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## *Awards Ceremony Report*

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**Division:** Elementary  
**Princeton Plasma Physics Laboratory Young  
Engineer and Science Award**  
Certificate

**Category:**  
**From:** Princeton Plasma Physics Lab

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615	<b>Are you eating Nails for breakfast?</b>	5
	Perry L. Drew Elementary <b>Molly Frascella</b>	
606	<b>Where will my rocket land?</b>	5
	Lawrence Intermediate <b>Charlotte Scher</b>	
301	<b>The Gauss Rifle... How fast? How far? How many?</b>	6
	Lawrence Intermediate <b>Emma Charlotte Phelan</b>	
303	<b>Where's The WiFi?</b>	7
	Chapin School <b>Daniel Kardhashi</b>	
1900	<b>Fighting irreproducibility in solar cell research</b>	11
	Princeton International School of Mathematics and Science <b>Jiaqi Lu</b>	

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**Division:** Junior  
**1st Place Princeton Plasma Physics Laboratory  
Award**

**Category:**  
**From:** Princeton Plasma Physics Lab

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316	<b>Terrific Tensile Tester: A cost effective solution for evaluating adhesive systems</b>	6
	Timberlane Middle <b>Charlotte LS Michaluk</b>	

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**Division:** Elementary  
**Earle S. Rommel Communications Award**  
Plaque

**Category:**  
**From:** Mercer Science and Engineering Club

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603	<b>How Fast Is The Mind?</b>	4
	Lawrence Intermediate <b>Shiyong Cedric Kim</b>	

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**Division:** Junior  
**Earle S. Rommel Communications Award**  
Plaque

**Category:**  
**From:** Mercer Science and Engineering Club

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100	<b>The Roles of Music, Human Touch, and Proximity in Plant Growth Rates</b>	7
	Community Middle School <b>Oliver Li</b>	

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**Division:** Senior  
**Earle S. Rommel Communications Award**  
Plaque

**Category:**  
**From:** Mercer Science and Engineering Club

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1600 **Evolutionary Analyses of RNA Editing and Amino Acid Recoding in Cephalopods** 11  
Princeton International School of Mathematics and Science  
**Mingye Wang**

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**Division:** Senior  
**Abbott Marshlands**

**Category:**  
**From:** Abbott Marshlands

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1701 **Assunpink Creek Water Quality** 10  
Ewing High  
**Arian Eloy Rodriguez**

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**Division:** Senior  
**Honorable Mention**  
Certificate

**Category:**  
**From:** Theobald Smith Society

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1701 **Assunpink Creek Water Quality** 10  
Ewing High  
**Arian Eloy Rodriguez**

2500 **Observing the Effects of Varying Ultraviolet Radiation on Saccharomyces cervisiae** 10  
Trenton Central High West Campus  
**Naileny Rodriquez**

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**Division:** Senior  
**3rd**  
Certificate

**Category:**  
**From:** Theobald Smith Society

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1704 **Water Filtration To Remove Cholera** 12  
Trenton Central High  
**Ambar Gomez**

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**Division:** Senior  
**2nd**  
Certificate

**Category:**  
**From:** Theobald Smith Society

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1703 **What Causes Gum Spots on Black Cherry Trees at Fernow, WV?** 12  
Trenton Central High  
**Geordelle Maxwell**

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**Division:** Senior  
**1st**  
Certificate

**Category:**  
**From:** Theobald Smith Society

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2201 **Removal of Algae, Nitrogen, and Phosphorus in Aqueous Environment with Allelochemicals and Activated Carbon** 11  
The Peddie School  
**Yiyu Wu**

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**Division:** Senior  
**Best Use of Photography**  
Gift certificate at New Jersey Camera & One Hour Photo Certificate

**Category:**  
**From:** New Jersey Camera & One Hour Photo

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1705 **Spray and Stick: A Novel Agent for Pesticide Adhesion** 10  
Lawrenceville School  
**Jacob Wu**

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**Division:** Senior  
**Certificate of Achievement**  
Each student will receive a certificate, bag and assorted electronics.

