

Briggsie Participants in the UURAF: April 12-14, 2023

The 2023 University Undergraduate Research and Arts Forum (UURAF) provides Michigan State undergraduate students with an opportunity to showcase their scholarship and creative activity. Held each spring, UURAF brings together an intellectual community of undergraduate students to share their work with faculty, staff, peers, and external audiences. This is the largest annual research showcase at MSU. Briggsies often share their independent and campus lab findings in this venue.

Briggsies Presenting Online: Presentations Viewable April 12-14

<u>Forager One</u> is the venue for online UURAF presentations. You must register if you wish to actively engage with online presentations. Names are alphabetized by presenter last name. Category is listed after presentation title.

Chris Babcock

Effects of Acylsugar Acyltransferase Transcription Factors on Regulation of Acylsugar Production in Solanum lycopersicum

Biochemistry and Molecular Biology

Curtis Chou

Generalized Golden Numbers
Engineering, Computer Science & Mathematics
Some Remarks on Diophantine Triples
Engineering, Computer Science & Mathematics

Krishna Devulapalli

Establishing QC Pipeline and Demonstrating Agreement

Health Sciences

Meyhar Dudeja

Can closing a road, lead to better traffic?
Engineering Computer Science & Mathematics
Generalized Golden Numbers
Engineering, Computer Science & Mathematics
Some Remarks on Diophantine Triples
Engineering, Computer Science & Mathematics

Charlie Herz

Grain Shape Analysis of Mars Regolith Simulant MGS-1 and Lunar Regolith Simulant LMS-1 Science Technology Engineering Mathematics

Ebony Kaczander

A Beam Monitoring System for the S2 Vault Using the Rutherford Scattering Process and Validation with Gold Foil

Physical Sciences

Zach Kam

Investigating the Phonemic Content of Connected Speech for a Sample of High-Speed Videoendoscopy Data from Adductor Spasmodic Dysphonia Communication Arts and Sciences

Yash Khiraya

PEAPOD-2: A Pregnancy Diet Intervention for Women with Class III obesity Nutrition and Food Science

Laasya Koduri

The Role of ESR1 and RAC1 in Uterine Gland Branching and Early Pregnancy Events
Cell Biology Genetics and Genomics

Alexis Litts

Understanding Genetic Variation in Transgenerational Immunity in Daphnia magna

Biochemistry and Molecular Biology

Adarsh Mahendrakumar

Establishing QC Pipeline and Demonstrating Agreement

Health Sciences

Jamie Marx

FOXP2 gene presence in the American Crow and Human aids in Vocal Recognition to Warning Calls Cell Biology Genetics and Genomics

Alex Mast

Effects of Health Care Workers' Participation in Equine Assisted Activities on Their Attitude Towards Horses and Future Participation in the Equine Industry

Agriculture and Animal Science

Priyadharshini Mohanraji

Grain Shape Analysis of Mars Regolith Simulant MGS-1 and Lunar Regolith Simulant LMS-1 Science Technology Engineering Mathematics

Nikita Nel

The Relationship of Prenatal and Postpartum Depression with Gastrointestinal Microbial Diversity and Composition

Health Sciences

Sarah Okeke

Biochemistry and Molecular Biology

Jazzmyne Ortiz

Grain Shape Analysis of Mars Regolith Simulant MGS-1 and Lunar Regolith Simulant LMS-1 Science Technology Engineering Mathematics

Jonas Padilla

Fluorescence Models of Metabolic Stress in ARPE-19 Cells and Their Role in Understanding Diabetic Retinopathy Pathogenesis

Biochemistry and Molecular Biology

Ashton Powell

Appealing for Promotion: Examining President Trump's Supreme Court Shortlist History, Political Science, and Economics

Joshua Prabhu

Pediatric Diabetic Ketoacidosis Presentations to an Emergency Department Before and During The Pandemic

Health Sciences

Cooper Sackett

Appealing for Promotion: Examining President Trump's Supreme Court Shortlist History, Political Science, and Economics

Dharshini Senthilkumar

Serum Fatty Acid Analysis and Essential Fatty Acid Deficiency Prevalence among 6-18-year-old Ugandan Children

