



**The 15th Annual  
Spring  
Undergraduate  
Research  
Festival**

**Wednesday, April 17, 2019  
4:30pm-6:30pm**

University of Iowa  
University Capitol Centre  
2<sup>nd</sup> floor South Atrium  
Iowa City, Iowa

**This event is hosted by the  
Iowa Center for Research by  
Undergraduates, a unit of the Office of  
the Vice President for Research.**

**ICRU promotes undergraduate  
involvement in research and creative  
projects at the University of Iowa,  
serving students, staff, and faculty.**

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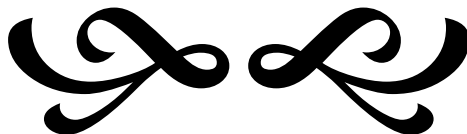
The Spring Undergraduate Research Festival is proud to showcase over **140 visual presentations** given by the University of Iowa's student researchers and creative scholars. Presenters work and study in over **50 different departments** across campus and represent the senior, junior, sophomore, and freshman classes.

**Odd numbered posters will present from 4:30-5:25PM**  
**Even numbered posters will present from 5:35-6:30PM**  
**\*Please note that at 5:25, all of the posters will be switched to the second hour presenters' posters.\***

We hope that you enjoy talking with these outstanding students and will see you again in for the 8th Annual Fall Undergraduate Research Festival!

**Programs with full abstracts are available on the ICRU website: [www.uiowa.edu/icru](http://www.uiowa.edu/icru).**

*Many thanks* to the over 100 graduate and professional students and postdocs who have volunteered their time to serve as poster judges for this event.



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# First Hour Presenters

## 4:30-5:30PM

(odd numbers only)

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### 1. Melissa Adrian

*Understanding the human intestinal microbiome: a mathematical approach*

Majors: Mathematics, Statistics

Mentor: Bruce Ayati (Mathematics)

### 3. Gabriel Armas

*Development of Wirelessly Powered and Controlled Electrodes*

Major: Chemistry

Mentor: Johna Leddy (Chemistry)

### 5. Barbara Badovinac

*Determining the role and localization of protein Rab7A during Listeria infection*

Major: Microbiology

Mentor: Lilliana Radoshevich (Microbiology and Immunology)

### 7. Theresa Baranick; Brianna Cole

*The Effects of Effortful Control and Communication Attitudes on the Accuracy of Self-Reported Stuttering Severity Among Adolescents who Stutter*

Majors: Speech and Hearing Science; Speech and Hearing Science

Mentor: Naomi Rodgers (Communication Sciences and Disorders)

### 9. Jenah Black

*Overlapping vowels aid learning to read: evidence from neural networks*

Majors: Psychology, Linguistics

Mentor: Bob McMurray (Psychological and Brain Sciences)

### 11. Casey Blaylock

*Correcting Flat Feet by Reconstructing the Spring Ligament Using Fiber Tape*

Major: Biomedical Engineering

Mentor: Jess Goetz (Orthopedics)

### 13. Aleixs Brannan

*Analysis and Discovery of Solid Forms of the Anticonvulsant Drug Stiripentol (Diacomit®)*

Major: Human Physiology

Mentors: Leonard MacGillivray (Chemistry), Gonzalo Campillo-Alvarado (Chemistry)

### **15. Caroline Brown**

*Planar Cell Polarity in endoderm dependent on Wnt5b-Gpc4 signaling axis*

Majors: Biochemistry, Spanish

Mentors: Anurag Kakkerla Balaraju (Anatomy and Cell Biology), Fang Lin (Anatomy and Cell Biology)

### **17. April Burgess**

*Initial Characterization of 5 Proteins in Marine Bacterium Vibrio parahaemolyticus*

Majors: Microbiology, English

Mentor: Linda McCarter (Microbiology and Immunology)

### **19. Vanessa Camp**

*Enhancing hormonal therapy in endometrial cancer*

Major: Biomedical Sciences

Mentor: Shujie Yang (Obstetrics and Gynecology)

### **21. Melissa Carlson**

*Mafb is not required for formation of palate*

Major: Dance

Mentor: Martine Dunnwald (Anatomy and Cell Biology)