**Category:**  
**From:** Air Force Research Laboratory

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2101 **Design Study of a Blended Wing Body Aircraft** 11  
West Windsor-Plainsboro High South  
**Sam Ferguson**

1201 **Construction and Evaluation of a Hydrogen Generation System by a Fuel Cell** 12  
Princeton International School of Mathematics and Science  
**Jiaqi Huang**

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**Division:** Junior  
**U.S Navy/Marine Corps Award**  
certificate and medal

**Category:**  
**From:** U.S. Navy/Marine Corps

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111 **After Effects of Virtual Reality: Is it more than just dizziness?** 6  
Lawrence Intermediate  
**Piyush Nawade**

318 **Angular Momentum Transport in Galactic Collision** 7  
Home school  
**William Randall Owen**

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**Division:** Senior  
**U.S Navy/Marine Corps Award**  
Certificate and medal

**Category:**  
**From:** U.S. Navy/Marine Corps

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2202 **A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio** 10  
Hopewell Valley Central High  
**Sonja MS Michaluk**

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**Division:** Senior  
**ASU Sustainability**

**Category:**  
**From:** Arizona State University

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1705 **Spray and Stick: A Novel Agent for Pesticide Adhesion** 10  
Lawrenceville School  
**Jacob Wu**

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**Division:** Senior  
**Stockholm Junior Water Prize**

**Category:**  
**From:** Water Environment Federation

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- 2202 **A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio** 10  
Hopewell Valley Central High  
**Sonja MS Michaluk**
- 2201 **Removal of Algae, Nitrogen, and Phosphorus in Aqueous Environment with Allelochemicals and Activated Carbon** 11  
The Peddie School  
**Yiyu Wu**
- 

**Division:** Senior  
**NJWEA Water Environment Award**

**Category:**  
**From:** New Jersey Water Environment Association

State winners go to the national competition where they can win a trip to Sweden and a cash award, the U.S. Winner's school will receive a cash award.

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- 2202 **A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio** 10  
Hopewell Valley Central High  
**Sonja MS Michaluk**
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**Division:** Senior  
**NASA Earth**

**Category:**  
**From:** National Aeronautics and Space Administration

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- 2101 **Design Study of a Blended Wing Body Aircraft** 11  
West Windsor-Plainsboro High South  
**Sam Ferguson**
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**Division:** Senior  
**NOAA Award**

**Category:**  
**From:** National Oceanic and Atmospheric Administration

Certificate

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- 1700 **How do we build homes in Puerto Rico with hurricane resistant materials?** 9  
Other  
**Niegel Lightner**
- 

**Division:** Senior  
**Superior Achievement**

**Category:** Behavioral and Social Science  
**From:** American Psychological Association

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- 1101 **Exploring the Time Usage of American Teens** 10  
The Peddie School  
**Ryan Yuandi Hu**
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**Division:** Senior  
**Superior Achievement**

**Category:**  
**From:** American Meteorological Society

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2201 **Removal of Algae, Nitrogen, and Phosphorus in Aqueous Environment with Allelochemicals and Activated Carbon** 11  
The Peddie School  
**Yiyu Wu**

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**Division:** Senior  
**Intel Excellence in Computer Science**

**Category:**  
**From:** Intel Corp.

1 Certificate and \$200

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2101 **Design Study of a Blended Wing Body Aircraft** 11  
West Windsor-Plainsboro High South  
**Sam Ferguson**

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**Division:** Senior  
**Special Award**

**Category:**  
**From:** Mu Alpha Theta

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2101 **Design Study of a Blended Wing Body Aircraft** 11  
West Windsor-Plainsboro High South  
**Sam Ferguson**

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**Division:** Senior  
**Excellence in Engineering**

**Category:**  
**From:** Yale Science and Engineering Association

Certificate  
Pewter medallion (sent in August)

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1200 **Kinetic and thermal characterizations of beta-glucosidase B (BglB) mutants reveal structural and functional relationships** 11  
West Windsor-Plainsboro High North  
**Michelle E Tong**

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**Division:** Senior  
**The Regional Ricoh Sustainable Development Award**

**Category:**  
**From:** Ricoh Corp.

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Certificate. Winner eligible for drawing for a Ricoh digital camera.

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1705 **Spray and Stick: A Novel Agent for Pesticide Adhesion** 10  
Lawrenceville School  
**Jacob Wu**

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**Division:** Elementary **Category:** General Science  
**Honorable Mention** **From:** Mercer Science and Engineering Club

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- 622 **Solar Water Putification System** 5  
Lawrence Intermediate  
**Purba Karmaker**
- 616 **Which is the best egg substitute for an eggless cake?** 5  
Perry L. Drew Elementary  
**Kristen Rodrigues-Prabhu**
- 606 **Where will my rocket land?** 5  
Lawrence Intermediate  
**Charlotte Scher**

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**Division:** Junior **Category:** Physical  
**Honorable Mention** **From:** Mercer Science and Engineering Club