Nutrition and Food Science

Kriti Shirodkar

Misleading Statistics: Darrell Huff's Lessons in Healthcare Health Sciences

Jenna Thibodeau

Modifying Pseudomonas Syringae Phage for Plant Pathogen Biocontrol

Elena Toomajian

The Islamic Roots of Modern Medicine Global and Area Studies

Rachel Vanduinen

Changes in the fatty acid profile of eggs and forage across the grazing season in a Southern Ohio-based pasture-raising system for layer hens

Nutrition and Food Science

Amiri Walker

Some Remarks on Diophantine Triples
Engineering, Computer Science & Mathematics
Generalized Golden Numbers
Engineering, Computer Science & Mathematics

Briggsies Presenting Exhibits In-Person April 14, Breslin Center

Some Briggsies are presenting exhibits in Mezzanine Room D. Category is listed after title and location.

Ellie Barron

Exploring Gender Norms through Children's Toys 11:50 a.m., Mezzanine Room D Social Science, Humanities, Arts

Sonia Menon

Women's and Gender Studies Trivia 1:05 p.m., Mezzanine Room D Social Science, Humanities, Arts

Briggsies Presenting In-Person April 14, 11:00 a.m., Breslin Center

Some Briggsies are presenting multiple projects. Some Briggsies are presenting the same project. Names are alphabetized by presenter last name. All will be in the main arena.

Chelsea Abulu

Evaluation of Physical Activity and Associated Psychosocial Factors According to Adolescent Weight Status

Health Sciences

Taylor Adams

The Berry Best Way to Organize the Fragaria genus Cell Biology Genetics and Genomics

Zeeba Ali

Saccade Vigor in Schizophrenia Psychology

Charlotte Anker

Salinity Stress Impacts SWEET Production and Transportation in Kitaake Rice Plant Sciences

Marine Aveguin

Creativity in the Time of COVID-19: Using Creativity to Document Experiences in Medicine Digital Humanities

Manvir Bamrah

Student Learning Gains and Attitudes in a Critical Making Class
Social Science General

Drew Beckman

Three dominant Vibrio cholerae lytic phage all require O1 antigen for infection

Cell Biology Genetics and Genomics

Olivia Beckman

Drug inhibitory range against Mycobacterium Abscessus

Microbiology Immunology and Infectious Disease

Grace Bonnema

Narrative Processing of Music: How Culture Influences Our Perception of Music Psychology

Elijah Cole

Nuclear Vibrations of Cadmium Isotopes
Physical Sciences

Mackenzie Cronk

Evaluation of Adolescent Physical Activity and Associated Psychosocial Factors According to Level of Income

Health Sciences

Elison Daher

Identifying a DNA variant in Finnish descendants born with cleft palate in the Sauna Belt region of Michigan Cell Biology Genetics and Genomics

Aidan Davis

Physiological Benchmarks of Elite Motor Racers Kinesiology

Lindsey Dejesus

Quantitative Identification of Nonpolar Perfluoroalkyl Substances by Mass Spectrometry Physical Sciences

Michael Demercurio

How group engagement impacts level of reasoning in response to complex questions

Education

Kyli Denny

How do students reason about Ca++ accumulation during muscle contraction?

Education

Allison Doneth

Parenting Style And Child BMI In Low Income Families

Health Sciences

Ali Farooqui

Ultrasound changes in patellar tendon in D1 athletes pre- and post-season

Kinesiology

Toria Fex

Quantification of VTA cell activity in mediated devaluation

Neuroscience

Delaney Flavin

Comparisons with Fragaria Vesca Accessions
Cell Biology Genetics and Genomics

Ava Fleming

Comparisons with Fragaria Vesca Accessions
Cell Biology Genetics and Genomics

Isaac Gollapalli

How do students reason about Ca++ accumulation during muscle contraction?

