTATION #55: Design and Synthesis of a Novel Indanone Chemotherapeutic Agent, Sarah Hopfner

PRESENTATION #57: Seasonal hemoglobin gene expression in tiger salamanders (Ambystoma tigrinum), Ethan Huffington

PRESENTATION #59: Analyzing the Pharmacological Effects of Picrotoxin in Regenerating and Intact Dugesia Tigrina (Planaria) Worms, Shruti Jagannathan

PRESENTATION #61: Energy Use Implications of Responsive Design Websites on Mobile Devices, Sean Kelley

PRESENTATION #62: Passive Folding Model for Deformation of Nemo Group During Final Suturing of the Wyoming and Superior Province, NE Black Hills, South Dakota, Benjamin J. Keute

PRESENTATION #66: Interpreting variably-oriented folds within the Nemo Shear Zone, northeast Black Hills, South Dakota, Alex Koerber

PRESENTATION #69: Effects of Three Land Management Regimes on Small Mammal Abundance at Grand Forks Air Force Base, North Dakota, Lynda LaFond

PRESENTATION #71: Effect of steroid hormones on neurogenesis in the brain of the green anole lizard, You Na Lee and Jaeyoung Son

PRESENTATION #73: Wear properties of 3D printed Stainless Steel-Bronze Composite, Hunter Ludwig and Tad Joel

PRESENTATION #76: How Rural Families Cope when a Loved one is Diagnosed with an Eating Disorder, Alexis McCall

PRESENTATION #79: “Are there things that we missed?”: A Qualitative Exploration of Experiences of Academic Achievement in Collegiate Athletes, Angela Miller, Ashley Forman, Daniel Gitto and Alex Russell

PRESENTATION #80: Establishment of a system using THP-1 human monocytes to distinguish between myeloid differentiation primary response gene 88 dependent or independent pathogen associated molecular pattern signaling, Abdihakim A. Mohamoud, Mary Soderlund, Abigail Schraufnagel and Rachel Dahl

PRESENTATION #83: Non-Profits: Where Should We Donate our Dollars? Patricia Muras, Troy Saleske, Devan Solheid, Erica Stiller and Mai Nou Yang

PRESENTATION #85: Petrologic and Geochemical Characterization of Archean Gneisses in the Little Elk Terrane, Black Hills, South Dakota, Christopher M. Nicosia

PRESENTATION #120: Country Risk and its Effects on Institutional Investment Fund Flows: Evidence from Mexico, Pengyu Qian
12:30 – 2:00 p.m. **ORAL SESSION II**

**Room 223**  
Moderator: Damiano Fulghesu

- **PRESENTATION #3**: Modeling Of Petroleum Generation, Williston Basin, North Dakota, Fayaz Ahmed
- **PRESENTATION #2**: Modeling GaAs Solar Cells: Python Code to solve 1-D semiconductor Equations, Iwnetim Abate
- **PRESENTATION #46**: Phycocyanin Fluorescence in the Denaturing of Phycobiliproteins in the Laboratory Setting for Allied Health Students, Amber Godfrey
- **PRESENTATION #121**: The Isoperimetric Inequality, Pratik Dahal
- **PRESENTATION #35**: Analysis of pi-zero decays produced by neutral current muon neutrino interactions, Tad Dolphay

**Room 225**  
Moderator: Michael Delong

- **PRESENTATION #78**: Sex-selective abortion, eugenics, and embodied citizenship in post-independence India, Linda McBrayer
- **PRESENTATION #36**: Racial Microaggressions in American Indian Healthcare, Amber Dorr
- **PRESENTATION #43**: An Overview of Evidence Supporting Primary Production of Glassware in Amarna, Egypt, Marilyn Evenmo
- **PRESENTATION #112**: Money and Social Class in Titanic and The Purge, Julie Velasquez
- **PRESENTATION #118**: The Garden of Forking Opinions: Lugones and Borges on Science, John Zehnder

