

Event Newspaper Awards Report

Fair: [2020 Mercer Science and Engineering Fair](#)

Award: [Grand Prize](#)

Division: [Senior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [Runner up](#)

Division: [Senior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [Environmental Science and Engineering](#)

School: [Lawrenceville School](#)

Project Title: [Metal-doped Zinc Oxide Nanochip for Surface-Enhanced Raman Spectroscopic Sensing of Opioid in Water](#)

Students: Michael Zhang

Award: [Second runner up](#)

Division: [Senior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [Software and Embedded Systems](#)

School: [-- Other --](#)

Project Title: [Freedom Chair](#)

Students: Philip Voronin

Award: [Broadcom Masters](#)

Division: [Junior Division](#)

Organization: [Society for Science and the Public](#)

Category: [General Science \(Junior\)](#)

School: [John Witherspoon Middle](#)

Project Title: [Understanding the Impact of Environmental Factors on Energy Generated from a Photovoltaic Solar Panel](#)

Students: Shrey Khetan

Category: [General Science \(Junior\)](#)

School: [= Home School =](#)

Project Title: [BioClean - A new innovative biological method for removal of NOx pollutants from the atmosphere.](#)

Students: Arnesh Kundu

Category: [General Science \(Junior\)](#)

School: [Thomas R Grover Middle School](#)

Project Title: [A Novel Seasonal Prediction of Atlantic Hurricanes using Neural Networks](#)

Students: Antonia Comaniciu

Award: [First Place](#)

Division: [Senior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Engineering](#)

School: [The Pennington School](#)

Project Title: [Neo Vision: Foreign Object Debris Detector](#)

Students: Haichuan Wang

Category: [Software and Embedded Systems](#)

School: [-- Other --](#)

Project Title: [Freedom Chair](#)

Students: Philip Voronin

Category: [Environmental Science and Engineering](#)

School: [Lawrenceville School](#)

Project Title: [Metal-doped Zinc Oxide Nanochip for Surface-Enhanced Raman Spectroscopic Sensing of Opioid in Water](#)

Students: Michael Zhang

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of](#)

[Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Category: [Biochemistry, Biology and Medical](#)

School: [Lawrenceville School](#)

Project Title: [Shape-tunable Gold Nanoparticles for Combined Circulating Tumor DNA Capture and Plasmonic Detection](#)

Students: Lauren Zhang

Award: [Superior Achievement](#)

Division: [Junior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Junior\)](#)

School: [John Witherspoon Middle](#)

Project Title: [Understanding the Impact of Environmental Factors on Energy Generated from a Photovoltaic Solar Panel](#)

Students: Shrey Khetan

Category: [General Science \(Junior\)](#)

School: = [Home School](#) =

Project Title: [BioClean - A new innovative biological method for removal of NOx pollutants from the atmosphere.](#)

Students: Arnesh Kundu

Category: [General Science \(Junior\)](#)

School: [Thomas R Grover Middle School](#)

Project Title: [A Novel Seasonal Prediction of Atlantic Hurricanes using Neural Networks](#)

Students: Antonia Comaniciu

Award: [Superior Achievement](#)

Division: [Elementary Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Elementary\)](#)

School: [Pond Road Middle School](#)

Project Title: [Magnetism through liquids](#)

Students: Dhaniya Venkat

Category: [General Science \(Elementary\)](#)

School: [Perry L. Drew Elementary](#)

Project Title: [The Effect of Water Temperature on Growth](#)

Students: Natalie Thomas

Category: [General Science \(Elementary\)](#)

School: [Perry L. Drew Elementary](#)
Project Title: [Finding pi Using Monte Carlo Method](#)
Students: Shalaka Arekar

Award: [Second Place](#)

Division: [Senior Division](#)
Organization: [Mercer Science and Engineering Club](#)

Category: [Software and Embedded Systems](#)
School: [Princeton International School of Mathematics and Science](#)
Project Title: [Building Privacy-Preserving Deep Learning Systems using Differential Privacy and Federated Learning](#)
Students: Ananya Gangavarapu