### **23. Haoxuan Chen**

*Using verbal fluency to identify Alzheimer's disease*

Major: Speech and Hearing Science

Mentor: Jean Gordon (Communication Sciences and Disorders)

### **25. Linhai Cheng; Renato Jensen**

*Skeletal muscle-specific dynamin-related protein 1 deficiency is associated with altered gene expression of proteins that mediate mitochondrial-endoplasmic reticulum contacts and unfolded protein response.*

Majors: Microbiology; Biochemistry

Mentor: Marcello Correia (Internal Medicine)

### **27. Yung-Chieh Chuang; Rebecca Howard**

*Semantic Recall Interacts with Verbal Fluency in Adult Word Learning*

Majors: Speech and Hearing Science; Speech and Hearing Science

Mentor: Meredith Saletta (Communication Sciences and Disorders)

### **29. Mackenzie Cross**

*Throw Your Hands Up: Specialized Forms of Moving in Lemurs Influence Behavior*

Majors: Anthropology, Interdisciplinary Studies

### **31. Christine Czarnecki**

*Method development for antibiotic effectiveness on Pseudomonas aeruginosa bacteria via aerosol technology and inhibition studies*

Major: Chemical and Biochemical Engineering

Mentor: Jennifer Fiegel (Chemical and Biochemical Engineering)

### **33. Madeline Demro**

*Portraits of Change: Challenging Perceptions about Diverse Learners and Education through First-Hand Interactions*

Major: Speech and Hearing Science

Mentor: Patricia Zebrowski (Communication Sciences and Disorders)

### **35. Olivia Dieschbourg**

*Employer Perception of Candidates Before and After Negotiation*

Major: Management

Mentor: Beth Livingston (Management and Organizations)

### **37. Megan D'mello**

*Recognition and Separation of Petrochemicals Through a Boron Based Molecular Sponge*

Major: Human Physiology

Mentors: Leonard MacGillivray (Chemistry), Gonzalo Campillo-Alvarado (Chemistry)

### **39. Hannah Dunn; Lexi Kolterman**

*Changes in Auditory Reflex Effect with Changes in Sound Input*

Majors: Speech and Hearing Science; Speech and Hearing Science

Mentor: Shawn Goodman (Communication Sciences and Disorders)

### **41. Abby Fronk**

*A unique tool to visualize PR expression in endometrial cancer cells*

Major: Biology

Mentor: Shujie Yang (Obstetrics and Gynecology)

### **43. Carly Garcia**

*Assessment of Service Utilization of Patients Managed by a Cleft Palate Team to Analyze Impact from Three Perspectives*

Major: Speech and Hearing Science

Mentor: Jerald Moon (Communication Sciences and Disorders)

### **45. Stacy Garrard**

*Hidden Hearing Loss*

Major: Speech and Hearing Science

Mentor: Carolyn Brown (Communication Sciences and Disorders)

### **47. Joshua Gingerich**

*Graph Coloring and Advertisement Groups*

Major: Mathematics

Mentor: Isabel Darcy (Mathematics)

### **49. Nicole Gorny**

*The Effect of Chemotherapy and Exercise on Cardiometabolic Risk Factors in Ovarian Cancer Patients*

Majors: Psychology, Biochemistry

Mentor: Susan Lutgendorf (Psychological and Brain Sciences)

### **51. Jesse Gray**

*Neurons in the infralimbic cortex adapt to promote cocaine abstinence*

Major: Human Physiology

Mentors: Ryan LaLumiere (Psychological and Brain Sciences), Victoria Muller Ewald (Psychological and Brain Sciences)

### **53. Yuwei Guo**

*Tooth Initiation*

Major: Biochemistry

Mentor: Huojun Cao (Endodontics)

### **55. Yu Hao**

*Identifying the components of a graph*

Major: Mathematics, Business Analytics

Mentor: Isabel Darcy (Mathematics)

### **57. Grace Holbrook**

*The Peoples' Weather Map*

Majors: English, International Relations

Mentor: Barbara Eckstein (English)

