



Indiana University of Pennsylvania

IUP Scholars Forum

Wednesday, April 3, 2019

PROGRAM



beyond expectations

Program at a Glance

8:00 AM - 9:00 AM	Set up and Registration
9:00 AM - 1:00 PM	Student Art, KCAC Lobby Atrium
9:00 AM - 2:00 PM	Poster Session
9:05 AM - 9:55 AM	Concurrent Sessions A <ul style="list-style-type: none">• A1 Room 5 New Approaches to Teaching Writing• A2 Room 6 Environment and Life in and around Water• A3 Room 7 Environmental Health• A4 Room 8 Crime and Drugs• A5 Room 9 Contemporary Criminological Concerns• A6 Room 10 Keystone Jr.-Sr. High School, Knox PA• A7 Room 11 Business Competition
10:10 AM – 11:00 AM	Concurrent Sessions B <ul style="list-style-type: none">• B1 Room 5 Medical Advances• B2 Room 6 Media and Public Opinion• B3 Room 7 Portfolio Development and Planning• B4 Room 8 Issues in Higher Education• B5 Room 9 Demographic Trends and Implications• B6 Room 10 Keystone Jr.-Sr. High School, Knox PA• B7 Room 11 Business Competition
11:15 AM – 12:15 PM	Concurrent Sessions C <ul style="list-style-type: none">• C1 Room 5 Purpose and Self• C2 Room 6 The Impact of Culture and Ideology• C3 Room 7 Using Evidence in the Pursuit of Predictive Knowledge• C4 Room 8 Municipal Planning
12:00 PM - 1:00 PM	Lunch, PNC Room
1:00 PM – 2:00 PM	Performances (Creative/Musical), Toretta Auditorium
3:00 PM - 4:00 PM	Three Minute Thesis, Toretta Auditorium
4:00 PM – 5:00 PM	Awards, Toretta Auditorium

Fourteenth Annual IUP Scholars Forum

Sponsored by

School of Graduate Studies and Research

Special Thanks to:

- Scholars Forum Planning Committee
- ARL Staff
- Forum Judges
- SGSR Staff and GA's

Award Sponsors:

- IUP Research Institute
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Peer Choice Awards

Awards are based on voting via a mobile device for participants in the 2019 Scholars Forum (use the number next to the presentation in this program to vote for your choice).

ART EXHIBITION KCAC Lobby Atrium

This exhibition features artworks created by a select group of graduate and undergraduate Art majors. The artworks were juried by faculty members and represent the breadth of studio research conducted during the 2018/2019 academic year.

Undergraduate Students

- | | |
|-------------------------|---|
| 202. Samuel Tyson | Title: Etched Silver Jewelry |
| 204. Samantha Schaefer | Title: Crafted Wooden Objects |
| 207. Christine Evans | Title: Submariner |
| 208. Julia Cornell | Title: Reliquaries |
| 209. Daniel Zoelle | Title: Walkies |
| 210. Sara Thomas | Title: Troyhill Watercolor |
| 211. Nassim El Khantour | Title: Worship of the blind priestess |
| 212. Nicole Berner | Title: fragmented orange |
| 213. Nicole Berner | Title: Shattered Bulb |
| 214. Nicholas DeLeone | Title: Sleep Now, Little One; The Days to Come Will Be Long |

Graduate Students

- | | |
|---------------------|------------------------------------|
| 203. Tyler Stanton | Title: Objects of Material Culture |
| 205. Heather Kaiser | Title: All I Had Left |
| 206. Lauren Scavo | Title: Lauren Scavo |
| 215. Justin Pope | Title: Works by Justin Pope |

MUSICAL PERFORMANCES Location Toretti Auditorium, 1:00 PM – 2:00 PM

180. Gabrielle McCracken (Music), Taiko: The Relevance of Japanese Drumming in America *Faculty Mentor: Dr. Michael Kingan (UG)*
216. Helen Floran (Music) Foundations for the Beginning Cymbal Line: Instructional Techniques *Faculty Mentor: Dr. Michael Kingan (UG)*
217. Edward Dunlap (Music) The Oru Seco: Music, Religion, Slavery and Conquest *Faculty Mentor: Dr. Michael Kingan (GR)*
218. Christopher Singer, Amanda Valinotti and Nyasia Vasquez (Theater and Dance) The Eye of the Storm: A Work Created Through Laban Choreutics Scales Based in Modern Dance *Faculty Mentor: Dr. Holly Boda-Sutton (UG)*

Oral Presentation Sessions

SESSION A1

9:05am-9:55am

ROOM 5

New Approaches to Teaching Writing

150. Brianna Doyle (English) Quiet in Class: Creating a Space for Silence in the Composition Classroom for Students with Difference *Mentor: Gloria Park* (GR)
151. Lisa Mazey (English) Short Story Writing Project: Using a Blog to develop, revise, and complete a story *Faculty Mentor: Dr. Veronica Watson* (GR)
177. Bakheet Almatrafi (English) Don't cite, Write it!: Encouraging Academic Participation in Wikipedia *Faculty Mentor: Dr. Matthew Vetter* (GR)

SESSION A2

9:05am-9:55am

ROOM 6

Environment and Life in and around Water

155. Lauren M. Prasko (Biology), Anne L. Timm (USDA Forest Service), and Meredith L. Bartron (U.S. Fish and Wildlife Service) Reunited at last: genetic recovery of stream fish populations after removal of passage barriers *Faculty Mentor: Dr. David Janetski* (GR)
168. Justin O'Neill (Biology) Exploring species boundaries in Mesoamerican coastal leopard frogs through the application of ecological niche models in a phylogenetic context *Faculty Mentor: Dr. Josiah Townsend* (GR)
192. Ayla Ross, Daniel Dudek, Justin O'Neill (Biology) Revising taxonomic relationships of highland frogs (Anura: Ranidae: *Rana maculata*) from Nuclear Central America *Faculty Mentor: Dr. Josiah Townsend* (UG)

