The 15th Annual
Spring
Undergraduate
Research
Festival

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

University of Iowa
University Capitol Centre
2nd 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.
First Hour Presenters
4:30-5:30PM
(odd numbers only)

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 Kovoor
*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 Sodders
*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. Shangguan 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 CO2-Induced Arousal System*  
Major: Human Physiology  
Mentor: Gordon Buchanan (Neurology)
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 CO2 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 Cassady
*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. **Abagail 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-Montgomerie (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: Hyeong0Tak 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)