### **59. Sydney Jellison**

*Genome-wide DNA methylation investigation of glucocorticoid exposure within buccal samples*

Major: Human Physiology

Mentor: Gen Shinozaki (Psychiatry)

### **61. Khaled Kayali**

*Effects of Cypermethrin on the Morphology and Number of Microglia in the Embryonic Brain*

Major: Biomedical Engineering

Mentor: Hanna Stevens (Psychiatry)

**63. Elias Kovoov**

*Function of Interferon Regulatory Factor 6 (IRF6) in Keratinocyte Polarity*

Major: Human Physiology

Mentor: Martine Dunnwald (Anatomy and Cell Biology)

**65. Kylie Krier**

*Calmodulin*

Major: Interdisciplinary Sciences

Mentor: Madeline Shea (Biochemistry)

**67. Kathryn Kuennen**

*What's on the Menu? Analysis of the Faunal Assemblage from Woodpecker Cave*

Majors: Anthropology, Ancient Civilizations

Mentor: James Enloe (Anthropology)

**69. Jacob Lam**

*The Role of Insulin in Cristae Morphology*

Major: Biochemistry

Mentor: Antentor Hinton (Internal Medicine)

**71. Michael Leaman**

*Fat Cell Development as a Therapeutic Avenue for Obesity*

Major: Human Physiology

Mentor: Kathleen Markan (Pharmacology)

**73. Xinyu Mai; Shuo Song**

*An Updated Model for Circumstellar Planets Orbiting the sDB Binary NY Virginis*

Majors: Physics, Astronomy; Psychology, Philosophy, Physics, Astronomy

Mentor: Robert Mutel (Physics and Astronomy)

**75. Molly Matkovich**

*Role of serotonin neurons in seizure frequency and severity across sleep and wake states*

Major: Mathematics

Mentor: Gordon Buchanan (Neurology)

**77. DorisAnn McGinnis**

*The Impact of Executive Functioning on Iowa Gambling Task Performance Among Healthy Older Adults*

Major: Psychology

Mentor: Natalie Denburg (Neurology)

**79. Andrew McKeen**

*SAMSN1 Affects the Immune Response: Involvement for Blood Cancer*

Major: Human Physiology

Mentor: Melissa Bates (Health and Human Physiology)



**81. Jade Miller**

*Protein binding with DNA quadruplexes*

Major: Biochemistry

Mentor: Maria Spies (Biochemistry)

**83. Caitlin Nelson**

*Question Asking During Conversational Interactions in School-Age Children*

Major: Speech and Hearing Science

Mentor: Elizabeth Walker (Communication Sciences and Disorders)

**85. Aleisha Norton**

*Assessing the Impact of the "Above and Beyond Cancer" Program on Cancer Survivors*

Majors: Biology, Psychology

Mentor: Susan Lutgendorf (Psychological and Brain Sciences)

**87. Claire O'Connell**

*Implementing Structure Visualization for Better Genetic Variant Analysis*

Major: Biomedical Engineering

Mentor: Terry Braun (Biomedical Engineering)

**89. Mara O'Connor**

*The behavioral and neuronal impacts from counteracting autism-associated gene mutations*

Major: Human Physiology

Mentors: Hanna Stevens (Psychiatry), Jonathon Dowell (Psychiatry)

**91. Erik Ovrom**

*Isolation of Gallium Substituted Polyaluminum Clusters in Aqueous Solution*

Major: Interdepartmental Studies

Mentors: Tori Forbes (Chemistry), Mohammad Shohel (Chemistry)

**93. Anthony Pamatmat**

*CD44 Expression in Human Colorectal Cancer Cells After Topotecan Treatment*

Major: Biomedical Science

Mentors: Ronald Weigel (Surgery), Anna Beck (Surgery)

**95. Joshua Parbs**

*The Molecular Mechanisms of XPD as it Relates to Human Genetic Disease*

Major: Biochemistry

Mentor: Maria Spies (Biochemistry)

### **97. Pooja Patel**

*Showcasing Pathogenic Viruses through the use of Art*

Major: Biomedical Sciences

Mentor: Lori Adams (Biology, Latham Science Engagement Initiative)