SESSION A3

9:05am-9:55am

ROOM 7

Environmental Health

166. Shelby Zakrzewski (Biology), Timothy Tomon (PA Department of Conservation and Natural Resources), and Carolyn Copenheaver (Virginia Polytechnic Institute and State University) Using Tree-ring Analysis to Determine Effectiveness and Duration of Biological Treatments for Hemlock Woolly Adelgid on Eastern Hemlocks *Faculty Mentor: Dr. Michael Tyree* (GR)

179. Amanda Barclay (Geography and Regional Planning) Zaatari Refugee Camp and Land-Use/Cover Change: Assessing Refugee Impact on Environmental Degradation and Urban Growth *Faculty Mentor: Dr. Jennifer Smith* (GR)

191. Savannah Mitchell (Physics) Effect of Plant Cover in Reducing Non-Point Source Pollution *Faculty Mentor: Dr. Hao Tang* (UG)

SESSION A4

9:05am-9:55am

ROOM 8

Crime and Drugs

149. Angela Mosbrucker (Economics) Unemployment and Crime with in the Rust Belt *Faculty Mentor: Dr. Alexi Thompson* (UG)

163. Chunghyeon Seo (Criminology and Criminal Justice) School Violence in Urban and Rural: Does Location Matter? *Faculty Mentor: Dr. Bit Na Kim* (GR)

176. Rebecca Olechovski (Anthropology) Perceptions of Narcan in a Rural Appalachian Community *Faculty Mentor: Dr. Abigail Adams* (UG)

181. Nathan Kruis (Criminology and Criminal Justice) A Preliminary Assessment of the Role Social Stigma Plays in Law Enforcement Officers' Responses to Opioid Overdoses *Faculty Mentor: Dr. Alida Merlo* (GR)

SESSION A5

9:05am-9:55am

ROOM 9

Contemporary Criminological Concerns

165. Chelsea Clark (Criminology and Criminal Justice) Exploring Helping Professionals' Perceptions of Male Victimization in Correctional Facilities *Faculty Mentor: Dr. Dana Witham* (GR)
169. Lindsey N. Smathers and Samantha L. Bennett (Criminology and Criminal Justice) Police, Force, and Exploitation by the Media *Faculty Mentor: Dr. Jonathon A. Cooper* (GR)
170. Amanda Cribbs and Cori Schiffert (Psychology), An Analysis of Social Aggression Among Main Characters in Tweens' Favorite TV Shows *Faculty Mentor: Dr. Lisa Newell* (GR)
173. Bradley Welman (Criminology and Criminal Justice) Blood in the Water: Law Enforcement After Katrina *Faculty Mentor: Dr. Daewoo Jin* (UG)

SESSION A6 & B6

9:05am-12:00pm

Room 10

Keystone Jr.-Sr. High School, Knox PA

230. Leah Exley, Historical Analysis of the Economic Effects of Women's Rights
231. Shilo Lenhart, Historiography in the Classroom
232. Jade McCauley, Athenian Democracy Reconsidered
233. Virtue Milford, The Treatment of the Disabled and Deformed in Ancient Civilizations
234. Amara Parsons, Sociology and Behaviorism in Ancient Sparta

235. Liam Say, Propaganda, Behavior Modification, and Social Order

236. Alma Swartzentruber, The Oppression of Women in Ancient Athenian Society

237. Samantha Wolfgang, Barriers to Justice in Contemporary American Law

SESSION A7 & B7

9:05am-11:00am

Room 11

Business Case Competition

197. August Bolinger (Management), Seth Thomas (Accounting), Alexander Rockey (MIS), and Zechariah Faulkner (Accounting), and Muchen Guo (Finance), BCOM-BTFGR *Faculty Mentor: Dr. Joseph Rosendale (UG)*

198. Samantha Weaver (Accounting), Emily Kostelnik (Marketing), Ashley Knode (Accounting), and Tyra McGarvie (Marketing), MKWK, *Faculty Mentor: Dr. Joseph Rosendale (UG)*

199. Lauren Piecknick (Finance), Justin Mascaro (Finance), Megan Woodworth (Marketing), and Kelsey McCullough (Finance), Mascaro, McCullough, Piecknick, Woodworth, *Faculty Mentor: Dr. Joseph Rosendale (UG)*

200. Robert Kanick (Accounting), Kellan Gustine (Marketing), Connor Adrian (Finance), and Mark Fanelli (Finance), Kanick, Gustine, Adrian, Fanelli, *Faculty Mentor: Dr. Joseph Rosendale (UG)*

201. Sarah Crownover (Accounting), April Murdick (Accounting), Rebecca Shellenbarger (Finance), and Allison Wolfe (Management), Crownover, Murdick, Shellenbarger, Wolfe, *Faculty Mentor: Dr. Joseph Rosendale (UG)*

SESSION B1

10:10am-11:00am

ROOM 5

Medical Advances

152. Jenny Willis (Biology) The impact of a modified ketogenic diet on autoimmunity in a murine model of multiple sclerosis *Faculty Mentor: Dr. Daniel Widzowski (GR)*

153. Arie Van Wieren (Chemistry) Discovering Novel Antibiotics: Employing a New Approach to an Old Target *Faculty Mentor: Dr. Sudipta Majumdar* (UG)

184. Claire Shemon and Jacob King (Biology) Annotation of a new bacterial virus genome discovered by IUP students *Faculty Mentor: Dr. Cuong Diep* (UG)

SESSION B2

10:10am-11:00am

ROOM 6

Media and Public Opinion

162. Ryan Minniti (Journalism and Public Relations) Survey of Indiana county voters' opinions about the news media and electoral issues in the mid-term elections. *Faculty Mentor: Dr. Stanford Mukasa* (UG)

194. Yazeed Aljasser (Communications Media) Perceived Credibility of News Platforms and Content among International Saudi Arabian Students *Faculty Mentor: Dr. Nurhaya Muchtar* (GR)

196. Jacqueline Gillis (Communications Media) How Does The Media Frame The Government Shutdown *Faculty Mentor: Dr. Nurhaya Muchtar* (UG)

SESSION B3

10:10am-11:00am

ROOM 7

Portfolio Development and Planning

175. David Cowher, Philip Okoth, and Brennan Dumm (Mathematics and Computer Science) An Analysis of Stock and REIT Portfolio Management *Faculty Mentor: Dr. Yu-Ju Kuo* (GR)

