



Thank you to Audrey Reding

School of Fine Arts major for the design of the Showcase poster and t-shirt

The Undergraduate Research and Artistic Showcase takes place each November and April. It is open to all undergraduate students who would like to present their work to the UMD community. The showcase is sponsored by the Undergraduate Research Opportunities Program (UROP). For additional information on how to become involved and contact information for each collegiate coordinator, please see www.d.umn.edu/evcaa/about/urop

UMD Book Store Gift Certificates will be given to the student with the most people attending their oral presentation and the two students with the most people viewing their poster presentation. Please be sure to sign in at each oral presentation/poster board you view. Thank you.

Oral Presentations – Garden Room				
Time	Presenter(s)	College	Project Mentor	Project Title
11:00	Jenna Swenson	SCSE	Kathryn Schreiner	The Effect of Melanin on the Degradation of Ectomycorrhizal Fungi
11:20				
11:40	Yongming He	SCSE	Richard Buckalew	Frenemy
12:00				
12:20	Peter Dvoracek	SCSE	Mark Osadjan	Analysis of undergraduate student retention outcomes across instructional methods in undergraduate anatomy laboratory setting.
12:40	Victor Furman	UMTC	Nikunj Somia	Generation of a Cell Line with Utility in Protein Production
1:00	Emilie Ziebarth	SCSE	Chan Lan Chun	Quantification and Analysis of Denitrification Genes in diverse Environmental Samples
1:20				
1:40	Maxwell C. Glenna	SCSE	Zhihua Xu	Physical Vapor Deposition Study of Bismuth Telluride

Poster Presentations – Ball Room					
No.	Presenter(s)	College	Project Mentor	Project Title	Author(s) will be present
1	Aaron Cherian	SCSE	Sam Shanks	Optical Tracking and Recognition for Stage Robotics	11:00 – 12:00
2	Karl Bibelnieks	SCSE	Chad Pierson	Developing 3D Printed Manipulatives to Enhance Understanding of Analytic Representations of Surfaces in an Active Learning Multivariable Calculus Classroom	12:00 - 2:00
3					

4	Grace Bishop	SCSE	Kathryn Schreiner	The effect of nutrient concentration on diatom production of highly-branched isoprenoids	12:00-2:00
5	Dien Nguyen	SCSE	Paul Siders	Heat capacity from Molecular Dynamics Simulation of Gaseous P2O5	11:00 – 2:00
6	Noah Holzer	SCSE	Prashanth Poddutoori	Design, Synthesis, and Characterization of Novel Light-Induced [2]Rotaxanes	11:00 - 2:00
7 & 8	Keara Atkinson Joshua Conklin Eliot Dixon Denaya Gross Slade Gulan Dom Ippolite Michaela Lochen Grace Lockhart Hannah Majkrzak Sofia Mayo Chris Resnikoff Jonathan Schoettle Katherine Trahan Kaci Warneke Antonia Weiss Liz Yordy	CLA	Jen Jones	Archaeological Analysis of Projectile Points in the UMD Teaching Collection: How to Make Use of Artifacts without a Known Provenience	11:00 – 2:00
8 A	Niko Wallace	SCSE	Victor Lai	Characterizing the mechanical properties of biological tissue	12:00 - 2:00
9	Anna Nick	SCSE	Jessica Sieber	Exploring interactions between microbes and bile salts in a heterothermic mammal	12:00 – 1:00
10	Michael Kenneth Laidlaw	SCSE	Jennifer Liang	CRISPR/Cas-9 Gene Editing on Zebrafish Embryos	11:00 -1:50
11	Thomas DeMars	SCSE	Ben Dymond	Energy Dissipation and Cost Efficiency of Concrete, Cross-Laminated Timber, and Composite Panels Subjected to Impact Loading	12:30 – 2:00