**Room 244**  
Moderator: Cassandra Schreiber

- **PRESENTATION #25**: Determining common factors that influence academic success in Allied Health, Alice Chan
- **PRESENTATION #26**: A Study of the Correlation between Traumatic Experiences and Movement Memory, Alexa Chouinard
- **PRESENTATION #115**: Comparing the Reliability and Sensitivity of Observational Systems for Positive Behavior, Jessica Wiswell and Nicole Thompson
- **PRESENTATION #116**: Labor Exploitation in Juarez, Mexico: Gender Issues in the Maquiladoras, Jane White
- **PRESENTATION #44**: Saint Margaret, Queen of Scotland, and the Benedictine Rule, Amanda Goedeke

**Room 246**  
Moderator: Jennifer Schultz

- **PRESENTATION #28**: Dämmerschlaf: A Time of Twilight and of Sleep, Gabrielle Cohrs
- **PRESENTATION #82**: The Boar-Image in Medieval Scandinavia, Rachel Munson
- **PRESENTATION #89**: Pursuing the Saddle Point: Social Science vs. Natural Sciences, Gilbert Penaherrera
- **PRESENTATION #52**: Present-Day Imperialism, Colin Helfenstein
- **PRESENTATION #104**: Who do we blame for genocidal hatred? Farhiya Soldad
PRESENTATION #9: A Look at the Kent State Incident Through Event, Experience and Myth, Jeremy Baert

PRESENTATION #13: Frac Sand Mining: An Investigation of Water Use, Air Quality, and Waste Management from a Business Ethics Perspective, Josh Beatty, Erik Borrman, William Griesbach, Brandon Hutkowski, Tyler Kiel, Kathy Moening, Thomas Mohwinkel, Alex Nysven, Blake Olsen, Matt Pechnik, Tyler Peickert, Josh Prondzinski, Kyle Randall, Alex Tschida and Ben Williams

PRESENTATION #10: Female Circumcision: Mixed Emotions, Aida Bamutye

PRESENTATION #60: A War on Two Fronts: Historic Competition Illustrated Through the Nissan GT-R and Chevrolet Corvette, August Kammueller

PRESENTATION #12: Code of ethics and corporate culture within collegiate and professional sports, Antwan Battles, Erin Hoffmann, Grant Ignatius, Braydon Koball, Ben Larson, Mitchell Pitek, Alyssa Riles and Zoe Waite
PRESENTATION #29: Esterification of Acid Chlorides, Ryan Colakovic

PRESENTATION #32: Seasonal Evaluation of Camden State Park’s Prairie Pothole, Mikeal Cooper

PRESENTATION #33: Characterizing Oxide & Sulfide mineralization in the Nemo Shear Zone, Black Hills, SD, Seth Cordry

PRESENTATION #34: Foundations for Characterizing a NaI(Tl) Crystal Using Alpha Spectroscopy, Rose M. Coughlen

PRESENTATION #38: Improving Newborn Outcomes with Kangaroo Mother Care (KMC), Brianna Droubie and Kelly Douglas

PRESENTATION #41: Plant-fish interactions in an experimental aquaponics system, Ashley Eder, Benjamin LeMay

PRESENTATION #42: Effects of Mown Paths on Small Mammal Movements in Clay County, Minnesota, Ashley Eder and Nikholai O’Hara

PRESENTATION #45: Detecting deception: How do people distinguish between truth-tellers and liars? Jessica Cole and Shelby Flegel

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PRESENTATION #100: Functional Movement Screening in Active and Sedentary Men and Women, Kaley Scearcy and Megan Evert

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PRESENTATION #105: Investigating Shear-heating Model for Leucogranite Generation within Archean Basement, Black Hills, South Dakota, Sheryl I. Stephenson

PRESENTATION #107: Toward a comprehensive integration of calorimetry across the curriculum, Olaf Summers and Briana Bruske

PRESENTATION #109: Urban Turkeys: Use of a Random, Stratified Survey of Homeowners in the Fargo (ND)-Moorhead (MN) Area to Estimate Turkey Distributions and Numbers, Human-Turkey Interactions, and Public Opinion on Turkeys, Elisabeth Teige and Angela Kooren,