189. Ridge Williams (Economics) Portfolio Management: Handling Investments and Trading Strategies *Mentor: Dr. Yaya Sissoko* (UG)

193. Kevin Powell, Sean Rhodes (Mathematics and Computer Science) Improving ARMIA Time-Series Forecasting of Stock Prices with Extra-Model Financial Data from SEC Filings *Mentor: Dr. Yu-Ju Kuo* (GR)

SESSION B4

10:10am-11:00am

ROOM 8

Issues in Higher Education

178. Kalene Buss (Psychology) Emotion Socialization in College Students *Faculty Mentor: Dr. Stephanie Davis* (UG)

183. Sukanto Roy (English) Exploring Multilingual Students' Preference Between Audio and Written Feedback, and the Impact of Feedback Format on Their Revision Process *Faculty Mentor: Dr. Matthew Vetter* (GR)

185. Carlee Benhart (Geography and Regional Planning) Guess Who? A Case Study of College Student Relationship to Crime Statistics in PASSHE Collegiate Counties *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

195. Patrick Baney (Communications Media) Attracting Non-traditional Students to Online College *Faculty Mentor: Dr. Nurhaya Muchtar* (GR)

SESSION B5

10:10am-11:00am

ROOM 9

Demographic Trends and Implications

154. Kristina Thomas (Geography and Regional Planning) Using Remote Sensing Techniques to Assess Urban Growth Patterns in Jaipur, India During Stages of Peak Urbanization from 1979-2018 *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

158. Megan McCunn and Hailey Fisher (Economics) The effect of legal immigration on the united states economy based on gross state product *Faculty Mentor: Dr. James Jozefowicz* (UG)

159. Kaitlin Albright and Jesalyn Fada (Economics) The effects of explanatory variables on the labor force participation rate of women in the united states between 1980 and 2010 *Faculty Mentor: Dr. James Jozefowicz* (UG)

SESSION C1

11:15am-12:05am

ROOM 5

Purpose and Self

156. Adrienne Bardo (Educational and School Psychology) Social Media Use in Adolescence: Friend or Foe? *Faculty Mentor: Dr. Courtney McLaughlin* (GR)

160. Shannon Ferguson and Brooke Allen (Economics) A Guide to Universal Well-Being *Faculty Mentor: Dr. James Jozefowicz* (UG)

161. Isaac Evans (History) The Poison Tipped Spear of Society: A Touch of Belief on the Mind *Faculty Mentor: Dr. Michael Schwartz* (UG)

186. Palmer Rovins (Psychology) Guilt and shame in response to caloric information *Faculty Mentor: Dr. Stephanie Davis* (UG)

SESSION C2

11:15am-12:05am

ROOM 6

The Impact of Culture and Ideology

171. Tara Dylewski (Economics), Economic and social report on poverty in Rwanda *Faculty Mentor: Dr. Yaya Sissoko* (UG)

172. JingHui Xu (Communications Media), Feminism in China *Faculty Mentor: Dr. Nurhaya Muchtar* (UG)

174. Nicole Trojanowicz (Economics), How Genocide Has Affected Poverty in Rwanda *Faculty Mentor: Dr. Yaya Sissoko* (UG)

SESSION C3

11:15am-12:05am

ROOM 7

Using Evidence in the Pursuit of Predictive Knowledge

167. Garrett Haffner and Brandon Lynd (Economics) Swing batter batter, swing batter batter, swing: Determinants of batting averages from the 2017 Major League Baseball season *Faculty Mentor: Dr. James Jozefowicz* (UG)

182. Daniel Tomascik (Criminology and Criminal Justice) Can the Crimson Hawks go D1? A Business Report on the NCAA's Division I, IUP's Potential, and Whether Reclassification is Worth It *Faculty Mentor: Dr. Adam Katchmarchi* (UG)

190. Rachel Schiera (Professional Studies in Education) 21st Century Skill Development in One-to-one Initiative High Schools: Developing a validated, reliable instrument *Faculty Mentor: Dr. Sue Rieg* (GR)

SESSION C4

11:15am-12:05am

ROOM 8

Municipal Planning

164. Abigail Roberts (Geography and Regional Planning) More isn't always more affordable: Comparing impact of mixed use developments on housing units and values in St. Louis Park, Minnesota and St. Paul, Minnesota *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

187. Molly Sarver (Geography and Regional Planning) Financial Assessment of Flooding Damages in Indiana, PA: A Method to Enhance GSI Planning In Small Towns *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

188. Logan Balch (Geography and Regional Planning) Hydraulic Fracturing and the Impact on Large Water Bodies: Assessing the effects of Hydraulic Fracturing on the Water Quality of the Beaver Run Reservoir in Westmoreland County, PA *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

POSTERS/STATIC DISPLAYS

9:00am – 2:00pm

Arena Floor

1. Kayley Weaver (Biology) Comparing Drainage Systems and Educational Impact of Green Roof Infrastructure on High School Students *Faculty Mentor: Dr. Holly Travis* (GR)

2. Jennifer Chicca (Nursing and Allied Health Professions) Nursing Faculty Roles in the Alternative Clinical Teaching Model of Preceptorships *Faculty Mentor: Dr. Teresa Shellenbarger* (GR)

3. Joseph Marold and Laura Gearhart (Chemistry) Ruthenium(II) Polypyridyl Complexes: Synthesis, Characterization, Redox, and Photochemical Studies *Faculty Mentor: Dr. Avijita Jain* (UG)

4. Breanna Lang (Food and Nutrition) What is the Relationship Between where IUP Students Get their Nutritional Information and their Rating of Nutrition Resource Trustworthiness? *Faculty Mentor: Dr. Nicole Clark* (GR)

5. Stephanie Lauble and Shara Wohlgemuth (Communication Disorders, Special Education and Disability Services) A Comparison of Kindergarten Mathematics Textbooks' Presentation of Counting *Faculty Mentor: Dr. Valerie Long* (UG)

