

Sigma Xi 2018 Presentation Winners

Oral Presentations

Biology I

Placement	Title and Student Presenters
First Place	Complementary Genetic Screens Reveal Inactivating and Constitutively Activating Mutations in Two-Component Systems of <i>Bacillus anthracis</i> <u>Michelle Chu</u> , Ellen Upton (Devin Stauff), Grove City College - Microbiology
Second Place	Speciation-related toxicity of palladium complexes to the soil bacterium <i>Pseudomonas aeruginosa</i> <u>Rachel Pell</u> , <u>Daniel Muccio</u> , <u>Carson Williamson</u> (Deborah Aruguete & Kelly Miller), Penn State Behrend, Wesley College - Microbiology

Biology II

Placement	Title and Student Presenters
First Place	Influence of Diurnal Temperature Variation on the Amphibian Fungal Pathogen, <i>Batrachochytrium dendrobatidis</i> <u>Carissa Lange</u> (Matthew Venesky & Beth Choate), Allegheny College - Ecology
Second Place	Developing an Ethical and Cost-Effective Murine Model for Type 1 Diabetes Mellitus-Induced Cataract via Single Dose of Streptozotocin <u>Samuel Thomas</u> (Christy Donmoyer), Allegheny College - Physiology

Chemistry, Math & Physics

Placement	Title and Student Presenters
First Place	Optimizing the Power Output of Luminescent Solar Concentrators that Use White Diffusive Backgrounds <u>Jonathon Schrecengost</u> (Bruce Wittmershaus), Penn State Behrend - Physics
Second Place	Combined Quantum Mechanical/Molecular Mechanical Investigation of Quorum Sensing Inhibitors <u>Nathan Gasparovic</u> (Ronald Brown), Mercyhurst University - Chemistry

Computer Science & Engineering I

Placement	Title and Student Presenters
First Place	Making Database Management Systems Manageable: User-friendly Automatic Report Generation <u>Karen Postupac</u> , (Lory Al Moakar), Grove City College - Computer Science/Software Engineering
Second Place	Simulation Study to Improve Scheduling at a Cardiology Outpatient Clinic <u>Nicholas Bowers</u> , (Omar Ashour), Penn State Behrend – Industrial Engineering

Engineering II

Placement	Title and Student Presenters
First Place	Ergonomic Assessment of Automotive Service Centers: A Case Study <u>Faris Alzahrani, Ahmed Mushaikh</u> , (Faisal Aqlan), Penn State Behrend - Engineering
Second Place	Interaction of Side-by-Side Fluidic Harvesters in Fractal Grid-Generated Turbulence <u>Nicholas Chiappazzi</u> , (Amir Danesh), Penn State Behrend - Engineering

Engineering III

Placement	Title and Student Presenters
First Place	Springback Analysis of 5083 Aluminum Alloy <u>Brent McFarland</u> , (Chetan Nikhare), Penn State Behrend - Mechanical Engineering
Second Place	Experimental and Numerical Analysis on Bilayer Tube Flaring <u>John Olevnik</u> , (Chetan Nikhare), Penn State Behrend - Mechanical Engineering

Environmental Science

Placement	Title and Student Presenters
First Place	Environmentally Sustainable Redesign of Seabreeze Amusement Park Waste Production <u>Briana Freeman</u> , (Rich Bowden, Casey Bradshaw-Wilson), Allegheny College - Environmental Science
Second Place	Assessing the Degradation of Terrestrially Derived Dissolved Organic Matter in three Temperate Lakes <u>Sarah Magyan</u> , (Christopher Dempsey), Gannon University - Environmental Science

Humanities & Social Sciences

Placement	Title and Student Presenters
First Place	Comparative Advantage and Economic Policy Tools based on a Local Economy's Imports and Exports <u>Hannah Carlino</u> , (Travis Yates), Penn State Behrend - Economics
Second Place	Society's Perception of School Mathematics as Told through Memes <u>Rachel Hughes</u> , (Courtney Nagle), Penn State Behrend - Education