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Minnesota State University Moorhead
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Iwnetim Abate
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Minnesota State University Moorhead
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Fayaz Ahmed
Steven Losh,(Faculty Mentor)
Department of Geology, Minnesota State University, Mankato
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History Department, Metropolitan State University
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Physics Department, Winona State University
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Social Work Department, Metropolitan State University
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Department of Psychology, Minnesota State University, Mankato
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Chemistry, Rochester Community and Technical College  
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Department of Dance, Minnesota State University, Mankato  
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Tad Dolphay  
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<tr>
<th>Presentation #42</th>
<th>Effects of Mown Paths on Small Mammal Movements in Clay County, Minnesota</th>
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<tbody>
<tr>
<td>Ashley Eder</td>
<td>Nikholai O’Hara (Faculty Mentor)</td>
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<td>Donna Stockrahm (Faculty Mentor)</td>
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<td>Minnesota State University Moorhead</td>
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<td>David Higgins (Faculty Mentor)</td>
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<td>English, Inver Hills Community College</td>
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<tr>
<td></td>
<td>The Little Mermaid and the Fear of Change</td>
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<tr>
<th>Presentation #43</th>
<th>An Overview of Evidence Supporting Primary Production of Glassware in Amarna, Egypt</th>
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<tbody>
<tr>
<td>Marilyn Evenmo</td>
<td>Alisa Eimen (Faculty Mentor)</td>
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<td>Department of Art, Minnesota State University, Mankato</td>
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<tr>
<td></td>
<td>Saint Margaret, Queen of Scotland, and the Benedictine Rule</td>
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<tr>
<th>Presentation #44</th>
<th>Quantification of Phenolics in Kombucha Tea</th>
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<tbody>
<tr>
<td>Amanda Goedeke</td>
<td>Maureen O’Brien and Glenn Davis (Faculty Mentor)</td>
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<td>History &amp; English, St Cloud State University</td>
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<tr>
<th>Presentation #45</th>
<th>Detecting deception: How do people distinguish between truth-tellers and liars?</th>
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<tbody>
<tr>
<td>Jessica Cole</td>
<td>Shelby Flegel (Faculty Mentor)</td>
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<td>Department of Psychology, Minnesota State University, Mankato</td>
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<td>Emily Stark (Faculty Mentor)</td>
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<td>Detecting deception: How do people distinguish between truth-tellers and liars?</td>
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<tr>
<th>Presentation #46</th>
<th>Phycocyanin Fluorescence in the Denaturing of Phycobiliproteins in the Laboratory Setting for Allied Health Students</th>
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<tbody>
<tr>
<td>Amber Godfrey</td>
<td>Heather Sklenicka (Faculty Mentor) Rochester Community and Technical College</td>
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<td>Phycocyanin Fluorescence in the Denaturing of Phycobiliproteins in the Laboratory Setting for Allied Health Students</td>
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<th>Media Usage and Learning Outcomes among Sociology Students</th>
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<tbody>
<tr>
<td>Shandy Giron</td>
<td>David Higgins (Faculty Mentor)</td>
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<td>English, Inver Hills Community College</td>
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<th>Media Usage and Learning Outcomes among Sociology Students</th>
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<tr>
<td>Melanie Graves</td>
<td>Rafael Narvaez (Faculty Mentor)</td>
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<tr>
<td>Ben Keilholtz</td>
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<th>Right Tetrahedron: Pythagorean Quadruples</th>
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<tr>
<td>Shrijana Gurung</td>
<td>Damiano Fulghesu (Faculty Mentor)</td>
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<td>Rafael Narvaez (Faculty Mentor)</td>
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<th>Presentation #50</th>
<th>Quantification of Phenolics in Kombucha Tea</th>
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<tr>
<td>Patrick Hager</td>
<td>Francis M. Mann (Faculty Mentor)</td>
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<td>Department of Chemistry, Winona State University</td>
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PRESENTATION #51
**Daniel Heerema**
Heather Sklenicka (Faculty Mentor)
Chemistry, Rochester Community and Technical College
*Carbohydrates and Artificial Sweeteners: A New Optical Rotation Laboratory for Allied Health Students*
Format: Poster