6. Jodi Miller (Criminology and Criminal Justice) Examining the role of capable guardianship in revictimization: A test of routine activities theory *Faculty Mentor: Dr. Sadie Mummert* (GR)

7. Colin Kelly (Geography and Regional Planning) Stormwater Runoff Mitigation: Using Remote Sensing Techniques to Identify Impervious Surfaces in White Township, PA *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

8. Austin Sabo (Kinesiology, Health, and Sport Science) Effects of a Hypberthermic Environment on Various Physiological and Cognitive Functions During Simulated Occupational Stress in Police Academy Cadets *Faculty Mentor: Dr. Hayden Gerhart* (GR)
9. Emma Bouchard (Chemistry) and Arie Van Wieren (Biochemistry) Characterization of Alanine Racemase from *Enterococcus faecium* *Faculty Mentor: Dr. Sudipta Majumdar* (UG)
10. Hannah Kauffman (Theater and Dance) The Accent Work of "Sweeney "Todd" *Faculty Mentor: Dr. Carrie Cole* (UG)
11. Angela Spagnoli (Biology) Native plants have more herbivory by insects by the end of the growing season in a wetland *Faculty Mentor: Dr. Ellen Yerger* (GR)
12. Dustin Williams and Jana Villemain (Chemistry) Multi-Site Directed Mutagenesis of Serine Residues to Glutamate in the C-Terminal Domain of *Saccharomyces cerevisiae* to Mimic Phosphorylation *Faculty Mentor: Dr. Jana Villemain* (UG)
13. Jennifer Greenlee, Christina Link, Ashlyn Bubak, and Amanda Oberholtzer (Food and Nutrition) Does Nutrition Education Change the Perception of the Importance of Protein Intake in Older, Active Adults? *Faculty Mentor: Dr. Nicole Clark* (GR)
14. Randall Koziel (Chemistry) New Synthetic Route to Benzyl Esters *Faculty Mentor: Dr. Justin Fair* (UG)
15. Andrea Marshall, Amanda Tiell, McKenna Elder and Stephanie Boyer (Food and Nutrition) Perceptions and Usage of Complementary and Alternative Medicine (CAM) Therapies *Faculty Mentor: Dr. Nicole Clark* (GR)
17. Breanna McGhee and Sanda Maicaneanu (Chemistry) Synthesis and Characterization of Iron-Doped Carbon Xerogels *Faculty Mentor: Dr. Sanda Maicaneanu* (UG)
18. Tara Kibe (Kinesiology, Health, and Sport Science) Risk of eating disorders among female college athletes vs. female non-athletes and the influence of social media usage *Faculty Mentor: Dr. Richard Hsiao* (GR)

19. Kaitlin Knopsnider (Biology) Estimating the timing of hemlock woolly adelgid infestation of light to moderately declining eastern hemlocks using tree ring analysis *Faculty Mentor: Dr. Michael Tyree (UG)*
20. Heather Furlong (Geoscience) *Fragilariopsis kerguelensis*: A quantitative interpretation of diatom growth and nutrient recycling *Faculty Mentor: Dr. Jonathan Warnock (UG)*
21. Katelin Fox and Hannah Loughner (Food and Nutrition) Does The Use of A Meal Plan Versus No Meal Plan Influence Dietary Habits of College Freshman? *Faculty Mentor: Dr. Nicole Clark (GR)*
22. Kacey Burrus (Biology) and Hope Miller (Psychology) Does Methamphetamine Increase the Production of Male Mouse Ultrasonic Vocalizations? *Faculty Mentor: Dr. William Farrell (UG)*
23. Kara Goss, Ashley Thorpe and Christina Cunningham (Food and Nutrition) Do Guardians' Perceptions Regarding the Healthfulness of Sugar Sweetened Beverages, 100% Fruit Juice, and Water Influence Their Children's Consumption of These Beverages? *Faculty Mentor: Dr. Nicole Clark (GR)*
24. Ting-An Fang (Chemistry) and Alwyn Berg (Mathematics and Computer Science) Variability of residual chlorine in swimming pool water and determination of chlorine consumption for maintaining hygienic safety of bathers with a simple mass balance model *Faculty Mentor: Dr. Hao Tang (UG)*
25. David Henninger and Christopher Sedwick (Chemistry) Iron Enriched Montmorillonitic Clay. Synthesis and Characterization *Faculty Mentor: Dr. Sanda Maicaneanu (UG)*
26. Ruth Bender, Sara Mastrine, Daniel Zielinski and Samantha Bortmas (Food and Nutrition) Do dietary patterns differ between students in health- and non-health-related degree programs? *Faculty Mentor: Dr. Nicole Clark (GR)*
27. Taylor Hillenbrand (Psychology) Suspect Gender and Perceptions of Force *Faculty Mentor: Dr. Margaret Reardon (UG)*

28. Adrienne Bardo (Educational and School Psychology) SWPBIS: Changes on PSSA Performance *Faculty Mentor: Dr. Timothy Runge* (GR)
30. Anna Abbott, Sara Clauto, Courtney Dedrick and Brianna Olivieri (Food and Nutrition) Are College Students Cultured in Probiotics? *Faculty Mentor: Dr. Nicole Clark* (GR)
31. Rebekah Mikeasky (Biology) Expression of the Circadian-linked Timeout Gene in the Planarian Flatworm *Faculty Mentor: Dr. Robert Major* (UG)
32. Miranda Brown and Georgia Browne (Food and Nutrition) What is the effect of Vitamin D supplementation on depression in adults? *Faculty Mentor: Dr. Rita Johnson* (UG)
33. Summer Reitter (Educational and School Psychology) Parent Management Training as a Conduit to High-Quality Parent-Child Relationships in Early Childhood *Faculty Mentor: Dr. Lynanne Black* (GR)
34. Alyssa Bourne (Biology) Effects of Different Formats of Exit Tickets in a Senior High Biology Class *Faculty Mentor: Dr. Holly Travis* (UG)
35. Victor Sansing and Kaleb Levicky (Computer Science) Malware Classification using Fusion of Neural Networks *Faculty Mentor: Dr. Soundararajan Ezekiel* (UG)
36. Kristina Gaugler (Anthropology) Interpreting Heat Altered Sandstone at Three Monongahela Villages Through Analysis and Experimentation *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
37. Gregory Boring (Biology) The Effect of Digital Evaluation on 7th Grade Students *Faculty Mentor: Dr. Holly Travis* (UG)
38. Duncan Taylor (Mathematics and Computer Science) Fuzzing Linux: '89 and Today *Faculty Mentor: Dr. Soundararajan Ezkiel* (UG)
39. Cecil Cooper, Nathaniel Kiehm, and Logan Balch (Geography and Regional Planning) Beaver Run Surface Water Quality Project: A Hydrologic Assessment of Non-Point Source Pollution Based Sub-Basin Drainage Networks *Faculty Mentor: Dr. John Benhart* (UG/GR)