Education

Ryan Hertz

Delivery of Healthy Eating and Physical Activity Interventions Involving Adolescents and Parents: A Systematic Review

Psychology

Natalie Horton

Comparisons with Fragaria Vesca Accessions Cell Biology Genetics and Genomics

Ayush Ippalapelli

Evaluation of Physical Activity and Associated Psychosocial Factors According to Adolescent Weight Status

Health Sciences

Drew Johnson

The Berry Best Way to Organize the Fragaria genus Cell Biology Genetics and Genomics

Shreya Kankanalapalli

Biofilm formation and stress resistance in Group B Streptococcus

Biochemistry and Molecular Biology

Akshitha Karthikeyan

Biofilm formation and stress resistance in Group B Streptococcus

Biochemistry and Molecular Biology

Elizabeth Klein

Evaluation of Adolescent Physical Activity and Associated Psychosocial Factors According to Level of Income

Health Sciences

Sydney Kleiner

Hitler's Music Box: The Politics of Music in Nazi Germany

History Political Science and Economics

Ben Kohler

Exploring the Phenomenon of Self-Organized Criticality in Cancer Cell Growth through Computational Analysis of Sandpile Models Engineering Computer Science and Mathematics

Linda Komis

Mathematical Analysis of Tchoukaillon
Engineering Computer Science and Mathematics

Simon Lafleur

Pupillometry and Visual Perception Psychology

Michael LeTarte

Laser Spot Position Stabilizing System for Laser Spectroscopy Experiments

Physical Sciences

Medha Manepalli

Delivery of Healthy Eating and Physical Activity Interventions Involving Adolescents and Parents: A Systematic Review Psychology

Lydia Mathews

Evaluation of Adolescent Physical Activity and Associated Psychosocial Factors According to Level of Income

Health Sciences

Tushya Mehta

Creativity in the Time of COVID-19: Our Relationship towards the Art We Make

Digital Humanities

How do students reason about Ca++ accumulation during muscle contraction?

Narrative Processing of Music: How Culture Influences Our Perception of Music

Psychology

Hannah Meltser

Medical Transportation On Campus **Health Sciences**

Shavna Menzer

Post Concussion Patient Symptoms and Length of Recovery Kinesiology

Erica Morrissey

Beam Design Guided by the Internal Strain Field **Engineering Computer Science and Mathematics**

Aria Muchhal

Bayesian Persuasion and More History Political Science and Economics

Briggsies Presenting In-Person April 14, 1:00 p.m., Breslin Center

Some Briggsies are presenting multiple projects. Some Briggsies are presenting the same project. Names are alphabetized by presenter last name. All will be in the main arena.

Paige Alexander

Throw Out the Honey, Bring Out the Catfish: Examining the Effectiveness of Calliphoridae (Diptera)

Agriculture and Animal Science

Maude Antol

Confirming the Binding Site of Experimental Drugs Biochemistry and Molecular Biology

Georgia Berger

The influence of object properties on manual exploratory behaviors in infancy Kinesiology

Marionna Bigelow

Carotenoid Proteins Involved in Cyanobacterial Photoprotection

Integrative and Organismal Biology

Brenna Bischer

Grain Shape Analysis of Mars Regolith Simulant MGS-1 and Lunar Regolith Simulant LHS-1 **Physical Sciences**

Bailey Bowcutt

Investigation of Antibiotic Resistance and Virulence Genes using Whole-Genome Sequencing of Human Shiga toxin-producing Escherichia coli Isolates from Wyoming, 2002-2020

Microbiology Immunology and Infectious Disease

Harsna Chahal

A one-year follow-up of children screening for behavioral health symptoms during a 2020 pediatric well-child visit: Does functional impairment predict poorer outcomes? Psychology

Leya Chambo

Interparental Conflict and Youth Antisocial Behavior: Exploring the moderating role of delinquent peer affiliation

Psychology

Shreya Chavva

Changes in egg characteristics and egg yolk and forage antioxidant profile across the grazing season in a Southern Ohio-based pasture-raising system for layer hens

Nutrition and Food Science

Atef Choudhury

Life Satisfaction and the Neighborhood: The Role of Informal Social Control and Fear of Crime Psychology

Jackson Den Houter

The Rosaceae Family: Determining Evolutionary Diversity Within Metabolic Gene Clusters
Cell Biology Genetics and Genomics

Shriya Desai

Using the Scanning Electron Microscope to compare the surface of dorm AC filters and home AC filters Engineering Computer Science and Mathematics

