Each semester the College of Arts & Sciences hosts a research and creative activity showcase for undergraduate students to present their work to the campus community.

**SHOWCASE SESSIONS**

1. 9:30 am – 10:45 am
2. 11:00 am – 12:15 pm
3. 12:30 pm – 1:45 pm
4. 2:00 pm – 3:15 pm

**PRESENTATIONS & PRESENTERS**

**Session 1 | 9:30 – 10:45 am**

**Stereotypes of Aging: The Role of Perceived Warmth and Competence**

Authors, Majors:
- Victor Anselmo, Pre-Physical Therapy
- Payton Baumann, Pre-Occupational Therapy
- Audrey Engstrom, Psychology
- Alexis Pitchford, Psychology and Criminal Justice
- Josselyn Walker, Psychology

Course: PSYC 304
Faculty Advisor: Heather Terrell

**Dog Ownership and Well-being**

Author, Major:
- Chesney Braun, Criminal Justice and Sociology

Course: SOC 475
Faculty Advisor: Daphne Pedersen

**Religious Disbelief and Analytic Thinking**

Authors, Majors:
- Lilly Christen, Psychology and Criminal Justice
- Paige Fiebiger, Psychology
- Lexi Miller, Psychology
- Madison Phillips-Bischoff, Psychology
- Adam Zavalney, Pre-Physical Therapy

Course: PSYC 304
Faculty Advisor: Heather Terrell

**Offense Type and Parole Status**

Author, Major:
- Chantel Crawford, Criminal Justice and Sociology

Course: SOC 475
Faculty Advisor: Daphne Pedersen

**Precarious Gender Roles: Perceptions of Masculinity and Femininity**

Authors, Majors:
- Adelyn Emter, Psychology
- Jaxon Erie, Psychology
- Madison Gudim, Psychology
- Elise Ramberg, Pre-Occupational Therapy
- Alyssa Thompson, Psychology

Course: PSYC 304
Faculty Advisor: Heather Terrell

**Offender Demographics and Reoffence**

Author, Majors:
- Sofia Hansen, Sociology, Psychology, Social Science, and Criminal Justice

Course: SOC 475
Faculty Advisor: Daphne Pedersen

**Parents in the Workplace: Warmth vs. Competence**

Authors, Majors:
- Emerson Hoornaert, Psychology and Pre-Dentistry
- Anna Seefeldt, Psychology and Pre-Medicine
- Alayna Fentanyl, Psychology
- Alyssa Gaber, Psychology

Course: PSYC 304
Faculty Advisor: Heather Terrell
Identifying Binding Sites of SNAIL on DNA and RNA

Author, Major:
Jackson Hopfauf, Chemistry
Course: CHEM 495
Faculty Advisor: Archana Dhasarathy

Stem Cell Treatment of Type 1 Diabetes Mellitus

Author, Major:
Mollie Hostetter, Biology: Professional Health Sciences
Course: HON 489
Faculty Advisor: Tristan Darland

Analyzing Pollutants in the Minnesota River Basin

Author, Major:
Jonah Johannes, Geography, Environmental Sciences
Course: GEOG 454

Taxonomic bias in witnessing public response to Facebook posts by the Great Smoky Mountains National Park

Author, Major:
Christie Johnson, Social Science
Course: BIOL 439
Faculty Advisor: Kathryn Yurkonis

Juvenile Delinquency: The Impact of Parental Supervision and Structure

Author, Major:
Hayle Knudson, Criminal Justice and Sociology
Course: SOC 475
Faculty Advisor: Daphne Pedersen

The effects of climate change on wine production in the Western United States

Author, Major:
Sadey Koch, Environmental Studies
Course: GEOG 454

Interpersonal Skills Intervention (ISI)

Author, Major:
Isabelle Kremeier, Psychology
Faculty Advisor: RaeAnn Anderson

Observations of Public Services Throughout Current Grand Forks and Future Developments

Authors, Majors:
Briana Krupinsky, Chemistry
Kincaid Rowbotham, Biology
Nathan Moe, Biology
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz

Investigation of Chronic Inflammation and its etiological purpose in a Mouse Model of Alzheimer’s disease

Author, Major:
Ronak Kumar, Chemistry
Course: CHEM 495
Faculty Advisor: Kumi Nagamoto-Combs

Number of Officers and Use of Police Force

Author, Major:
Jayden Laxdal, Criminal Justice and Sociology
Course: SOC 475
Faculty Advisor: Daphne Pedersen

Impact of Structural Racism on the Health of Elderly BIPOC Populations

Author, Major:
Alexus Meduna, Biology
Course: HON 489
Faculty Advisor: Merie Kirby

Deviant Behavior and The Relationship with Teammates/Coaches

Author, Major:
Jake Oliphant, Criminal Justice and Sociology
Course: SOC 475
Faculty Advisor: Daphne Pedersen