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- 313 **Light O Rama** 6  
St. Ann's School  
**Arjun R Kumaar**
- 302 **Rockin' Candy** 7  
Chapin School  
**Emilie Evju**
- 300 **Do You Know Your H2O?** 8  
Timberlane Middle  
**Emilie Rose Ruiz Sawicki**

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**Division:** Junior **Category:** Biological  
**Honorable Mention** **From:** Mercer Science and Engineering Club

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- 108 **Exploring The Effect of Music on Stuttering.** 6  
Timberlane Middle  
**Lucas Zapata-Sanin**
- 110 **Grandmother's Alzheimer's Disease and Brain Games** 8  
Lawrence Middle  
**Chaiyo Kosinski**

<b>Division:</b>	Senior	<b>Category:</b>	Biomedical and Health Sciences
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
1303	<b>Identification of Novel Candidate Genes for Congenital Heart Defects using Gene Network Analysis</b>		11
	Princeton International School of Mathematics and Science		
	<b>Cheng Guo</b>		
1304	<b>Blood Splatters!</b>		12
	Trenton Central High West Campus		
	<b>Shanell Mighty</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Chemistry
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
1500	<b>How Can Visual Aids Help Organic Lab Students?</b>		12
	Trenton Central High		
	<b>Ameka Yawson</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Computational Biology and Bioinformatics
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
1601	<b>Stereochemical Analysis of Biochemical Nanoparticles as Contrast Agents Used in Cancer Treatment</b>		10
	Home school		
	<b>Hyunjin Chang</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Earth and Environmental Sciences
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
1703	<b>What Causes Gum Spots on Black Cherry Trees at Fernow, WV?</b>		12
	Trenton Central High		
	<b>Geordelle Maxwell</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Microbiology
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
2500	<b>Observing the Effects of Varying Ultraviolet Radiation on <i>Saccharomyces cerevisiae</i></b>		10
	Trenton Central High West Campus		
	<b>Naileny Rodriquez</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Systems Software
<b>Honorable Mention</b>		<b>From:</b>	Mercer Science and Engineering Club
2900	<b>SAUC: A Searching Algorithm for Uncategorized Commodity Based on Word-Tree</b>		10
	Princeton International School of Mathematics and Science		
	<b>Haiyu Zhang</b>		

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**Division:** Elementary **Category:** General Science  
**Meritorious Achievement** **From:** Mercer Science and Engineering Club

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- 624 **It's Snowing! Have an Ice Day** 5  
Perry L. Drew Elementary  
**Rachna Acharya**
- 613 **Super Looper** 5  
Perry L. Drew Elementary  
**Brett Anthony Carter**
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**Division:** Junior **Category:** Physical  
**Meritorious Achievement** **From:** Mercer Science and Engineering Club  
certificate

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- 306 **The Effect of Height on the Size of Blood Spatter** 7  
St. Ann's School  
**Sean Geherty**
- 321 **Generating Energy from a Magnetic Motor** 7  
Lawrence Middle  
**Anushka Paulchoudhury**
- 314 **The effect of engineered wood compared to non-engineered wood on the amount of deflection.** 8  
St. Ann's School  
**Ian Staniec**
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**Division:** Junior **Category:** Biological  
**Meritorious Achievement** **From:** Mercer Science and Engineering Club  
certificate

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- 102 **Decomposable Milk Buttons** 7  
Chapin School  
**Anoushka Sharma**
- 

**Division:** Senior **Category:** Behavioral and Social Science  
**Third Place** **From:** Mercer Science and Engineering Club

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- 1100 **Predicting Risk of Being Victims of Bullying for High School Students using Artificial Neural Network** 11  
The Peddie School  
**Ziyue Zhang**
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**Division:** Senior **Category:** Biomedical and Health Sciences  
**Third Place** **From:** Mercer Science and Engineering Club

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- 1301 **A Laser Projector, Dry Film Photoresist and Glass Based Fabrication Approach for Microfluidics Channels** 11  
Princeton International School of Mathematics and Science  
**Juyuan Xu**
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<b>Division:</b> Senior	<b>Category:</b> Earth and Environmental Sciences
<b>Third Place</b>	<b>From:</b> Mercer Science and Engineering Club

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1701	<b>Assumpink Creek Water Quality</b>	10
	Ewing High	
	<b>Arian Eloy Rodriguez</b>	

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<b>Division:</b> Junior	<b>Category:</b>
<b>Broadcom Masters Award</b>	<b>From:</b> Society For Science & The Public

Award winners ARE NOT announced individually !!! Use the following description:

Winners of the Superior awards in the Junior Division will be allowed to compete in the Broadcom Master Competition. Winners of this competition will receive an all-expense paid trip to Washington, DC for the student and ONE parent or guardian to compete in the finals.