PRESENTATION #52
**Colin Helfenstein**
Andrew Conteh (Faculty Mentor)
Minnesota State University Moorhead
*Present-Day Imperialism*
Format: Oral

PRESENTATION #53
**Samantha Holien**
Timothy Secott (Faculty Mentor)
Department of Biology, Minnesota State University, Mankato
*Classroom Prevalence of Methicillin Resistant Coagulase-Negative Staphylococcus Species Isolated Students*
Format: Poster

PRESENTATION #54
**Emily Homan, Mike Krug, Sarah Swanson, Jacob Stock and Kyler Steffe**
Tamara Berg (Faculty Mentor)
Women’s, Gender, & Sexuality Studies Program, Winona State University
*The Precarity of Safety: Bystander Intervention Praxis as a Challenge to Systemic Violence on Campus*
Format: Poster

PRESENTATION #55
**Sarah Hopfner**
Mark Mechelke (Faculty Mentor)
Chemistry and Biochemistry, St Cloud State University
*Design and Synthesis of a Novel Indanone Chemotherapeutic Agent*
Format: Poster

PRESENTATION #56
**Sean Hudson**
David Higgins (Faculty Mentor)
English, Inver Hills Community College
*Masculinity in the Shawshank Redemption*
Format: Oral

PRESENTATION #57
**Ethan Huffington**
Amy Runck (Faculty Mentor)
Biology Department, Winona State University
*Seasonal hemoglobin gene expression in tiger salamanders (Ambystoma tigrinum)*
Format: Poster

PRESENTATION #59
**Shruti Jagannathan**
Latha Ramakrishnan (Faculty Mentor)
Chemistry and Biochemistry, St Cloud State University
*Analyzing the Pharmacological Effects of Picrotoxin in Regenerating and Intact Dugesia Tigrina (Planaria) Worms*
Format: Poster

PRESENTATION #60
**August Kammueller**
David Higgins (Faculty Mentor)
English, Inver Hills Community College
*A War on Two Fronts: Historic Competition Illustrated Through the Nissan GT-R and Chevrolet Corvette*
Format: Oral

PRESENTATION #61
**Sean Kelley**
Joan Francioni (Faculty Mentor)
Department of Computer Science, Winona State University
*Energy Use Implications of Responsive Design Websites on Mobile Devices*
Format: Poster

PRESENTATION #62
**Benjamin J. Keute**
Stephen T. Allard (Faculty Mentor) Department of Geoscience, Winona State University
*Passive Folding Model for Deformation of Nemo Group During Final Suturing of the Wyoming and Superior Province, NE Black Hills, South Dakota*
Format: Poster

PRESENTATION #63
**Jackson Kisling**
Ryan Hankins (Faculty Mentor)
Department of Information and Computer Science, Metropolitan State University
*RPG Grid Brawl: A Study of Artificial Intelligence Using a Board Game*
Format: Oral
PRESENTATION #65
Kaylie Knipe
David Higgins (Faculty Mentor)
English, Inver Hills Community College
Better Than You: America's Distaste for The Mentally Disabled
Format: Oral

PRESENTATION #66
Alex Koerber
Stephen T. Allard (Faculty Mentor) Department of Geoscience, Winona State University
Interpreting variably-oriented folds within the Nemo Shear Zone, northeast Black Hills, South Dakota
Format: Poster

PRESENTATION #67
Debra Koenig
David Higgins (Faculty Mentor)
Psychology, Inver Hills Community College
Why do people become bullies?
Format: Oral

PRESENTATION #68
Samantha Koshowany-Wilken
Maureen O’Brien and Glenn Davis (Faculty Mentor) History & English, St Cloud State University
St. Marina: A Lesson in Spiritual Endurance
Format: Oral

PRESENTATION #69
Lynda LaFond
Elizabeth Rave (Faculty Mentor)
Bemidji State University
Effects of Three Land Management Regimes on Small Mammal Abundance at Grand Forks Air Force Base, North Dakota
Format: Poster