### **99. Gwyneth Phillips**

*Lower Vascular Endothelial Function is Associated with Increases in Diastolic Blood Pressure During Exercise in Individuals with COPD*

Major: Human Physiology

Mentor: Gary Pierce (Health and Human Physiology)

### **101. Alexander Powers**

*Data Augmentation for Deep Learning Image Segmentation*

Major: Computer Science and Engineering

Mentor: Hans Johnson (Electrical and Computer Engineering)

### **103. Erika Renkes**

*TJP2 Gene and Hearing Loss: Identification of a Novel Disease-Mechanism*

Majors: Biology, Spanish

Mentors: Hela Azaiez (Otolaryngology), Kevin Booth (Otolaryngology)

### **105. Marissa Roseman**

*Genomic and Functional Tests of Mitonuclear Coevolution*

Majors: Biology, Environmental Science

Mentor: Maurine Neiman (Biology)

### **107. Chase Rourke**

*Leveraging the Competition: How Wealth Managers Can Use Robo-Advisors to their Advantage*

Major: Finance

Mentor: Jeffrey Hart (Finance)

### **109. Emily Ruba**

*Modeling Bardet-Biedl Syndrome in the Zebrafish*

Majors: Biology, Anthropology

Mentor: Diane Slusarski (Biology)

### **111. Charles Ruff**

*Optimizing NCAA Basketball Tournament Predictions*

Majors: Business Analytics and Information Systems, Finance

Mentor: Jeffrey Ohlmann (Management Sciences)

### **113. Jacob Sherman**

*How Do We Process Irrelevant Information*

Major: Psychology

Mentor: Jonathan Mordkoff (Psychological and Brain Sciences)

**115. Jeffrey Shymanski**

*Language-Dependent Factors Affecting Sequential Learning in Children*

Major: Speech and Hearing Science

Mentor: Elizabeth Walker (Communication Sciences and Disorders)

**117. Maggie Soddors**

*Identifying Possible Epilepsy Genes in a Fruit Fly Model of Epilepsy*

Major: Biology

Mentor: Toshihiro Kitamoto (Anesthesia)

**119. Matthew Sovers**

*Effects of Burning Alternative Fuels on Emissions to Understand its Impacts on Air Quality*

Major: Environmental Science

Mentor: Betsy Stone (Chemistry)

**121. Jessica Spinelli**

*The dynamics of spoken word recognition in the presence of soft speech*

Major: Speech and Hearing Science

Mentors: Kristi Hendrickson (Communication Sciences and Disorders),

Elizabeth Walker (Communication Sciences and Disorders)

**123. Sidney Spurgeon**

*Characterization of Student Interactions in Introductory Chemistry Courses*

Major: Chemistry

Mentor: Renee Cole (Chemistry)

**125. Samantha Stoll**

*Do parenting behaviors predict children's delay of gratification through hot and cool delay strategies?*

Major: Psychology

Mentor: Isaac Petersen (Psychological and Brain Sciences)

**127. Avery Stricker**

*Undergraduate Chemistry Students' Epistemic Ideas about Models and Modeling*

Major: Neuroscience

Mentor: Nicole Becker (Chemistry)

**129. Sarah Stueve**

*Deletion of UCP-2 from Platelets Reduces Blood Clotting*

Major: Biology

Mentor: Rhonda Souvenir (Internal Medicine)

### **131. Alexandria Sturtz**

*Therapeutic strategy for boosting resistance to repeated malaria parasite infections*

Major: Microbiology

Mentor: Noah Butler (Microbiology and Immunology)

### **133. Hailee Talbot**

*Provider Advice and Women's Physical Activity and Dietary Behaviors in Twin Pregnancies*

Major: Human Physiology

Mentor: Kara Whitaker (Health and Human Physiology)

### **135. Hanxi Tang**

*Commensal Bacteria Increase Severity of Seizure-like Phenotypes in Drosophila Voltage-gated Sodium Channel Mutants*