40. Mya Barker (Sociology), Keshawn Reid, Abigaëlle Vertil, Sydney Williamson-Wheat, Christian Bembry-Jett, and Juan Gonzalez-Zarate (Frederick Douglass Institute) The role of race and gender in assessing college-based norm violations *Faculty Mentor: Dr. Christian Vaccaro* (UG)
41. Nicole Fisher (Anthropology) The Correlation Between Higher Education and the Decline in Faith *Faculty Mentor: Dr. Lara Homsey-Messer* (UG)
42. Morgan Eytcheson (Biology) Ephemeral Life: A Comparison of Invertebrate Communities Found in Several Types of Pools *Faculty Mentor: Dr. Holly Travis* (GR)
43. Rock Brenner (Geoscience) Nutrient Availability and Recycling Rates Over Marine Isotope Stage 31 in the Ross Sea, Antarctica *Faculty Mentor: Dr. Jonathan Warnock* (UG)
44. Heather Lash (Anthropology), Sara Ritter, and Austyn Diaz (Geography and Regional Planning), Utilizing GIS for Trail Route Visualization - The Export-Delmont Trail Connection of the Westmoreland Heritage Trail *Faculty Mentor: Dr. John Benhart* (UG/GR)
45. Rebecca Bosley and Jeff Morris (Educational and School Psychology) Concurrent Validity of the CogMed ADHD Rating Scale *Faculty Mentor: Dr. Jenna Hennessey* (GR)
46. Wyatt Stitely (Geography and Regional Planning) Using Remote Sensing techniques to analyze the regional effects of Urban Growth Boundary in Lexington, Kentucky *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)
47. Carley Smathers (Criminology and Criminal Justice) Qualitative Research in the Digital Environment: Exploring the Boundary Between Public and Private Information *Faculty Mentor: Dr. Kathleen Hanrahan* (GR)
48. Emily Kolojejchick, Rebecca Frederick, and Maria Schall (Professional Studies in Education) Triangle Inequality Theorem *Faculty Mentor: Dr. Valerie Long* (UG)

49. Christopher Thompson (Anthropology) A New Chronology of Projectile Points for Western Pennsylvania during the Terminal Archaic Period *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
50. Margaret Blaetz and Jeannie Showers (Biology) Stop and smell the roses: Native species accumulate less insect herbivory than their invasive congener (UG) *Faculty Mentor: Dr. Ellen Yerger* (UG)
51. Hannah Colen (Sociology), Attilah Ali, Amrose Dorvil, Sade Foxx, John Garcia-Sparks, Kceira Hairston, Rameen Johnson, and Ivy Lander (Frederick Douglass Institute) The Use of Social Media in College-Aged Romantic Relationships *Faculty Mentor: Dr. Christian Vaccaro* (UG)
52. Anthony Gilchrist (Anthropology) Documentation of Shipwrecks on Lake Winnepesaukee *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
53. Jeffery Larkin (Biology) Habitat Associations of Three Bird Species in Riparian Forests of Pennsylvania *Faculty Mentor: Dr. Jeffrey Larkin* (UG)
54. Ross Owen (Anthropology) A GIS Approach to the Management of Prehistoric Archaeological Resources within Michaux State Forest *Faculty Mentor: Dr. John Benhart* (GR)
55. Ross Owen (Anthropology) Geochemical Analysis of Metarhyolite Artifacts and Geological Samples in Pennsylvania and Maryland *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
56. Kathleen Dougherty and Christopher Pagan (Biology) Native plants hosting herbivorous insects support the food web for breeding birds *Faculty Mentor: Dr. Ellen Yerger* (UG)
57. Scott Dreisbach and Noah Bertram (Kinesiology, Health, and Sport Science) The Impact of Plyometric Exercises on Rotational Power in a College Age Population *Faculty Mentor: Dr. Hayden Gerhart* (GR)
58. Nicole Camarda (Geoscience) Body Mass Estimations of the Protoceratops and Triceratops *Faculty Mentor: Dr. Eric Morschhauser* (UG)

59. Brandon Sliko, David Rand, and Hengry Joyce (Geography and Regional Planning) Spatial Analysis of Industrial and Residential Land Redevelopment of Beaver County, Pennsylvania *Faculty Mentor: Dr. John Benhart (UG/GR)*
60. Kayla Willis (Sociology) The Changing Image of Indigenous Americans Over Time *Faculty Mentor: Dr. Melanie Hildebrandt (UG)*
61. Denali Davis (Biology) and Autumn Toki (Chemistry) Investigation of Bioactivity of a New Ruthenium-based Photocisplatin Analog *Faculty Mentor: Dr. Avijita Jain (UG)*
62. Amanda Barclay, Trevor Howard and Zachery Raible (Geography and Regional Planning) Sanborn Map-Based Reconstruction of the Urban Geography of Indiana, PA *Faculty Mentor: Dr. John Benhart (UG/GR)*
63. Amy Walker (Biology), Emily Lambert (Psychology), and Alyssa Bateman (English) Digging Deeper: The Impact of Uranium Mining on the Navajo Nation *Faculty Mentor: Dr. Melanie Hildebrandt (UG)*
64. Stephanie Kachonik (Geography and Regional Planning) Mitigating the Spread of CWD in Pennsylvania: Alternate Management Procedures *Faculty Mentor: Dr. Sudeshna Ghosh (UG)*
65. Steven Campbell (Anthropology) Integrating public archaeology and technology to convey the history of the Mt Tabor AME Zion Church and its community *Faculty Mentor: Dr. Lara Homsey-Messer (GR)*
66. Ashley McCurdy (Theater and Dance), Colton Brooks (Communications Media) and Kieara Mack (Sociology) Native Americans in Media *Faculty Mentor: Dr. Melanie Hildebrandt (UG)*
67. Alaura Johnson and Jawanna Sinclair Williams (Sociology) Coming To Age *Faculty Mentor: Dr. Melanie Hildebrandt (UG)*
68. Kyle Parr, Clayton Blough, Abigail Roberts, and Kyle Parr (Geography and Regional Planning) Enterprise GIS to Analyze Surface Hydrology, Aquatic Ecosystems, and Water Quality of IUP Confluence Park *Faculty Mentor: Dr. John Benhart (UG/GR)*