PRESENTATION #70
Julia Lautizi and Trae Boldthen
Kevin Filter (Faculty Mentor), Department of Psychology Minnesota State University, Mankato
Subgroup Pro-Ana
Format: Oral

PRESENTATION #71
You Na Lee and Jaeyoung Son
Rachel Cohen (Faculty Mentor)
Department of Biology, Minnesota State University, Mankato
Effect of steroid hormones on neurogenesis in the brain of the green anole lizard.
Format: Poster

PRESENTATION #72
Benjamin Lencowski
David Higgins, Faculty Mentor
English, Inver Hills Community College
American Sniper and Self Loathing
Format: Oral

PRESENTATION #73
Hunter Ludwig and Tad Joel
Kuldeep Agarwal (Faculty Mentor)
Department of Automotive Engineering Technology, Minnesota State University, Mankato
Wear properties of 3D printed Stainless Steel-Bronze Composite
Format: Poster

PRESENTATION #74
Robert Mahrer
Gary Mead (Faculty Mentor)
Department of Automotive Engineering and Technology, Minnesota State University, Mankato
Uprights
Format: Oral

PRESENTATION #75
Brenda Martinson
Julie Kerr-Berry (Faculty Mentor)
Department of Dance, Minnesota State University, Mankato
The Communist and Democratic Influence on Russian Ballet: From the Soviet Union to Russia
Format: Oral

PRESENTATION #76
Alexis McCall
Daniel Moen (Faculty Mentor)
Department of Family Consumer Science Minnesota State University, Mankato
How Rural Families Cope when a Loved one is Diagnosed with an Eating Disorder
Format: Poster
PRESENTATION #77
Krista Migneault
David Higgins (Faculty Mentor)
English, Inver Hills Community College
Budget Surpluses of the 1990’s
Format: Oral

PRESENTATION #78
Linda McBrayer
Sumiko Otsubo (Faculty Mentor)
History Department, Metropolitan State University
Sex-selective abortion, eugenics, and embodied citizenship in post-independence India
Format: Oral

PRESENTATION #79
Angela Miller, Ashley Forman, Daniel Gitto and Alex Russell
Amanda M. Brouwer and John C. Johanson (Faculty Mentors)
Winona State University
“Are there things that we missed?”: A Qualitative Exploration of Experiences of Academic Achievement in Collegiate Athletes
Format: Poster

PRESENTATION #80
Abdihakim A. Mohamoud, Mary Soderlund, Abigail Schraufnagel and Rachel Dahl
Osvaldo Martinez (Faculty Mentor)
Biology Department, Winona State University
Establishment of a system using THP-1 human monocytes to distinguish between myeloid differentiation primary response gene 88 dependent or independent pathogen associated molecular pattern signaling
Format: Poster

PRESENTATION #82
Rachel Munson
Larry Swain (Faculty Mentor)
Bemidji State University
The Boar-Image in Medieval Scandinavia
Format: Oral

PRESENTATION #83
Patricia Muras, Troy Salewske, Devan Solheid, Erica Stiller and Mai Nou Yang
Jana Craft (Faculty Mentor)
Business Administration, Winona State University
Non-Profits: Where Should We Donate our Dollars?
Format: Poster

PRESENTATION #84
Jennifer Nelson and Lauren Bennewitz
Kathy Bertsch (Faculty Mentor)
Department of Psychology, Minnesota State University, Mankato
Special Education Teacher Training and Knowledge of Behavior Assessment and Intervention Practices
Format: Oral

PRESENTATION #85
Christopher M. Nicosia
Stephen T. Allard (Faculty Mentor) Department of Geoscience, Winona State University
Petrologic and Geochemical Characterization of Archean Gneisses in the Little Elk Terrane, Black Hills, South Dakota
Format: Poster

PRESENTATION #86
Judith Ochochukwu
Amanda M. Brouwer (Faculty Mentor)
Winona State University
The Role of Resiliency in Stress and Coping Styles
Format: Poster

PRESENTATION #87
Kyle Olsen
David Higgins (Faculty Mentor)
English, Inver Hills Community College
Children as Monsters are the Products of Society
Format: Oral