Major: Biology

Mentors: Toshihiro Kitamoto (Anesthesia), Junko Kasuya (Anesthesia)

### **137. Maegan Tyrrell**

*Leadership Development Through Undergraduate Peer Mentoring*

Major: Health Promotion

Mentor: Jon Winet (Art and Art History)

### **139. Kimberly Vencer**

*The role of the dorsal raphe nucleus in regulating brain activity following seizures*

Major: Human Physiology

### **141. Shangquan Wang**

*Link Predictions For Social Networks In an Online Health Community*

Major: Business Analytics and Information Systems

Mentor: Kang Zhao (Management Sciences)

### **143. Ryan Williams**

*Linking 16p11.2 deletion to autism*

Major: Neuroscience

Mentor: Krystal Parker (Psychiatry)

### **145. Jiahua Zhang**

*Constrained Procedural Level Generation using Graph Theory*

Majors: Computer Science, Statistics

### **147. Lexi Zocher**

*Potential Brain Region Activation Pathway of CO<sub>2</sub>-Induced Arousal System*

Major: Human Physiology

Mentor: Gordon Buchanan (Neurology)

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# Second Hour Presenters

**5:30-6:30PM**

**(even numbers only)**

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## **2. Holly Alessio**

*Characteristics of Mealtime Nonverbal Behaviors among Residents with Dementia who are Assisted by Nursing Home Staff*

Major: Nursing

Mentor: Wen Liu (Nursing)

## **4. Kirsten Anderson**

*Characterization of a Novel Shoe Testing Method for use in Custom Orthotic Device Evaluation*

Major: Biomedical Engineering

Mentor: Jason Wilken (Physical Therapy and Rehabilitation Science)

## **6. Sameer Ansari**

*Analysis of Different Imaging Protocols for Endovascular Thrombectomy Patients*

Major: Human Physiology

Mentors: Santiago Ortega (Neurology), Andrea Holcombe (Epidemiology)

## **8. Jennifer Banks**

*Housing on the Great Plains*

Major: Environmental Anthropology

Mentor: Matthew E. Hill (Anthropology)

## **10. Jayden Bisson**

*Use of technology to enhance rehabilitation of an individual with chronic incomplete spinal cord injury: a case study*

Majors: Human Physiology, Asian Languages and Literature

Mentor: Stacey DeJong (Physical Therapy and Rehabilitation Science)

## **12. Eva Bowles**

*Dietary Changes and Improvement in Lifestyle*

Major: Biochemistry

Mentor: Terry Wahls (Internal Medicine)

## **14. Alexis Brannan**

*Nutritional Profiles of Diet in Individuals with MS following a Intervention Modified Paleolithic Diet*

Major: Human Physiology

Mentor: Terry Wahls (Internal Medicine)

## **16. Lauren Brown**

*How do students learn to become empathetic clinicians*

Major: Speech and Hearing Science

Mentor: Anu Subramanian (Communication Sciences and Disorders)

## **18. Travis Carter**

*Analyzing the underlying mechanisms of alcohol-related violence*

Major: Criminology

Mentor: Mark Berg (Sociology)

## **20. Shangwen Chen; Shuhui Gao; Zihao Li; Shuhao Liu**

*Shortest Distance in Beijing Subway System*

Majors: Computer Science, Mathematics; Mathematics; Mathematics;  
Computer Science

Mentor: Isabel Darcy (Mathematics)

## **22. Geoff Collins**

*Quantifying the Effects of Human Cytomegalovirus Infection on Host Transcription*

Majors: Biochemistry, Computer Science, Spanish

Mentor: David Price (Biochemistry)

## **24. Greg Collins**

*Inducible Deletion of OPA1 in the Heart Induces ER stress that Precedes Mitochondrial and Contractile Dysfunction*

Major: Human Physiology

Mentor: Helena Kenny (Internal Medicine)

## **26. Ellyn Cramer; Tashmit Khan**

*How Does Lighting Modulate Male-Male Interaction in Fruit Flies?*

Majors: Biology; English

Mentor: Chun-Fang Wu (Biology)