69. Andrew Malhotra (Anthropology) Alliance Formation & Social Signaling: Village Interaction Among the Monongahela *Faculty Mentor: Dr. Lara Homsey-Messer (GR)*
70. Andrew Malhotra (Anthropology) LiDAR and Archaeology: A comparison with Near-Ground Remote Sensing at Fort Allen and Squirrel Hill *Faculty Mentor: Dr. Lara Homsey-Messer (GR)*
71. Abigail Knerr (Psychology) Juror Perceptions of Interrogation Techniques and Suspect Vulnerabilities *Faculty Mentor: Dr. Margaret Reardon (UG)*
72. Erin Penzelik (Geography and Regional Planning) The Spatial Distribution of Chlorides in the Beaver Run Reservoir Drainage Areas *Faculty Mentor: Dr. Brian Okey (GR)*
74. Sara Levengood (Biology), Noelle Goshey (Biology) and Tim Tomon (Department of Forestry) Olfactory assays to develop an attractant for *Laricobius nigrinus* traps *Faculty Mentor: Dr. Ellen Yerger (UG)*
75. Madilyn Sodowsky (Geography and Regional Planning) and Chantal Sisko (Biology) Spatial Survey of Historic and Environmental Features of Reastone Property *Faculty Mentor: Dr. John Benhart (UG)*
76. Madilyn Sodowsky (Geography and Regional Planning) Harmful Algal Blooms in Lake Erie: A Case-Study of Stormwater Management Techniques in Cleveland, Ohio *Faculty Mentor: Dr. Sudeshna Ghosh (UG)*
77. Angela Rooker, Chantal Sisko, and Madilyn Sodowsky (Geography and Regional Planning) Spatial Survey of Historic and Environmental Features of Reastone Property, Powdermill Nature Reserve, Westmoreland County, Pennsylvania *Faculty Mentor: Dr. John Benhart (GR)*
78. Tyler Newcomb (Biology) What is the impact of classroom discussion on academic performance? *Faculty Mentor: Dr. Holly Travis (UG)*
79. Copeland Cromwell (Geoscience) Grainsize and Componentry Analysis of Multiple Vents in 2010 from Submarine Volcano NW-Rota 1, Mariana Arc *Faculty Mentor: Dr. Nicholas Deardorff (UG)*

80. Joseph Bomberger (Anthropology) Pigeon Hunting on the Allegheny National Forest *Faculty Mentor: Dr. Benjamin Ford (GR)*
81. Craig Fry (Biology) Effect of Color-Coded Handouts on Assessment Performance on students in a 9th Grade Biology Class *Faculty Mentor: Dr. Holly Travis (UG)*
82. Tyler Maykovich (Biology) Biogeographic Analysis of Neoceratopsids *Faculty Mentor: Dr. Eric Morschhauder (GR)*
83. Megan Salava (Mathematics and Computer Science) How Well Do You Really Know Your IoT Devices? *Faculty Mentor: Dr. Soundararajan Ezekiel (UG)*
84. Tyler Sharretts (Geoscience) Characterizing the Sedimentary Fluxes and Geomorphological Alterations of Presque Isle Peninsula using Ground Penetrating Radar *Faculty Mentor: Dr. Gregory Mount (UG)*
85. Zachariah Hollingshad (Geography and Regional Planning) Orphan Wells: Proposing a Crowdsourcing approach to help uncover lost wells in PA *Faculty Mentor: Dr. Sudeshna Ghosh (UG)*
86. Ashlee Brady (Biology), Lynzi Smith (Food and Nutrition) and David Clapp Comparison of yellow perch size at age in nearshore Lake Michigan and drowned-river mouth lakes *Faculty Mentor: Dr. David Janetski (UG)*
87. Kalie Hoover and Patrick Delvernois (Safety Sciences) Effect of music relaxation and rest breaks in reducing fatigue during repetitive manual tasks *Faculty Mentor: Dr. Luz Stella Marin Ramirez (UG)*
88. Rachel Wasilko (Anthropology) College Women's Well-being: Are Universities Doing Enough? *Faculty Mentor: Dr. Victor Garcia (UG)*
90. Manuel Aviles Torregrosa (Geoscience) Finding and Mapping natural gas gathering lines using electromagnetic induction and ground penetrating radar *Faculty Mentor: Dr. Gregory Mount (UG)*