Poster Presentations

Biology I

Placement	Title and Student Presenters
First Place	Examining the effect of Resveratrol Treatment on a Fruit Fly Model for TPI Deficiency <u>Austin Shirk</u> , <u>Annette Choi</u> , (Martin Buckley, Stacy Hrizo), Slippery Rock University of Pennsylvania - Cell & Molecular Biology
Second Place	The Growth of <i>Fusarium oxysporum</i> Spore Isolates from Potato is Inhibited by 1,4-Dimethylnaphthalene <u>Rachael Adams</u> , (Michael Campbell), Penn State Behrend - Cell & Molecular Biology

Biology II

Placement	Title and Student Presenters
First Place	Investigating the Synergistic Effects of Green Tea and β -lactam Antibiotics <u>Alex Benedetto</u> , (Kevin McDade), Penn State Shenango - Microbiology
Second Place	Ecology of Zoonotic Infectious Disease: Small Mammal Reservoirs and Coinfection Risk by Tick-Borne Pathogens <u>Kevin Regan</u> , <u>Jeffery Larkin</u> , <u>Charlie Eichelberger</u> , <u>Joseph Wisgo</u> , (Vida Irani), Indiana University of Pennsylvania - Microbiology

Biology III

Placement	Title and Student Presenters
First Place	Effects of Exogenous Estradiol Administration on BACE-1 Alzheimer's Disease Model Mice <u>Kathryn Weiss</u> , (Lee Coates), Allegheny College - Neuroscience
Second Place	Fixed Interval Performance of Rats: A comparison of VPA Autism model Rats and Typical Neuro-developing Rats <u>Alexis Sotelo</u> , <u>Jessica Parkinson</u> , (Rodney Clark), Allegheny College - Neuroscience

Biology IV

Placement	Title and Student Presenters
First Place	Triassic Sharks from Southeast Asia <u>Ania Gorski</u> , (Todd Cook), Penn State Behrend – Paleontology Biology
Second Place	Effects of temporal variability of salt disturbance on leaf decomposition and leaf shredder activity <u>Grace Schoeniger</u> , <u>Emily Dobry</u> , <u>Blake Bachner</u> , (Pamela Silver), Penn State Behrend - Ecology

Chemistry, Mathematics & Physics

Placement	Title and Student Presenters
First Place	Minimum Variance Linear Unbiased Estimators for Burr III Distribution <u>Luke Szramowski</u> , (Woosuk Kim), Slippery Rock University - Mathematics
Second Place	Characterization of a Carbon Dioxide-Hexafluorobenzene Complex using Matrix Isolation Infrared Spectroscopy <u>Yudhishtara Payagala</u> , (Jay Amicangelo), Penn State Behrend - Chemistry
Second Place	Thermodynamic Analysis of ATP Dissociation in a DEAD-Box Protein <u>Lisa Yoder</u> , Conner Bardine, Jake Patterson, (Ivelitza Garcia), Allegheny College - Biochemistry

Computer Science & Engineering

Placement	Title and Student Presenters
First Place	SEM Characterization and Manufacturability of Advanced High Strength Steels <u>Beth Gaughan</u> , (Paul Lynch), Penn State Behrend - Engineering
Second Place	Studying the Effect of Various Molecular Weight Poly-ether-ether-ketone on Crystalline Peak Half Times Using Fast Scanning Chip Calorimetry <u>Olivia Dubin</u> , (Alicyn Rhoades, Anne Gohn), Penn State Behrend - Polymer Engineering

Environmental Science

Placement	Title and Student Presenters
First Place	Environmental Analysis of Platinum Group Elements and Solubility in Road Salt Solutions <u>Rose Kerr</u> , <u>Galen Gerber</u> , (Deborah Aruguete), Penn State Behrend - Environmental Science
Second Place	Impacts of Woodcock Creek Dam on the Fluvial Geomorphology of Woodcock Creek in Crawford County, Pennsylvania <u>Chris Micucci</u> , (Matt Carter), Allegheny College - Environmental Science

Humanities & Social Sciences

Placement	Title and Student Presenters
First Place	Shifting Conservative Environmental Attitudes Using Moral Foundations Theory <u>Leah Franzluebbbers</u> , (Andrew Bloeser, Scott Wissinger), Allegheny College - Political Science
Second Place	Reading and Writing through Emergent Genres <u>Janine Zaunegger</u> , <u>Gracie Wiles</u> , (Lisa Ciecierski), Penn State Behrend - Education