PRESENTATION #88
Alix M. Overgard
Thomas W. Nalli (Faculty Mentor) Department of Chemistry, Winona State University
GC-MS Analysis of Phytosterol Content of Dried Mushrooms
Format: Poster

PRESENTATION #89
Gilbert Penaherrera
Derek Webb (Faculty Mentor)
Bemidji State University
Pursuing the Saddle Point: Social Science vs. Natural Sciences
Format: Oral
PRESENTATION #90
Kira Perez
Jennifer L. Schultz (Faculty Mentor)
College of Management, Human Resource Management, Metropolitan State University
Music in the Workplace
Format: Poster

PRESENTATION #91
Daniel Perno
Lori Halverson-Wente (Faculty Mentor) Department of Communication, Rochester Community and Technical College
Intercultural Communication, Service Learning, and the Study of Poverty Abroad
Format: Oral

PRESENTATION #92
Anh Pham
Dorothy Wrigley (Faculty Mentor)
Department of Biology, Minnesota State University, Mankato
Survival of Verminephrobacter in amputated worm tails
Format: Poster

PRESENTATION #93
Angelina Pirozzoli and Madeline Podgorak
Maureen Gerson and Amy Reitmaier Koehler (Faculty Mentors)
Department of Nursing, Winona State University, Winona
Palliative Care Knowledge and Self-Efficacy within a Baccalaureate Nursing Program: Phase 2
Format: Poster

PRESENTATION #94
Allison Rasmussen, Anthony Alexander and Meagan Schroeder
Rafael Narvaez (Faculty Mentor)
Department of Sociology, Winona State University
Media Usage and Learning Outcomes among Sociology Students
Format: Poster

PRESENTATION #95
Austin Rau
Cynthia Miller (Faculty Mentor)
Department of Geography, Minnesota State University, Mankato
Minnesota and the Logistics of Bakken Crude Oil
Format: Poster

PRESENTATION #96
Jessica Reich
Alisa Eimen (Faculty Mentor)
Department of Art, Minnesota State University, Mankato
Monstrosity from the Medieval to the Renaissance
Format: Oral

PRESENTATION #97
Samantha Ritter
Frank Schindler (Faculty Mentor)
Chemistry Program
Emily Deaver & Thomas Dilley (Faculty Mentors)
Environmental Science Program
Southwest Minnesota State University
Evaluation of the intrinsic surface charge of a layered silicate soil
Format: Poster

PRESENTATION #98
Allison Rogich
Heather Sklenicka (Faculty Mentor)
Chemistry, Rochester Community and Technical College
Exploration and Analysis of Lipid Content in Canine Food
Format: Poster

PRESENTATION #99
Marten Salfer
Marianne Zarzana (Faculty Mentor)
Creative Writing Program, English Department, Southwest Minnesota State University
A Fantasy Farmer
Format: Oral

PRESENTATION #100
Kaley Scearcy and Megan Evert
Jeffrey W. Bell (Faculty Mentor)
Exercise Science Program, Southwest Minnesota State University
Functional Movement Screening in Active and Sedentary Men and Women
Format: Poster

PRESENTATION #101
Johannah Scheu
Elizabeth Kirchoff (Faculty Mentor)
Minnesota State University Moorhead
Student Ratings of Female Professors with Foreign-Accented Speech at Minnesota State University Moorhead
Format: Oral
PRESENTATION #102
**Dustin Schulte**
Jeffrey W. Bell (Faculty Mentor)
Exercise Science Program, Southwest Minnesota State University
*Differences in Health and Skill Related Physical Measurements Between Forwards and Backs on the SMSU Men's Rugby Team*
Format: Poster

PRESENTATION #103
**Ashley T. Shuck, Elizabeth C. Daniels, Alix M. Overgard and Reid L. Hein**
Myoung Lee (Faculty Mentor)
Department of Chemistry, Winona State University
*Effect of Antidiabetic Agent Metformin and its Structural Analogs on the in vitro Glycation of Bovine Serum Albumin*
Format: Poster