12	Rachel Wagner	SCSE	Ben Dymond	Composite Behavior of Auger-Cast Hollow-Core Concrete Slabs during Web-Shear Tests	11:00-2:00
13	Noor Ibrahim	UMTC	Ameeta Kelekar	Characterizing the Metabolic Phenotype of Noxa, a Bcl-2 Family Protein, in Leukemic Cells	11:00 - 2:00
14	Ryan Kuchta	CLA	Rosemary Stanfield Johnson	Choosing between Gender and Sexuality: Social Power in Modern Iran	11:00 - 1:00
15	Shelby Harmon	CEHSP	Molly Harney	Prenatal Maternal Stress Exposure	11:00 – 2:00
16	Katie Oltz	CEHSP	Rebecca Gilbertson	Attitudes and Beliefs About ENDS Use in Young Adults	12:00 – 2:00
17	Elizabeth McElyea	CEHSP	Charles Fontaine	The Acute Effects of Exercise Intensity on Psychological Measures of Stress in College Students	11:00-11:50 1:00-2:00
18	Catrina Fjerstad	CEHSP	Charles Fontaine	The Acute Effects of Meditation on Physiological and Psychological Measures of Stress in College Students	12:00-2:00
19	Jessica Bratsch	CEHSP	Ryan Hjelle	Inequitable Custody Determinations: The Impact on Fathers	11:00 – 2:00
20	Kate Murner	CEHSP	Eric Hessler	Persistence and difficulty: Effects of cognitive-task nature and individual differences in mindset on persistence.	11:00 – 2:00
21	Abigail Roufs	SCSE	Amanda Grusz	Flora of Glensheen	11:00 – 1:00
22	Jacob Martin	SCSE	Amanda Grusz	Implications of the Origin of an Intergenic Spacer in a Triploid Fern	1:00 – 2:00
23	Alyssa Schuett	SCSE	Sara Zimmer	Purification and characterization of a parasite polymerase homologue	12:00 -1:30
24	Christian Leonard	CEHSP	June Lee	Comparison of Self-Talk and Visualization on Collegiate Cross Country Runners' Perceived Effort and Anxiety	11:00 – 1:00
25	Seonmee Youn	LSBE	Seung Lee	Why AI cannot replace accounting field	11:00 - 12:15

26	Lydia Anderson	SCSE	Alison Hoxie	Designing and Testing a High Water Pressure Counterflow Atomizer System	12:00 – 2:00
27	Micah Brady	SCSE	Kathryn Milun	Solar Commons Research project	11:00 – 12:30
28	Mary Pat Thune	SCSE	Peng Fang	A Culturally and Climate Considered Microgrid for the city of Duluth, MN	11:00 - 12:45
29	Ben Neeson	SCSE	Sam Kelly	The Effects of Wind on the Keweenaw Current	11:00 - 1:00
30	Anna Hall	SCSE	Ron Moen	UMD Campus Bat Community	11:00 – 1:00
31	Grant Magnuson	SCSE	Mary Christiansen	Investigation of the Effects of Varying Curing Conditions on the Strength Properties of Geopolymer Concrete	12:45 – 2:00
32	Najeeb Jindeel	SCSE	Mary Christiansen	The Effect of Fly Ash Composition on Curing Temperature of Sustainable Geopolymer Cement Mixtures	11:00 - 2:00
33	Kelson Thomas	SCSE	Richard Buckalew	Measuring the Space of Legislative Redistricting Plans	11:00 - 12:00
34	Aaron Paulson	SCSE	Emmanuel Enemuoh		
35	Erica Wooner	UMTC	Jocelyn Richard	Effects of ethanol exposure on c-Fos expression in the VP and BNST	11:00 – 1:00
36	Julie Beenken	SCSE	Erin Sheets	Characterization of Macromolecular Crowding Sensors using Fluorescence Correlation Spectroscopy	11:00 – 1:30
36 A	Hanna Frekot	SCSE	Victor Lai	[3D printing of patient specific tissue models from CT scans	11:00 - 12:00
37	Jennifer Fournier	SCSE	Joseph Johnson	Optimizing Butanol Production in E. Coli Through Fatty Acid Metabolism Regulation	12:00 – 2:00

38	Michaela Sanger	SCSE	John Dahl	Developing a Novel "Kill Assay" to test for Mycobacteria Latency	1:00 – 2:00
39	Mika Colson	CEHSP	Robert Lloyd	Correlations of Exposure to Controversial Content on the Internet with Overall Happiness and Self-Esteem	11:00 – 2:00
40	Alexis Doucette	SCSE	Amanda Klein	Knockdown of Adenylyl Cyclase 1 Attenuates Morphine Tolerance and Withdrawal in Mice	12:00 – 1:00
41	Kaylee Andersen	SCSE	Carmen Latterell	A Study on the Relationship between Students' Attitudes towards the Relevance of Mathematics and their Test Scores	11:00 – 12:30
41 A	Noah Grode	SCSE	Jessica Sieber	Isolation of novel diatoms for the characterization of highly branched isoprenoids	11:00 - 2:00
42	Abaynhe Worku	SCSE	Ahmed Heikal	Single-Molecule Studies of Environmental Ionic-Strength Sensors using Fluorescence Correlation Spectroscopy (FCS)	11:00 – 2:00
43	Walter Sands	SCSE	Bryan Freyberg	2-Handicap Tournaments	1:00 – 2:00
44	Kayla Lehtola	UMTC	Daniel Cronin Hennessy	System for Measurements of CO ₂ Diffusion Rates in Thin Film Plastics	11:00 – 2:00
45	Ryan Raskob	SCSE	Arshia Khan	Measuring and Comparing the Effectiveness of a Variety of Mobile Devices on Patient Compliance	11:00 – 12:20
46	Joseph Rose	SCSE	Briana Gross	Euphrasia Species Conservation & DNA Extraction Optimization	11:00 - 2:00