Marisa Digiuseppe

The Role of the Circadian Period in Adaptation to Environmental Cycles

Plant Sciences

Frank Dolecki

Relationship Between Speech and Non-Speech Synchronization Psychology

Caroline Downes

Functional Characterization of KIT and RARA Oncogenes in MMTV-myc Model Cell Biology Genetics and Genomics

Nithya Gogineni

Interparental Conflict and Youth Antisocial Behavior: Exploring the moderating role of delinquent peer affiliation

Psychology

Shubh Gorantla

Grain Shape Analysis of Mars Regolith Simulant MGS-1 and Lunar Regolith Simulant LHS-1 Physical Sciences

George Hale

The Rosaceae Family: Determining Evolutionary Diversity Within Metabolic Gene Clusters Cell Biology Genetics and Genomics

Hannah Hua

Expression of Mast Cell Proteases in a Mouse Model of Inflammatory Pain
Neuroscience

Daisy Jakkula

The Peltier Effect and Medical Applications
Health Sciences

Krystal Jang

The effects of bright and dim light on fertility in female mice

Neuroscience

Mia Jones

How Ethics Plays A Role In The Medical Field Health Sciences

Saif Juma

Ultrasound Image Analysis of Femoral Subchondral Bone in Knee OA Kinesiology

Harshit Kandpal

Properties of Directed Abelian Sandpiles
Engineering Computer Science and Mathematics

Shreya Kankanalapalli

Group B Streptococcus
Biochemistry and Molecular Biology

Akshitha Karthikeyan

Group B Streptococcus
Biochemistry and Molecular Biology

Jason Kazmierczak

Examining the Effectiveness of a Scalable Psychological Intervention for Reducing COVID-19 Stress in Medical Professionals Psychology

Linda Komis

EEGs as a tool to indicate driving fatigue Health Sciences

Anne Lemek

Environmental temperature alters the host range of a virulent bacterial pathogen

Microbiology Immunology and Infectious Disease

Abigail Lippert

The development of art through mathematical discoveries during the Renaissance

Engineering Computer Science and Mathematics

Nolan Lucera

Effects of Rai-1 Gene Deletion on Sleep and Circadian Rhythm in Diurnal Rodents Neuroscience

Celia Madrid Manez

Properties of Directed Abelian Sandpiles **Engineering Computer Science and Mathematics**

Naim Mashni

Life Satisfaction and the Neighborhood: The Role of Informal Social Control and Fear of Crime Psychology

Julia Matalon

Phenolics biochemical variability among hybrids in response to varying N fertilizer and biostimulant applications

Biochemistry and Molecular Biology

Rohith Nadella

Interaction of Lipid Droplet Associated Proteins with plant membranes and wax esters explored with molecular simulation

Biochemistry and Molecular Biology

Vasudha Nimmagadda

cDNA Library Synthesis and Gene Cloning to Study Protein-Protein Interactions in COVID-19 Biochemistry and Molecular Biology

Allison O'Donnell

Blood Pressure Assessment in Postmenopausal Hypertensive Females: are there benefits to measure seated blood pressure more than once?

Health Sciences

Jasmine Parker

The impact of HIV on black women living in rural communities.

Epidemiology and Public Health

Sanjana Pingili

Undergraduate students' interpretations of COVID-19 data and data representations

Diversity and Interdisciplinary Studies

Lilia Plumert

Niche Partitioning in Bocas del Toro, Panama between Dendrobates auratus and Oophaga pumilio Integrative and Organismal Biology

Sanjanasri Pothuraju

A one-year follow-up of children screening for behavioral health symptoms during a 2020 pediatric well-child visit: Does functional impairment predict poorer outcomes?