## **28. Genna Crom**

*Galactic Center Radio Lobes; Is Energy Being Driven From The Center Of Our Galaxy?*

Major: Physics, Astronomy

Mentor: Cornelia Lang (Physics and Astronomy)

## **30. Zachary Dierks**

*A Legacy Etched in Stone: An Examination of Lithic Technology at Woodpecker Cave*

Majors: Anthropology, History

Mentor: James Enloe (Anthropology)

**32. Gabrielle Duncan**

*Epigenetics of Delirium and Aging*

Majors: Cell and Developmental Biology, Human Physiology

Mentor: Gen Shinozaki (Psychiatry)

**34. Erick Fadness; Camryn Norton**

*Using Oxygen-Bomb Calorimetry to Determine Maximum Efficiency in Ethanol Blends and Regular Unleaded Gasoline*

Majors: Environmental Science; Environmental Engineering

Mentor: Scott Shaw (Chemistry)

**36. Emma Fenstermaker**

*Model Minority Myth?: Men and Women during Interaction Using an Expectation States Approach*

Majors: Sociology, English and Creative Writing

Mentor: Alison Bianchi (Sociology)

**38. Sarah Francisco**

*Virtual Reality and Ease of Haptic Imagery*

Majors: Marketing, History

Mentor: Andrea Luangrath (Marketing)

**40. Danielle Funaro**

*Recruiting Participants for the Dietary Approaches to Treat Multiple Sclerosis Related Fatigue Study*

Major: Human Physiology

Mentor: Terry Wahls (Internal Medicine)

**42. Lauren Gentile**

*"Venus and Adonis" Myth: Two Interpretations*

Major: Classical Languages

Mentor: Adam Hooks (English)

**44. Nicholas Grandstaff**

*Sectoral Growth and its Effect on SBIR Grant-Receiving Firms from 1987-2017*

Major: Economics

Mentors: Anne Villamil (Economics), Mahdi Eghbali (Economics)

**46. Cameron Hauser**

*The importance of the locus coeruleus for waking up to increased CO<sub>2</sub> in the blood*

Major: Human Physiology

Mentor: Gordon Buchanan (Neurology)

**48. Rebecca Hauser**

*Analyzing Auditory Evoked Potentials in Hybrid Cochlear Implant Listeners*

Major: Speech and Hearing Science

Mentor: Inyong Choi (Communication Sciences and Disorders)

**50. Abby Haynes**

*Physical Mimicry of Visual Textual Paralanguage*

Majors: Marketing, Economics

Mentor: Andrea Luangrath (Marketing)

**52. Brady Hoskins**

*Predicting Autism Spectrum Disorder (ASD) at Birth Using Machine Learning*

Major: Computer Science

Mentor: Jacob Michaelson (Psychiatry)

**54. Akpevweoghene Ikoba**

*Assessing the Autonomic Nervous System in Premature Infants*

Major: Human Physiology

Mentor: Melissa Bates (Health and Human Physiology)

**56. Zain Khan**

*Character in the 2016 Presidential Election*

Majors: Computer Science and Engineering, Mathematics

Mentor: Bob Boynton (Political Science)

**58. Nicole Khvalabov**

*Listener Judgements of Fluency and Perceptions of People with Aphasia*

Major: Speech and Hearing Science

Mentor: Jean Gordon (Communication Sciences and Disorders)

**60. Keely Kinsella**

*Preservation of the John and Phil Palmquist Collection from Southwestern Iowa*

Major: Anthropology

Mentor: Jon Doershuk (Office of the State Archaeologist)

**62. Brianna Klabunde**

*Deafness and Disability: An Analysis of the Measurement of Well Being*

Major: Philosophy

Mentor: Carrie Figdor (Philosophy)



#### **64. Alexa Kort**

*Volatility forecasting model to predict emergence of antibody escape variants in HIV-infected individuals*

Majors: Biochemistry, Spanish

Mentor: Hillel Haim (Microbiology and Immunology)

#### **66. Dariya Kozlova**

*Functional assessment of common human mutations in ANGPTL3*

Major: Biomedical Sciences

Mentor: Brandon Davies (Biochemistry)