91. Felecia Watt (Criminology and Criminal Justice) State Implementation of Trauma-Informed Schools: An Examination of Current Trauma-Informed Care Programs *Faculty Mentor: Dr. Alida Merlo* (GR)
92. Amber Pferdekamper and Marissa Hardy (Sociology) College Students Raising the Flag: How Education Contributes to College Students' Acceptance of LGBTQIA+ People *Faculty Mentor: Dr. Beth Mabry* (UG)
94. Danning Liang (English) Chinalization of Hollywood Movie Poster in Chinese Market *Faculty Mentor: Dr. Lilia Savova* (GR)
95. Justin Fenchak (Geoscience) Potential Issues between New Oil and Gas Pipeline Construction and Preexisting Superfund Sites *Faculty Mentor: Dr. Karen Cercone* (UG)
96. Zachery Raible (Geography and Regional Planning) Impacts of Hurricanes in the Florida Keys on the Key Deer Population *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)
98. Tyler Daws (Mathematics and Computer Science) A Comparative Study of Multi-Focus, Multi-Resolution Image Fusion Transforms and Methods *Faculty Mentor: Dr. Soundararajan Ezekiel* (UG)
99. Tyler Daws (Mathematics and Computer Science) Medical Image Segmentation Using Multifractal Analysis *Faculty Mentor: Dr. Soundararajan Ezekiel* (UG)
100. Kathryn Appolonia (Psychology) Type D personality: Exploring various facets of social support *Faculty Mentor: Dr. Krystof Kaniasty* (UG)
101. Imani Roberson (Sociology) and Angela Damiano (Criminology and Criminal Justice) The Decline of a Matriarchal Society Amongst the Cherokee and Lakota Sioux *Faculty Mentor: Dr. Melanie Hildebrandt* (UG)
102. Bo Putt and Ed Patterson (Biology) Salamander Roadway Crossing: An observational study of roadway mortality before underpass implementation *Faculty Mentor: Dr. David Janetski* (UG)
103. Shannon Dusack (Nursing and Allied Health Professions) Analyzing the Effectiveness of a Standardized Patient Simulation With and Without the Use of An

Educational Video to Prepare Senior Undergraduate Nursing Students for A Mass Casualty Event *Faculty Mentor: Dr. Riah Hoffman (GR)*

104. Brad O'Hara (Biology) Survey of *Lontra Canadensis* (North American River Otter) in Cambria County *Faculty Mentor: Dr. Joseph Duchamp (UG)*

105. Kevin Powell, Sean Rhodes, and Cassandra Pray (Mathematics and Computer Science) Discrete Event Simulation of Hospital Patient Flow Using Arena Simulation Software *Faculty Mentor: Dr. Rick Adkins (GR)*

106. Anieadi Antiaobong (Geography and Regional Planning) Hydropower influences on Fish populations: An assessment of Major Dams effects concerning Native American nutriment on the Columbia River, Oregon *Faculty Mentor: Dr. Sudeshna Ghosh (UG)*

107. Allison Crowell (Biology) Fair Weather Friends: A Comparison of Invertebrates in Vernal and Forest Pools *Faculty Mentor: Dr. Holly Travis (UG)*

108. Matthew Dennis (Criminology and Criminal Justice) The impact of food insecurity on life course trajectories in Regards to crime *Faculty Mentor: Dr. Jennifer Roberts (GR)*

109. Ian Williams, Alexandra Herdle, and Erin Janetski (Biology) Establishment of Baseline Fish Biodiversity Data in Indiana Area Streams *Faculty Mentor: Dr. David Janetski (UG)*

110. Megan McKillop (Physics) The Effects of Verbal Instruction on Science Education *Faculty Mentor: Dr. Stanley Sobolewski (UG)*

111. Sukanto Roy (English) EFL Students' Perceptions of Writing Poetry in English: The Effect of Educational Backgrounds, Gender and Belief Towards Poetry *Faculty Mentor: Dr. Matthew Vetter (GR)*

112. Kevin Billand (Biology) RNAi-targeted Knockdown of Tipin Causes Tissue Regeneration Abnormalities *Faculty Mentor: Dr. Robert Major (UG)*

113. Kathryn Misiak and Daniel Deems (Sociology) Low Income Students at Indiana University of Pennsylvania: Material Hardship, Academic Success, and Quality of Life *Faculty Mentor: Dr. Beth Mabry (UG)*

114. Kathleen Gardner (English) Addressing Cultural Differences in a Multicultural Classroom *Faculty Mentor: Dr. Lilia Savova* (GR)
116. Brenden Glover, Robert Bailey, Sky Semone, Andrew Zhou, Majid Karimi and Carl Leblond (Physics) Models for Diffusion and Island Growth of Hydrogen on Graphene *Faculty Mentor: Dr. Karimi Majid* (UG)
117. Erica Hajas, Cory Horner, Yanira Cintora Lopez, Tyra Cosby and Kira Michaels (Public Health) Opioid Misuse: A Cross-sectional Study of Social Risk Factors *Faculty Mentor: Dr. Diane Shinberg* (UG)
118. Sarah Smallwood (Chemistry) Evaluation of Rainwater for Potable and Non-Potable Uses *Faculty Mentor: Dr. Hao Tang* (UG)
119. Jessie Hoover (Anthropology) A Preliminary Ceramic Analysis of the Mary Rinn Archaeological Site (36IN29) *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
120. Esbeiry Cordova-Ortiz (Biology) and Justin O'Neill (Biology) Patterns of diversification of *Ptychohyla hypomykter* based on Pleistocene climate fluctuations and predictions on effects of future climatic changes *Faculty Mentor: Dr. Josiah Townsend* (UG)
121. Samantha Doherty, Jadie Smith, Abigail LaBue and Raegan Hanna (Communication Disorders, Special Education and Disability Services) Bite-R, It Bites! *Faculty Mentor: Dr. Lisa Price* (GR)
122. Dannielle McCain (Philosophy) You're WEIRD! *Faculty Mentor: Dr. Salman Khawaja* (UG)
123. Erin Shelley, Morgan Mpajerksi, and Devazha Dortch (Sociology) Human Trafficking of Indigenous Women in the United States *Faculty Mentor: Dr. Melanie Hildebrandt* (UG)
124. Abdul Habib Khalid (Professional Studies in Education) Developing University Student Creativity and Critical Thinking Skills in Under-Resourced Contexts: Teaching Strategies *Faculty Mentor: Dr. Tricia Shelton* (GR)