Psychology

Megha Pratapwar

Impacts of exposure from per- and polyfluoroalkyl substances on the infant gut microbiome Epidemiology and Public Health

Rania Rafig

An Assessment of How Net-Zero is Valued in the Stock Market

Business

Rhea Raut

EEGs as a tool to indicate driving fatigue Health Sciences

Anushree Ravi

Impacts of gut microbiota on child development: a description of the study population Epidemiology and Public Health

Joseph Romanelli

Empathy as Predictor of Well-Being and Health Developments in Adulthood Psychology

Max Rvbak

Unpacking the Bacterial Riches of Deep Loess Soil: Separating Mixed Colonies

Cell Biology Genetics and Genomics

Karthick Prem Satheesh Kumar

Grain Shape Analysis of Mars Regolith Simulants MGS-1, MGS-1C, and MMS

Physical Sciences

Hibah Siddiqui

Life Satisfaction and the Neighborhood: The Role of Informal Social Control and Fear of Crime Psychology

Sejla Sinanovic

FirstStep2Health: Effects on Reducing Parents' Perceived Stress and Improving Coping Health Sciences

Kenneth Sun

A Longitudinal Look at Lyrics: A Text Analysis of Pop Music Psychology

Sevak Thirunavukkarasu

Gaze Characteristics During Bimanual Reaching Neuroscience

Rahul Vallurupalli

Grain Shape Analysis of Mars Regolith Simulants MGS-1, MGS-1C, and MMS
Physical Sciences

Avani Vinod

Interparental Conflict and Youth Antisocial Behavior: Exploring the moderating role of delinquent peer affiliation

Psychology

Julia Walton

A New Form of Bioremediation: Algae's Potential as a Biosorbent Material to Combat Heavy Metal Pollution Plant Sciences

Sunyoung You

FirstStep2Health: Effects on Reducing Parents' Perceived Stress and Improving Coping Health Sciences

Leah Zajac

The Rosaceae Family: Determining Evolutionary Diversity Within Metabolic Gene Clusters
Cell Biology Genetics and Genomics

Kennedy Zarembski

Fiber Intake of Toddlers in a Michigan Cohort Nutrition and Food Science

Anna Zarka

A Survey of Potato Protein Content in Commercial Cultivars and MSU Potato Breeding Program Material and Comparison Between Planting Years and Location

Agriculture and Animal Science

Briggsies Presenting In-Person April 14, 3:00 p.m., Breslin Center

Some Briggsies are presenting multiple projects. Some Briggsies are presenting the same project. Names are alphabetized by presenter last name. All will be in the main arena.

Navid Ali

Breaking the Cycle: Harnessing Soybean Resistance to Combat Soybean Cyst Nematode
Plant Sciences

Marieke Anderson

Assessing a Critical Making Pedagogy Education

Ananyaa Asthana

Evaluating the protection of less diversified diets against folate deficiency in breastfeeding mothers during severe drought

Anthropology and Archeology

Marine Avequin

The Change of a Narrative Plot Based on Acoustic Cues

Psychology

Manvir Bamrah

The Effects of Blue Light Exposure on Cognition after a Night of Sleep Deprivation

Psychology

Sara Bauer

Gaze characteristics during bimanual reaching Kinesiology

Zoe Biggans

Observations of Student Teams in a Critical Making Class

Social Science General

Katie Bullock

To what extent is an agencys implementation climate associated with improved social communication outcomes over the course of a parent-mediated intervention trial for autistic children in the Medicaid system??

Psychology

Kailyn Butler

The Disruptive Effects of Estrogen Removal Before Puberty on Risk for Binge Eating in Female Rats Neuroscience

Harsna Chahal

Understanding Contributing Factors of Menstrual Stigma in Universities to Address Barriers to Period Product Accessibility

Sociology

Brenna Chetan

Simulating lunar formation from a giant impact using an Astrophysical N-body code

Physical Sciences

Zach Dhaem

The Role of Aryl Hydrocarbon Receptor Polymorphisms in Modulating 2,3,7,8tetrachlorodibenzo-p-dioxin (TCDD)-induced HMGCR expression

Pharmacology and Toxicology

Frank Dolecki

Sensorimotor Synchronization in Adults Who Do and Do Not Stutter

Linguistics Languages and Speech

Megan Fuller

Gaze characteristics during bimanual reaching Kinesiology

Matthew Gagea

Phosphatidylserine-exposing Annexin A1-positive Extracellular Vesicles: Potential Cancer Biomarkers Health Sciences

Pia Gandrothu

Immediate Memory or Initial Concentration Scores on Length of Recovery

Kinesiology

Meghana Gogineni

Does moving to sound help improve judgments about timing?