#### **68. Emily Laverty**

*Epigenetic Combination Therapy Improves Survival and Causes Tumor-Specific Immunomodulation in Soft Tissue Sarcoma*

Major: Neuroscience

Mentor: Rebecca Dodd (Internal Medicine)

#### **70. Mary Li**

*Association of Catenin Alpha-2 (CTNNA2) with Cleft Palate in Sub-Saharan African Populations*

Major: Neuroscience

Mentor: Azeez Butali (Oral Pathology, Radiology, and Medicine)

#### **72. Tianyi Li**

*The sources of air pollution in Nepal*

Majors: Environmental Science

Mentor: Elizabeth Stone (Chemistry)

#### **74. Xinyi Li**

*Semantic Clustering of Spatial Regions for Urban Event Analysis*

Majors: Business Analytics and Information Systems, Finance

Mentor: Xun Zhou (Management Sciences)

#### **76. Jiaming Lin**

*Going Concern Opinion and Bankruptcy Effect on Business Competitors*

Majors: Finance, Mathematics

Mentor: Clare Wang (Accounting)

#### **78. Victoria Cassidy**

*A Novel Gene Signature for Predicting HER2-enriched Breast Cancer Outcome is Revealed by RNA Sequencing*

Major: Biochemistry, Microbiology

Mentor: Ronald Weigel

**80. Olivia Lullmann**

*Anyone interested in Science*

Major: Neuroscience

Mentor: Lyndsay Harshman (Pediatrics, Nephrology)

**82. Jack Lynn**

*Sleep well – Should sleep deprivation be considered a risk factor for SUDEP?*

Major: Chemical Engineering

Mentor: Gordon Buchanan (Neurology)

**84. Samantha Mackin**

*Investigating Metabolic Changes in Response to Force on E-Cadherin*

Major: Biochemistry

Mentor: Kris DeMali (Biochemistry)

**86. Taylor Magnuson**

*Perspective Taking as a Method for Debiasing Overoptimism*

Major: Psychology

Mentor: Paul Windschitl (Psychological and Brain Sciences)

**88. Xinyu Mai**

*Classifying Radio Galaxies with the Convolutional Neural Network*

Majors: Physics, Astronomy

Mentor: Shea Brown (Physics and Astronomy)

**90. Abigail McKernan**

*Novel variant discovered in a family that cosegregates with premature ventricular contractions, cardiac fibrosis, bicuspid aortic valve, and sudden cardiac death*

Major: Human Physiology

Mentors: Barry London (Internal Medicine); Alexander Greiner (Internal Medicine)

**92. Cameron Moeller; Jiangchun Xu**

*Picking up the Pieces: Analysis of Human Behavior Through Artifact Distribution*

Majors: History, International Relations; Anthropology, Mathematics

Mentor: James Enloe (Anthropology)

**94. Tengku Mohd**

*Text Mining on Students Experience in the Research University Survey*

Major: Business Analytics

Mentor: Wayne Jacobson (Office of the Provost)

**96. Hailey Moore**

*The Galactic Center Radio Arc: Understanding the Polarization Properties and Intrinsic Magnetic Field*

Majors: Astronomy, Physics

Mentor: Cornelia Lang (Physics and Astronomy)

**98. Pooja Patel**

*Showcasing Pathogenic Viruses through the use of Art*

Major: Biomedical Sciences

Mentor: Lori Adams (Biology, Latham Science Engagement Initiative)

**100. Marissa Mueller**

*Comparing Methods of Quantifying Physical Activity using Actimetry*

Major: Biomedical Engineering

Mentor: Laura Frey-Law (Physical Therapy and Rehabilitation Sciences)

**102. Zachary Nelson**

*Road Safety Studies in Virtual Reality*

Majors: Informatics, Art

Mentor: Kyle Rector (Computer Science)

**104. Kierra Pauly**

*Recent Intrusions into Prehistoric Archaeological Sites: Historical Artifact Analysis*

Major: Anthropology

Mentor: James Enloe (Anthropology)