Category: [Environmental Science and Engineering](#)
School: [Robbinsville High School](#)
Project Title: [Study of Bacterial Interaction and Defenses against Ecological Cheating in Local Freshwater Ecosystems impacted by Climate Change and Pollution](#)
Students: Brinda Suresh

Category: [Biochemistry, Biology and Medical](#)
School: [Lawrenceville School](#)
Project Title: [A Combination Treatment with Curcumin and siRNA-directed UBB Silencing Offer Superior Anti-tumorigenic Properties in Breast Cancer](#)
Students: Chae Yeon Lee

Award: [Outstanding Achievement](#)

Division: [Junior Division](#)
Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Junior\)](#)
School: [St. Ann's School](#)
Project Title: [Can You Keep the Noise Down? The Effect of Soundproofing Materials on Sound Transmission.](#)
Students: Jillian Yao

Category: [General Science \(Junior\)](#)
School: [St. Ann's School](#)
Project Title: [HOLD IT IN - The Effect of Insulation Material on the Temperature](#)
Students: William Black

Category: [General Science \(Junior\)](#)
School: [Community Middle School](#)
Project Title: [Watchdog: Automatic Detection and Alerting System for Household Accidents using AI](#)
Students: Agasthya Gangavarapu

Award: [Outstanding Achievement](#)

Division: [Elementary Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Elementary\)](#)

School: [Perry L. Drew Elementary](#)

Project Title: [Can I Drink My Hot Chocolate Yet?](#)

Students: Shakthi Shyam

Category: [General Science \(Elementary\)](#)

School: [Perry L. Drew Elementary](#)

Project Title: [Density Spectrum](#)

Students: Pranavi Dronadula

Category: [General Science \(Elementary\)](#)

School: [P.J. Hill Elementary](#)

Project Title: [Electric Motor](#)

Students: Bryan Rojas

Award: [Third Place](#)

Division: [Senior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [Environmental Science and Engineering](#)

School: [Robbinsville High School](#)

Project Title: [The Effect of Rain Acidification on the Growth of Freshwater Bacteria](#)

Students: Amanda Lichtenstein

Category: [Biochemistry, Biology and Medical](#)

School: [Robbinsville High School](#)

Project Title: [The Impact of a More Acidic Environment on Marine Microbes due to Ocean Acidification](#)

Students: Maya Johnson

Award: [Meritorious Achievement](#)

Division: [Junior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Junior\)](#)

School: [St. Ann's School](#)

Project Title: [Assessing Adverse Effects of Vape & Cigarette Emissions](#)

Students: Spencer Williams

Category: [General Science \(Junior\)](#)
School: [St. Ann's School](#)
Project Title: [The Effect of Color on Taste Perception](#)
Students: Harry Ravenel

Category: [General Science \(Junior\)](#)
School: [Timberlane Middle](#)
Project Title: [Simulating Slipping Snails: Mitigating the Risk of Oceanborne Transport of Invasive Species](#)
Students: Charlotte Lenore Michaluk

Award: [Meritorious Achievement](#)

Division: [Elementary Division](#)
Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Elementary\)](#)
School: [St. Ann's School](#)
Project Title: [Stand or Sit](#)
Students: Neve Sirois

Category: [General Science \(Elementary\)](#)
School: [P.J. Hill Elementary](#)
Project Title: [Burning Calories](#)
Students: Maddisson Ramirez

Category: [General Science \(Elementary\)](#)
School: [P.J. Hill Elementary](#)
Project Title: [Slope or Friction?](#)
Students: Quashan Gooden

Award: [Honorable Mention](#)

Division: [Senior Division](#)
Organization: [Mercer Science and Engineering Club](#)

Category: [Behavioral and Social Science](#)
School: [-- Other --](#)
Project Title: [Cambridge Analytica and the Future of Advertising](#)
Students: Riley Hubscher