Psychology

Katrina Halgren

Autoimmune regulator deficiency causes T and B cell infiltration into the epididymis

Microbiology Immunology and Infectious Disease

Makayla Hart

Processing of motor skills learning such as balance in those with gymnastics experience and no gymnastics experience

Kinesiology

Sabrina Hobson

Insect Identification Accuracy Through the Use of Commercially Available Apps

Agriculture and Animal Science

Ceridwyn Hunter

Light Absorption of Reef Communities
Environmental Science and Natural Resources

Nupur Huria

Understanding Contributing Factors of Menstrual Stigma in Universities to Address Barriers to Period Product Accessibility

Sociology

Adam Jaros

Training a Neural Network for TPC Particle Identification

Physical Sciences

Kierra Jursch

Mouse Estrous Acyclicity in Response to Shift Work-Like Lighting

Health Sciences

Zach Kam

Diffusion Reasoning Consistency among Undergraduate Students

Education

Meena Kannan

Effects of virus-like particle-based Tau vaccine on Hippocampal pro-inflammatory response in a mouse model of Alzheimer's disease Psychology

Anita Kompalli

Gaze characteristics during bimanual reaching Kinesiology

Krishna Kottai

Estimating PFAS exposure in Michigan as a result of local fish consumption

Pharmacology and Toxicology

Grace Krajewski

The Role of Digital Media Use and Mother Education in Preschoolers' Language and Literacy Development Education

Jamie Liebold

Per and Polyfluorinated Substances Dysregulate Gap Junctional Intercellular Communication Pharmacology and Toxicology

Marissa Malleck

Vibrio cholerae regulates cyclic di-GMP in response to zinc via horizontally acquired VSP-2 genomic island

Microbiology Immunology and Infectious Disease

Tushya Mehta

Chronic stress increases SGK1 gene expression in the ventral tegmental area (VTA)

Neuroscience

Kenna Morgan

Airbag Efficacy in Varying Collision Scenarios Engineering Computer Science and Mathematics

Shrihan Nalamati

How hair cortisol is related to physical activity and eating behavior among parent-preschooler dyads Health Sciences

Aaditi Nambiar

Stay-Play-Talk Intervention via Telepractice for Typically Developing Siblings of Children with Disabilities

Social Science General

Kaushik Paladugu

Cloning Her-2 Gene using novel cloning method SLiCE

Biochemistry and Molecular Biology

Jasmine Parker

Diffusion Reasoning Consistency among Undergraduate Students Education

Natalia Portales

Assessing the Gaps in Arctic Marine Mammal Datasets and Organizing Data for Usability
Environmental Science and Natural Resources

Ben Potts

Gaze characteristics during bimanual reaching Kinesiology

Paige Seidell

The Change of a Narrative Plot Based on Acoustic Cues

Psychology

Maya Shah

Diffusion Reasoning Consistency among Undergraduate Students Education

Nikhita Sharma

Processing of motor skills learning such as balance in those with gymnastics experience and no gymnastics experience

Kinesiology

Tanmay Shekhar

Does moving to sound help improve judgments about timing?

Psychology

Laura Stephan

Characterizing the Immune Response upon Benzene Exposure during Pregnancy

Microbiology Immunology and Infectious Disease

Kenneth Sun

A New Method to Solve Quantum Bound State Problems by Extrapolating from Low-rank Solutions Physical Sciences

Sevak Thirunavukkarasu

Gaze characteristics during bimanual reaching Kinesiology

Shae Thompson

Female Alchemists in the Spanish Golden Age Humanities

Lorenzo Thrasher

Comparison of Guitar String Tones to their Microstructure and Composition Engineering Computer Science and Mathematics

Chaitanya Vadlamudi

Building a Tissue Cutting Device Physical Sciences

Srihita Veeramachaneni

Racial bias in likeliness to shoot among Police Psychology

Joey Vieregge

Diffusion Reasoning Consistency among Undergraduate Students Education

Lexi Zydeck

Effects of Mild TBI and Treatment Option Modeled in mini Yucatan Pigs
Neuroscience