**106. Bella Phillips**

*The Effects of Glycerol Monolaurate on Human B Cell Activation*

Major: Interdisciplinary Studies

Mentor: Jon Houtman (Microbiology and Immunology)

**108. Marija Pritchard**

*The Connective Power Religious Minorities Attributed to the Telegraph*

Majors: Religion Studies, Biology

Mentor: Jenna Supp-Montgomery (Religious Studies, Communication Studies)

**110. Pravda Quinones**

*The Effects of Vitamin B3 Supplementation on Cardiac Electrical Activity Within a Living Organism*

Major: Human Physiology

Mentor: Barry London (Internal Medicine)

**112. Theo Romac**

*Increased Autophagy and Heart Failure Due to Transcription Factor EB (TFEB) Over Expression*

Major: Biomedical Engineering

Mentor: E. Dale Abel (Internal Medicine)

**114. Tyler Roth; Jillian Schenck**

*Gemini Supernovae Light Curves: Interpreting Double-Humps and Einstein Lens Events*

Majors: Physics, Astronomy; Physics, Astronomy, Philosophy

Mentor: Robert Mutel (Physics and Astronomy)

**116. Sydney Schreiber**

*Friend or Food: How Animal Mindedness Impacts Our Meat-Eating Decisions*

Major: Philosophy

Mentors: Carrie Figdor (Philosophy), Andres Carlstein (Health and Human Physiology)

**118. Cassandra Sheridan**

*Selective and Distributed Attention in Pigeons*

Major: Neuroscience

Mentors: Ed Wasserman (Psychological and Brain Sciences), Leyre Castro (Psychological and Brain Sciences)

**120. Cassidy Shubatt**

*TV Media Coverage and Voter Turnout*

Majors: Economics, Mathematics

Mentor: John Solow (Economics)

**122. Britney Spack**

*Differences in Participant Burden for Individuals Randomized to a Paleolithic Diet Compared to a Mediterranean Diet*

Major: Human Physiology, Psychology

Mentor: Terry Wahls (Internal Medicine)

**124. Emma Thayer**

*A Model to Assess Microbial Killing in Tooth Root Canals*

Major: Human Physiology

Mentor: Kim Brogden (Iowa Institute for Oral Health Research)

**126. Jacob Tinker**

*Nutritional Information from Visit 1 Dietary Data in the Dietary Approaches to Treating MS Related Fatigue study*

Major: Exercise Science

Mentor: Terry Wahls (Internal Medicine)

**128. Zach Vig**

*How Does The Standard Solar Cycle Vary?*

Majors: Physics, Geoscience

Mentor: Steven Spangler (Physics and Astronomy)

**130. Henry Wang**

*MC4R Protein Role in Animal Metabolism and Blood Pressure*

Major: Neuroscience

Mentors: Kamal Rahmouni (Pharmacology), Deng Guo (Pharmacology)

**132. Yihang Wang**

*The influence of cultural distance on cultural communication in different countries and The impact of cultural transmission on export trade*

Majors: Economics, Mathematics

Mentors: HyeongOTak Lee (Marketing), John Solow (Economics)

**134. Olivia Westemeier**

*Sexually Aggressive Behavior and Risky Sexual Behavior: Protective Strategies*

Major: Psychology

Mentor: Teresa Treat (Psychological and Brain Sciences)

**136. Alexis Williams**

*Nasofacial skeletal differentiation among Equatorial Africans, Europeans and African-Americans*

Majors: Evolutionary Biology, Anthropology

Mentor: Robert Franciscus (Anthropology)

**138. David Wu**

*Bat Recording Interface for Analyzing Wind Turbine Interaction*

Major: Electrical Engineering

Mentor: Anton Kruger (Electrical and Computer Engineering)

**140. Shao Yang Zhang**

*Increased vasopressin secretion during preeclampsia despite normal plasma osmolality*

Major: Biomedical Engineering

Mentor: Justin Grobe (Pharmacology)

**142. Elly Hofmaier**

*Effectiveness of Model/Mannequin Size for Willingness to Try and Willingness to Pay.*

Major: Marketing

Mentor: Alice Wang (Marketing)

# Notes

# Event Map