Category: [General Engineering](#)
School: [The Peddie School](#)
Project Title: [A Novel Approach to Single Tube Irrigation System with Adaptive Water Control](#)
Students: Junbo Yu

Category: [Biochemistry, Biology and Medical](#)

School: [Trenton Central High](#)

Project Title: [Quantifying Protein Values of Ultraviolet Light Exposed Saccharomyces Cerevisiae](#)

Students: Naileny Rodriguez

Category: [Biochemistry, Biology and Medical](#)

School: [Princeton High](#)

Project Title: [The effects of microplastics exposure on guppies \(Poecilia reticulata\) over multiple generations](#)

Students: Catherine McDonnell

Award: [Honorable Mention](#)

Division: [Junior Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Junior\)](#)

School: [Chapin School](#)

Project Title: [Can You Resist the Force?](#)

Students: Suvas Aggarwal

Category: [General Science \(Junior\)](#)

School: [Chapin School](#)

Project Title: [The Effect of Salt Types on Boiling Point](#)

Students: Amelia Rabe

Category: [General Science \(Junior\)](#)

School: [Chapin School](#)

Project Title: [Corrode Much?](#)

Students: Caleb Collins

Award: [Honorable Mention](#)

Division: [Elementary Division](#)

Organization: [Mercer Science and Engineering Club](#)

Category: [General Science \(Elementary\)](#)

School: [Grace N. Rogers Elementary](#)

Project Title: [EFFECT OF SALT ON MAKING ICE CREAM](#)

Students: ARYA SHAH

Category: [General Science \(Elementary\)](#)

School: [P.J. Hill Elementary](#)

Project Title: [Sweet Crystal Science](#)

Students: Johnny Martinez

Category: [General Science \(Elementary\)](#)

School: [P.J. Hill Elementary](#)

Project Title: [Fin or No Fin?](#)

Students: Devondre Webb

Award: [Best Use of Photography](#)

Division: [Senior Division](#)

Organization: [New Jersey Camera & One Hour Photo](#)

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [Abbott Marshlands Wetland Award](#)

Division: [Senior Division](#)

Organization: [Abbott Marshlands Wetland](#)

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [Air Force Research Laboratory Award](#)

Division: [Senior Division](#)

Organization: [US Air Force](#)

Category: [General Engineering](#)

School: [The Pennington School](#)

Project Title: [Neo Vision: Foreign Object Debris Detector](#)

Students: Haichuan Wang

Category: [Software and Embedded Systems](#)

School: [-- Other --](#)

Project Title: [Freedom Chair](#)

Students: Philip Voronin

Category: [Environmental Science and Engineering](#)

School: [Lawrenceville School](#)

Project Title: [Metal-doped Zinc Oxide Nanochip for Surface-Enhanced Raman Spectroscopic Sensing of Opioid in Water](#)

Students: Michael Zhang

Category: [Biochemistry, Biology and Medical](#)
School: [Lawrenceville School](#)
Project Title: [Shape-tunable Gold Nanoparticles for Combined Circulating Tumor DNA Capture and Plasmonic Detection](#)
Students: Lauren Zhang

Award: [APA Outstanding Research](#)

Division: [Senior Division](#)
Organization: [American Psychological Association](#)

Category: [Behavioral and Social Science](#)
School: [-- Other --](#)
Project Title: [Cambridge Analytica and the Future of Advertising](#)
Students: Riley Hubscher

Award: [Association for Women Geoscientists Award](#)

Division: [Senior Division](#)
Organization: [Association for Women Geoscientists](#)

Category: [Environmental Science and Engineering](#)
School: [Hopewell Valley Central High](#)
Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)
Students: Sonja Michaluk

Award: [Mu Alpha Theta Award](#)

Division: [Senior Division](#)
Organization: [Mu Alpha Theta](#)

Category: [Software and Embedded Systems](#)
School: [Princeton International School of Mathematics and Science](#)
Project Title: [Building Privacy-Preserving Deep Learning Systems using Differential Privacy and Federated Learning](#)
Students: Ananya Gangavarapu