125. Susannah Nickas (Communications Media) Student Retention Strategies and Solutions: Mental Health Services *Faculty Mentor: Dr. Anna Ortiz Juarez Paz* (UG)
126. Charles Edwards (Anthropology) Food Processing and Cooking at Dust Cave: An Experimental and Microarchaeological Approach *Faculty Mentor: Dr. Lara Homsey-Messer* (GR)
127. Brandon O'Kane (Biology) A comparison of the effects of extreme drought on diameter growth in eastern and western seed sources of mid-rotational *Pinus taeda* L. growing in northern Louisiana *Faculty Mentor: Dr. Michael Tyree* (UG)
128. Dana James and Abigail Wolfe (Food and Nutrition) What's up with selenium and sepsis? *Faculty Mentor: Dr. Rita Johnson* (UG)
129. Shelby Mostoller (Sociology) Academic Journeys: High School Experiences & College Readiness *Faculty Mentor: Dr. Melanie Duncan* (GR)
130. Katherine Stivason, Melissa Lichtner, Robin Midlam and Marla Thomas (Food and Nutrition) Do knowledge, attitudes, and perceptions of the ketogenic diet change with an informational video? *Faculty Mentor: Dr. Nicole Clark* (GR)
131. Patrick Cone (Mathematics and Computer Science) Graceful Tree Conjecture *Faculty Mentor: Dr. Rachelle Bouchat* (UG)
132. Chelshea Pruznak (Educational and School Psychology) Examining the Incredible Years Parenting Program to Support Children's Social Competence *Faculty Mentor: Dr. Courtney McLaughlin* (GR)
133. Ralph Babunga (Mathematics and Computer Science) Seeing the World from a Car's Eyes *Faculty Mentor: Dr. Soundararajan Ezekiel* (UG)
134. Lisa Balestrino, Taylor Campbell, Alyssa Sabo and Abigail Hallmark (Food and Nutrition) Food Insecurity Among University Students: Exploring its Existence, Effects, and Enhancement of Interventions *Faculty Mentor: Dr. Nicole Clark* (GR)
135. Austyn Diaz (Geography and Regional Planning) Natural Disasters and Vegetation Health: Analyzing the overall effect Tsunamis have on vegetation and

landscapes using Remote Sensing techniques in Indonesia *Faculty Mentor: Dr. Sudeshna Ghosh* (UG)

136. Rhena McCaskill (Professional Studies in Education) and Pricilla Robertson (Administration and Leadership Studies) Are Women Rising? *Faculty Mentor: Dr. Kelly Pacquette* (GR)

137. Sean Bowling (Chemistry) Analyzing Organic Compounds in Spirit-Based Products from Local Distilleries *Faculty Mentor: Dr. Nathan McElroy* (UG)

138. Suraj Niraula (Biology) Determining the effect of the R1 peptide on Ixh1a dimerization *Faculty Mentor: Dr. Cuong Diep* (GR)

139. Richard Wentling and Nathan Kruis (Criminology and Criminal Justice) What role do guns play in the future of America? Student Perceptions of Gun Legislation *Faculty Mentor: Dr. Glen Ishoy* (GR)

140. Rebecca George (Mathematics and Computer Science) Analyzing the Growth of Bots on *Twitter* *Faculty Mentor: Dr. Waleed Farag* (UG)

141. Melissa John, Brooke Burfield and Hannah Speedy (Communication Disorders, Special Education and Disability Services) CranioSacral Therapy *Faculty Mentor: Dr. Lisa Price* (GR)

142. Sara Trio (Geoscience) Analyzing Carbonate Content Present in Sediment Core KN223 LC2: Building a Time Scale *Faculty Mentor: Dr. Steven Hovan* (UG)

143. Daniel Richmond (Mathematics and Computer Science) Intelligent Understanding of the Use of Emojis on Social Media *Faculty Mentor: Dr. Waleed Farag* (UG)

144. Monica Urbanski, Sarah Wanco, Marlee Schriff and Brittany Palmiscno (Food and Nutrition) "Is butter a carb?": Perceptions of a healthy diet among college student *Faculty Mentor: Dr. Nicole Clark* (GR)

145. Kayla Kroczyński (Geoscience) Researching Stormwater Runoff at the White Township Recreation Complex in Indiana County, Pennsylvania *Faculty Mentor: Dr. Katherine Farnsworth* (UG)

146. Benjamin Ashton (Geography and Regional Planning) An analysis of impacts of clear-cutting practices on fox populations in the Boreal Forest: A case study of Canada *Faculty Mentor: Dr. Sudeshna Ghosh (UG)*
147. Taylor Whited, Brienne France-Layton, Shaina Sclesky and Taylor Rainey (Communication Disorders, Special Education and Disability Services) Is Tapping the Solution? *Faculty Mentor: Dr. Lisa Price (GR)*
148. Christopher McCormick (Safety Sciences) An Ergonomic Evaluation on the Use of Cleaning Carts by Female Housekeepers *Faculty Mentor: Dr. Wanda Minnick (GR)*
219. Hasan Ali (STEM High School Student) Can Machine Learning Predict Long-Term Stock Market Changes? *Faculty Mentor: Dr. Terrence Fries*
220. Nathan Birch (STEM High School Student) Calcium Carbonate and Climate Change *Faculty Mentor Dr. Steven Hovan*
221. Maggie Conjelcko (STEM High School Student) Variation in Pennsylvania Vernal Pools *Faculty Mentor: Dr. Holly Travis*
222. Amna Kasi (STEM High School Student) The Effects of Social Media on Self Esteem *Faculty Mentor: Dr. Lisa Newell*
223. India Krug (STEM High School Student) Fossil Teeth and Diet *Faculty Mentor Dr. Eric Morschhauser*
224. Sam Meil (STEM High School Student) Neural Regulation of Roach Locomotion *Faculty Mentor: Dr. William Farrell*
225. Eliza Ray (STEM High School Student) Fuel from *Fungus Faculty Mentor: Dr. Benjamin Ford*
226. Tian Schiera (STEM High School Student) Fluorescence Quenching in Intrinsically Disordered Proteins *Faculty Mentor: Dr. Jana Villemain*
227. Eman Soliman (STEM High School Student) The Effects of Social Media on Academic Performances *Faculty Mentor: Dr. Lisa Newell*

228. Muhsin Wah-Anwar (STEM High School Student) Musical Transcription Software
Faculty Mentor: Dr. Terrence Fries

229. Grace Woolslayer (STEM High School Student) Calcium Carbonate and Better
Understanding Climate Change *Faculty Mentor: Dr. Steven Hovan*