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316	<b>Terrific Tensile Tester: A cost effective solution for evaluating adhesive systems</b>	6
	Timberlane Middle	
	<b>Charlotte LS Michaluk</b>	
100	<b>The Roles of Music, Human Touch, and Proximity in Plant Growth Rates</b>	7
	Community Middle School	
	<b>Oliver Li</b>	
318	<b>Angular Momentum Transport in Galactic Collision</b>	7
	Home school	
	<b>William Randall Owen</b>	

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<b>Division:</b> Elementary	<b>Category:</b> General Science
<b>Outstanding Achievement</b>	<b>From:</b> Mercer Science and Engineering Club

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612	<b>Water Power</b>	5
	Lawrence Intermediate	
	<b>Ruhi Viraj Parekh</b>	
617	<b>The effect of different foods and drinks on blood sugar levels.</b>	5
	St. Ann's School	
	<b>Spencer K. Williams</b>	

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<b>Division:</b> Junior	<b>Category:</b> Physical
<b>Outstanding Achievement</b> certificate	<b>From:</b> Mercer Science and Engineering Club

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301	<b>The Gauss Rifle... How fast? How far? How many?</b>	6
	Lawrence Intermediate	
	<b>Emma Charlotte Phelan</b>	
303	<b>Where's The WiFi?</b>	7
	Chapin School	
	<b>Daniel Kardhashi</b>	

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<b>Division:</b> Junior	<b>Category:</b> Biological	
<b>Outstanding Achievement</b> certificate	<b>From:</b> Mercer Science and Engineering Club	
111	<b>After Effects of Virtual Reality: Is it more than just dizziness?</b> Lawrence Intermediate <b>Piyush Nawade</b>	6
<b>Division:</b> Senior	<b>Category:</b> Behavioral and Social Science	
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club	
1101	<b>Exploring the Time Usage of American Teens</b> The Peddie School <b>Ryan Yuandi Hu</b>	10
<b>Division:</b> Senior	<b>Category:</b> Biochemistry	
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club	
1200	<b>Kinetic and thermal characterizations of beta-glucosidase B (BglB) mutants reveal structural and functional relationships</b> West Windsor-Plainsboro High North <b>Michelle E Tong</b>	11
<b>Division:</b> Senior	<b>Category:</b> Biomedical and Health Sciences	
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club	
1302	<b>BrainwaveConnect: A Machine Learning Enabled Brain Computer Interface For Locked-In Syndrome Patients</b> Lawrenceville School <b>Alexandra Comaniciu</b>	11
<b>Division:</b> Senior	<b>Category:</b> Computational Biology and Bioinformatics	
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club	
1600	<b>Evolutionary Analyses of RNA Editing and Amino Acid Recoding in Cephalopods</b> Princeton International School of Mathematics and Science <b>Mingye Wang</b>	11
<b>Division:</b> Senior	<b>Category:</b> Earth and Environmental Sciences	
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club	
1700	<b>How do we build homes in Puerto Rico with hurricane resistant materials?</b> Other <b>Niegel Lightner</b>	9

<b>Division:</b> Senior	<b>Category:</b> Engineering Mechanics
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club

2102	<b>3D Printed Refractive &amp; Diffractive Optics</b>	11
	Princeton International School of Mathematics and Science	
	<b>Chenhao Hu</b>	

<b>Division:</b> Senior	<b>Category:</b> Environmental Engineering
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club

2201	<b>Removal of Algae, Nitrogen, and Phosphorus in Aqueous Environment with Allelochemicals and Activated Carbon</b>	11
	The Peddie School	
	<b>Yiyu Wu</b>	

<b>Division:</b> Elementary	<b>Category:</b> General Science
<b>Superior Achievement</b>	<b>From:</b> Mercer Science and Engineering Club

603	<b>How Fast Is The Mind?</b>	4
	Lawrence Intermediate	
	<b>Shiyoung Cedric Kim</b>	
623	<b>Dissolution of Jolly Ranchers</b>	4
	Lawrence Intermediate	
	<b>Jiya Parasher</b>	

<b>Division:</b> Junior	<b>Category:</b> Physical
<b>Superior Achievement</b>	<b>From:</b> Mercer Science and Engineering Club
certificate and an invitation to compete in the Broadcom Master Competition	