Award: [NOAA's "Taking the Pulse of the Planet" Award](#)

Division: [Senior Division](#)

Organization: [NOAA](#)

Category: [Biochemistry, Biology and Medical](#)

School: [Trenton Central High](#)

Project Title: [Quantifying Protein Values of Ultraviolet Light Exposed Saccharomyces Cerevisiae](#)

Students: Naileny Rodriguez

Category: [Biochemistry, Biology and Medical](#)

School: [Princeton High](#)

Project Title: [The effects of microplastics exposure on guppies \(Poecilia reticulata\) over multiple generations](#)

Students: Catherine McDonnell

Award: [Naval Science Award](#)

Division: [Junior Division](#)

Organization: [US Navy Senior Division](#)

Category: [General Science \(Junior\)](#)

School: [= Home School =](#)

Project Title: [BioClean - A new innovative biological method for removal of NOx pollutants from the atmosphere.](#)

Students: Arnesh Kundu

Award: [Naval Science Award](#)

Division: [Senior Division](#)

Organization: [US Navy Senior Division](#)

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [RICOH Sustainable Development Award](#)

Division: [Senior Division](#)

Organization: [RICOH](#)

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [Society for In Vitro Biology Award](#)

Division: [Senior Division](#)

Organization: [Society for In Vitro Biology](#)

Category: [Biochemistry, Biology and Medical](#)

School: [Lawrenceville School](#)

Project Title: [A Combination Treatment with Curcumin and siRNA-directed UBB Silencing Offer Superior Anti-tumorigenic Properties in Breast Cancer](#)

Students: Chae Yeon Lee

Award: [Stockholm Junior Water Prize](#)

Division: [Senior Division](#)

Organization: [Stockholm International Water Institute](#)

Category: [Environmental Science and Engineering](#)

School: [Lawrenceville School](#)

Project Title: [Metal-doped Zinc Oxide Nanochip for Surface-Enhanced Raman Spectroscopic Sensing of Opioid in Water](#)

Students: Michael Zhang

Category: [Environmental Science and Engineering](#)

School: [Hopewell Valley Central High](#)

Project Title: [Optimizing Taxonomic Identification of Chironomidae \(Diptera\) for A Novel Method of Monitoring Our Global Fresh Water Supply using DNA Barcoding \(A Continuation\)](#)

Students: Sonja Michaluk

Award: [Theobald Smith Award](#)

Division: [Senior Division](#)

Organization: [American Association for the Advancement of Science](#)

Category: [Plant Science](#)

School: [Robbinsville High School](#)

Project Title: [Examining the Effects of Rhizobium on the Flowering Time of Alfalfa](#)

Students: Brandon Yoo

Category: [Environmental Science and Engineering](#)

School: [Robbinsville High School](#)

Project Title: [Study of Bacterial Interaction and Defenses against Ecological Cheating in Local Freshwater Ecosystems impacted by Climate Change and Pollution](#)

Students: Brinda Suresh

Category: [Environmental Science and Engineering](#)

School: [Robbinsville High School](#)

Project Title: [The Effect of Rain Acidification on the Growth of Freshwater Bacteria](#)

Students: Amanda Lichtenstein

Category: [Biochemistry, Biology and Medical](#)

School: [Robbinsville High School](#)

Project Title: [The Impact of a More Acidic Environment on Marine Microbes due to Ocean Acidification](#)

Students: Maya Johnson

Category: [Biochemistry, Biology and Medical](#)

School: [Trenton Central High](#)

Project Title: [Quantifying Protein Values of Ultraviolet Light Exposed Saccharomyces Cerevisiae](#)

Students: Naileny Rodriguez

Award: [YSEA Science Fair Award](#)

Division: [Senior Division](#)

Organization: [Yale Science & Engineering Association](#)

Category: [Software and Embedded Systems](#)

School: [-- Other --](#)

Project Title: [Freedom Chair](#)

Students: Philip Voronin

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