PRESENTATION #104
**Farhiya Soldad**
David Higgins (Faculty Mentor)
English, Inver Hills Community College
*Who do we blame for genocidal hatred?*
Format: Oral

PRESENTATION #105
**Sheryl I. Stephenson**
Stephen Allard (Faculty Mentor)
Department of Geoscience, Winona State University
*Investigating Shear-heating Model for Leucogranite Generation within Archean Basement, Black Hills, South Dakota*
Format: Poster

PRESENTATION #106
**Nathan Stott**
Andrew Hafs (Faculty Mentor)
Bemidji State University
*Migration and Size Variance of Larval Northern Pike (Esox lucius) in the Tamarack River*
Format: Oral

PRESENTATION #107
**Olaf Summers and Briana Bruske**
Heather Sklenicka (Faculty Mentor)
Chemistry, Rochester Community and Technical College
*Toward a comprehensive integration of calorimetry across the curriculum*
Format: Poster

PRESENTATION #109
**Elisabeth Teige and Angela Kooren, Donna Stockrahm (Faculty Mentor)**
Minnesota State University Moorhead
*Urban Turkeys: Use of a Random, Stratified Survey of Homeowners in the Fargo (ND)-Moorhead (MN) Area to Estimate Turkey Distributions and Numbers, Human-Turkey Interactions, and Public Opinion on Turkeys*
Format: Poster

PRESENTATION #112
**Julie Velasquez**
David Higgins (Faculty Mentor)
English, Inver Hills Community College
*Money and Social Class in Titanic and The Purge*
Format: Oral

PRESENTATION #113
**Amanda Weiss and Melissa Kohout**
Maija Sipola (Faculty Mentor)
Department of Geology, Minnesota State University, Mankato
*XRF Geochemical Analysis of the Ngandong Paleoanthropological Site in Java, Indonesia*
Format: Poster

PRESENTATION #114
**William White and Dominic Tunison**
Kuldeep Agarwal and Winston Sealy (Faculty Mentors)
Department of Manufacturing Engineering Technology, Minnesota State University, Mankato
*Low Cost Welding based Metal 3d Printer*
Format: Poster

PRESENTATION #115
**Jessica Wiswell and Nicole Thompson**
Kevin Filter (Faculty Mentor)
Department of Psychology, Minnesota State University, Mankato
*Comparing the Reliability and Sensitivity of Observational Systems for Postive Behavior*
Format: Oral

PRESENTATION #116
**Jane White**
Jill Stackhouse (Faculty Mentor)
Bemidji State University
*Labor Exploitation in Juarez, Mexico: Gender Issues in the Maquiladoras*
Format: Oral
PRESENTATION #117
John Zehnder
Megan Mahowald (Faculty Mentor)
Department of Communication Disorders
Minnesota State University, Mankato
Literate Language Features in the Procedural Narratives of African-American and European-American 5th Graders
Format: Oral

PRESENTATION #118
John Zehnder
Adriana Gordillo (Faculty Mentor) Department of World Languages
Minnesota State University, Mankato
The Garden of Forking Opinions: Lugones and Borges on Science
Format: Oral

PRESENTATION #119
Douglas Zentner
Andrew Hafs (Faculty Member)
Bemidji State University
A Genetic Based Approach to Management and Stocking of Muskellunge
Format: Oral

PRESENTATION #120
Pengyu Qian
Eduardo Pablo (Faculty Mentor)
Minnesota State University Moorhead
Country Risk and its Effects on Institutional Investment Fund Flows: Evidence from Mexico
Format: Poster

PRESENTATION #121
Pratik Dahal
Damiano Fulghesu (Faculty Mentor)
Minnesota State University Moorhead
The Isoperimetric Inequality
Format: Oral

PRESENTATION #122
Tianxia Jia
Joyati Debnath (Faculty Mentor)
Winona State University
Visualizing Elementary Complex Functions
Format: Oral

PRESENTATION #123
Jaden Witt
Ellen Brisch, Shawn Garrett and Patricia Wisenden (Faculty Mentors)
Minnesota State University Moorhead
Xenopus Embryo Development upon Exposure to Downstream Water from an Effluent Plant
Format: Oral