316	<b>Terrific Tensile Tester: A cost effective solution for evaluating adhesive systems</b>	6
	Timberlane Middle	
	<b>Charlotte LS Michaluk</b>	
318	<b>Angular Momentum Transport in Galactic Collision</b>	7
	Home school	
	<b>William Randall Owen</b>	

<b>Division:</b> Junior	<b>Category:</b> Biological
<b>Superior Achievement</b>	<b>From:</b> Mercer Science and Engineering Club
certificate and an invitation to compete in the Broadcom Master Competition	

100	<b>The Roles of Music, Human Touch, and Proximity in Plant Growth Rates</b>	7
	Community Middle School	
	<b>Oliver Li</b>	

<b>Division:</b> Elementary	<b>Category:</b>
<b>Most Superior</b>	<b>From:</b> Rider University
Plaque and certificate	
603 <b>How Fast Is The Mind?</b>	4
Lawrence Intermediate	
<b>Shiyoung Cedric Kim</b>	
<b>Division:</b> Junior	<b>Category:</b> Biological
<b>Most Superior</b>	<b>From:</b> Rider University
Plaque and certificate	
100 <b>The Roles of Music, Human Touch, and Proximity in Plant Growth Rates</b>	7
Community Middle School	
<b>Oliver Li</b>	
<b>Division:</b> Junior	<b>Category:</b> Physical
<b>Most Superior</b>	<b>From:</b> Rider University
Plaque and certificate	
316 <b>Terrific Tensile Tester: A cost effective solution for evaluating adhesive systems</b>	6
Timberlane Middle	
<b>Charlotte LS Michaluk</b>	
<b>Division:</b> Senior	<b>Category:</b>
<b>Most Superior</b>	<b>From:</b> Rider University
Plaque and certificate	
2202 <b>A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio</b>	10
Hopewell Valley Central High	
<b>Sonja MS Michaluk</b>	
<b>Division:</b> Senior	<b>Category:</b> Behavioral and Social Science
<b>First Place</b>	<b>From:</b> Mercer Science and Engineering Club
1102 <b>Tourism identification, classification and recommendation</b>	12
Princeton International School of Mathematics and Science	
<b>Haohao Fu</b>	
<b>Division:</b> Senior	<b>Category:</b> Biochemistry
<b>First Place</b>	<b>From:</b> Mercer Science and Engineering Club
1201 <b>Construction and Evaluation of a Hydrogen Generation System by a Fuel Cell</b>	12
Princeton International School of Mathematics and Science	
<b>Jiaqi Huang</b>	

<b>Division:</b>	Senior	<b>Category:</b>	Biomedical and Health Sciences
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1300	<b>A Novel Computer-Aid Skin Cancer Detection Based on an Improved Neural Network</b>		11
	The Peddie School		
	<b>KaiWen Li</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Earth and Environmental Sciences
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1705	<b>Spray and Stick: A Novel Agent for Pesticide Adhesion</b>		10
	Lawrenceville School		
	<b>Jacob Wu</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Energy: Physical
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1900	<b>Fighting irreproducibility in solar cell research</b>		11
	Princeton International School of Mathematics and Science		
	<b>Jiaqi Lu</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Engineering Mechanics
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
2101	<b>Design Study of a Blended Wing Body Aircraft</b>		11
	West Windsor-Plainsboro High South		
	<b>Sam Ferguson</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Environmental Engineering
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
2202	<b>A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio</b>		10
	Hopewell Valley Central High		
	<b>Sonja MS Michaluk</b>		
<b>Division:</b>	Senior	<b>Category:</b>	
<b>2nd Runner Up</b>		<b>From:</b>	Mercer Science and Engineering Club
2101	<b>Design Study of a Blended Wing Body Aircraft</b>		11
	West Windsor-Plainsboro High South		
	<b>Sam Ferguson</b>		

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**Division:** Senior **Category:**  
**1st Runner-up** **From:** Mercer Science and Engineering Club  
Alternate for the ISEF trip if the Grand Prize winner cannot attend

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1705 **Spray and Stick: A Novel Agent for Pesticide Adhesion** 10  
Lawrenceville School  
**Jacob Wu**

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**Division:** Senior **Category:**  
**Grand Prize** **From:** Mercer Science and Engineering Club  
All expense paid trip to the Intel International Science and Engineering Fair in May

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2202 **A Novel Device for Preservation and Remote Monitoring of DNA Barcode Benthic Macroinvertebrate Samples: The PEBBLE (Preservatio** 10  
Hopewell Valley Central High  
**Sonja MS Michaluk**