Advances in the Preparation and Applications of Palladacycles

Author, Major:
Cole O'Neill, Chemistry and Forensic Science
Course: CHEM 495
Faculty Advisor: Irina Smoliakova

Hormonal Birth Control in the 21st Century

Author, Major:
Autumn Paluck, Biology, Honors
Course: HON 489
Faculty Advisors: Rebecca Simmons, Rebecca Rozelle-Stone
Understanding the Forensic Entomology Case Report: An Interdisciplinary Approach

Authors, Majors:
- Taylor Roehl, Forensic Science and German Studies
Course: HON 489
Faculty Advisor: Lavinia Iancu

Adolescents, Video Games, and Predatory Monetization

Author, Major:
- Cameron Squire, Criminal Justice and Sociology
Course: SOC 475

Grass Lawns and Their Affects on Biodiversity and Environmental Health

Author, Major:
- Hannah Thorpe, Sociology and Environmental Studies
Course: GEOG 454

SCP-2 in the brain

Authors, Majors:
- Alyssa Wallenta, Biochemistry
- Madison Jochim, Grad School
Course: CHEM 495

Dominance and Heterosexual Attraction: A Replication

Authors, Majors:
- Bryanna Wood, Psychology
- Alexzander Burckhard, Psychology
- Henry Rott, Psychology
- Sydney Getz, Psychology
Course: PSYC 304
Faculty Advisor: Heather Terrell

Sneaky Sexism: A Replication Study on Benevolent Sexism

Authors, Majors:
- Jasmyn Wood, Psychology
- Britian Holter, Psychology
- Eden Sebring, Psychology
- Kaitlin Hazel, Psychology
Course: PSYC 304
Faculty Advisor: Heather Terrell

Session 2 | 11:00 am – 12:15 pm

Improving Accuracy in Performance Estimates

Authors, Majors:
- Callie Clabaugh, Psychology and Music
- Reid Milner, Psychology
- Cody Combs, Psychology
Faculty Advisors: Abigail Kroke, Joelle Ruthig

Epigenetic regulation of the SPARC gene in bladder cancer

Authors, Majors:
- Carson Herbert, Biology: Professional Health Sciences
- Jarret Merschman
Course: BIOL 489, HON 489
Faculty Advisors: Archana Dhasarathy, Rebecca Simmons

Methane from Thawing Permafrost: A Cascade of Climate Change

Author, Majors:
- Cassidy Holth, Atmospheric Science and Environmental Studies
Course: GEOG 454
Faculty Advisor: Enru Wang

Comparisons of the segments along the Belmont corridor

Authors, Majors:
- Thomas Iken, Physics and Math
- Sierra Walker, Math
- Josh Canfield, Math
- Owen Irvine, Math
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz

Mutations in the ddb1 Gene Leads to No Stem Cell Phenotype in Zebrafish

Author, Major:
- Kailey Jerome, Biology and Psychology, Honors
Faculty Advisor: Tristan Darland

Prevalence of Sexual Assault on College Campuses

Author, Major:
- Isabelle Kremeier, Psychology
Course: HON 489
Faculty Advisor: Heather Terrell
Ocean Acidification and its Impacts on Coral Reefs

Author, Major:
Alex Lehto, Environmental Studies
Course: GEOG 454
Faculty Advisor: Enru Wang

Determinations of Priority Metal Pollutants in Grand Forks County Topsoils

Author, Major:
August Leopold, Chemistry
Course: CHEM 495
Faculty Advisors: David Pierce, Julia Zhao

The Rise, Fall, and Future of Biobased Succinic Acid

Author, Major:
Nicholas Mathias, Chemistry
Course: CHEM 495
Faculty Advisor: Qianli "Rick" Chu

Bioinformatics of the PowerPlex Fusion STR Variation in North Dakota

Author, Majors:
Nathan Moe, Molecular and Integrative Biology and Forensic Science
Course: HON 489
Faculty Advisor: Igor Ovchinnikov

Vil-Cre specific Slfn3KO mice exhibit sex-specific differences in lung, stomach, cecum, and proximal colon differentiation markers and Slfn family members expression levels

Authors, Majors:
Odele Rajpathy, Biology
Dr. Emilie E. Vomhof-DeKrey,
Elizabeth Preszler, Biology
Dr. Marc D. Basson,
Faculty Advisors: Emilie E. Vomhof-DeKrey, Marc D. Basson

Evaluation of Histone Modification Patterns within Human (H1) cells

Author, Major:
Kincaid Rowbotham, Molecular and Integrative Biology
Course: BIOL 489, HON 489
Faculty Advisors: Barry Milavetz, Rebecca Simmons

Grand Forks New Development Costs

Authors, Majors:
Sothio Suzue-Pan, Electrical Engineering
Mohammed Almarzoogi, Mechanical Engineering
Ahmed Elfarran, Electrical Engineering
Eberechi Ichi, Civil Engineering
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz

Session 3 | 12:30 pm – 1:45 pm

Comprehensive Resource Notebook for Speech Sound Disorders

Author, Major:
Abigail College, Communication Sciences and Disorders
Course: CSD 333 and HON 489
Faculty Advisors: Jessica Foley, Rebecca Rozelle-Stone

The Spread of Kudzu Vine in the U.S. and Controlling Measures

Author, Major:
Anna Dubanoski, Environmental studies
Course: GEOG 454

Methylation of Histone 3 Lysine 4 and its Transcriptional Role

Author, Major:
Lincoln Kranz, Chemistry
Course: CHEM 495
Faculty Advisor: Sergei Nechaev

Renewable Dimer Synthesis in Green Reaction Medium using Photoenergy

Author, Major:
Briana Krupinsky, Chemistry
Course: CHEM 495
Faculty Advisor: Qianli ‘Rick’ Chu, Julia Zhao

Eye Disease in North Dakota: A Vision for the Future

Authors, Majors:
Rebecca Olien, Biology
Dr. Diane Darland
Course: BIOL 397
Faculty Advisor: Diane Darland
Effects of Insulin Receptor Activation on the Dopamine Transporter

Author, Major:
Tess Sether, Chemistry (Biochemistry Emphasis)
Course: CHEM 495
Faculty Advisor: James D. Foster

An overview of the financial and natural impacts caused by wildfires along with wildfire susceptibility thought the United States

Author, Major:
Theodore Green, General Studies
Course: GEOG 454
Faculty Advisor: 0

Session 4 | 2:00 pm – 3:15 pm

Growing Optimization of Furfural Production and Utilization

Author, Major:
Djavdat Azizov, Chemistry
Course: CHEM 495, HON 489
Faculty Advisor: Qianli Chu

Belief in a Dangerous World as a Predictor of Prejudice Towards Asian-Americans

Author, Major:
Mary Hamilton, Psychology
Faculty Advisor: Heather Terrell

Evaluation of Staten Island’s Wetland Services and Environmental Costs of Removal

Author, Major:
Gracyn Cole, Environmental Studies
Course: GEOG 454
Faculty Advisor: Enru Wang

Natural gas and Nuclear: American Energy Rhetoric

Author, Major:
Kaden Hanna, Environmental Studies
Course: GEOG 454

The Melting Arctic

Author, Major:
Lauren Collins, Environmental Studies
Course: GEOG 454

The Use of Nuclear Warheads as a Source of Sustainable Energy

Author, Major:
Jacob Harms, Environmental Studies
Course: GEOG 454

For new development, will the anticipated tax collections be sufficient to pay for the new infrastructure and on-going associated services for the property?

Authors, Majors:
Ahmed Elfarran, Electrical Engineering, Mechanical Engineering and Civil Engineering
Mohamed, Almarzoogi
Eberechi, Ichii
Sothio, Suzue-Pan
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz

Focal Adhesion Patterns in Neural Crest Cell Differentiation

Author, Major:
Anna Lambertz, Psychology
Faculty Advisor: Amanda Haage

Parameters of Exoplanets Qatar-1 and TRES-3 Using Transit Light Curve Data from Martens Observatory

Author, Major:
Joseph Langenwalter, Physics
Course: PHYS 415
Faculty Advisor: Timothy Young

Understanding The Properties of Non-Natural Amino Acids for Clay-Material Binding

Authors, Majors:
Sean Glaholt, Chemistry and Physics
Atir Kaunain, Chemical Engineering
Faculty Advisor: Mark Hoffmann

Redevelopment’s Effect on Property

Authors, Majors:
Nolan Larson, Mathematics and Economics
Riley Meteychuk, Computer Science
Kaitlin Johnson, Computer Science
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz
The Atlantic Cod Collapse: What Have We Learned?

Author, Major:
Justin Lian, Biology and Environmental Studies
Course: GEOG 454

The Needs Assessment: ASL Interpreters in Counseling Practice in North Dakota

Author, Major:
Crystal Lundmark, Psychology
Faculty Advisor: Andjela Kaur

Street Maintenance Costs in the City of Grand Forks

Authors, Majors:
Manou Mboombo, Mathematics
Jonathan Boateng, Mathematics
Emmanuel Nyarko, Mathematics
Course: MATH 460
Faculty Advisors: Ryan Zerr, Jeremiah Bartz

Building a Muon Detector: How these Invisible Particles are Detected and What We Can Learn From Them

Author, Major:
Sydney Menne, Physics and Mathematics
Faculty Advisor: Tim Young

Electric Cars VS. Gas Cars

Author, Major:
Tyler Smith, Theatre Arts
Course: GEOG 454

Midwest Tree Diseases: Cause, Spread and Mitigation

Author, Majors:
Chelsea Timmerman, Environmental Studies and Communication
Course: GEOG 454