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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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633	<b>Solar Oven</b> Lawrence Intermediate <b>Purba Karmaker</b>	4
661	<b>WHICH WHEEL WORKS BEST? AN EXPLORATION INTO SKATEBOARD BEARING</b> Robinson Elementary <b>Prem Patel</b>	4
628	<b>Flood Prevention Using The Raspberry Pi</b> Stoney Brook Elementary <b>Lucas Zapata-Sanin</b>	5
2200	<b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE Stream Observation and Networking Equipment</b> Hopewell Valley Central High <b>Sonja Michaluk</b>	9

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

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

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604	<b>How High Will it Fly</b> St. Gregory the Great School <b>Nicholas Reme</b>	5
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**Division:** Elementary  
**Earle S. Rommel Communications Award**  
Plaque

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

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677	<b>The Effect of Stain Removers on Stained Clothes</b> Perry L. Drew Elementary <b>Kristen B Rodrigues-Prabhu</b>	4
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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 pH, Nitrates, Nitrogen, and Enzymes in Pitcher Plant Digestion and Growth</b> Community Middle School <b>Oliver Li</b>	6
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<b>Division:</b> Senior	<b>Category:</b>
<b>Earle S. Rommel Communications Award</b>	<b>From:</b> Mercer Science and Engineering Club
Plaque	
2500	<b>Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)</b> 11
	Lawrenceville School
	<b>Nikhil Gopal</b>
<b>Division:</b> Senior	<b>Category:</b>
<b>Abbott Marshlands</b>	<b>From:</b> Abbott Marshlands
2200	<b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE Stream Observation and Networking Equipment</b> 9
	Hopewell Valley Central High
	<b>Sonja Michaluk</b>
<b>Division:</b> Junior	<b>Category:</b>
<b>3rd</b>	<b>From:</b> Theobald Smith Society
Certificate	
106	<b>The Five Second Rule</b> 8
	Chapin School
	<b>Aria Sangha</b>
<b>Division:</b> Junior	<b>Category:</b>
<b>2nd</b>	<b>From:</b> Theobald Smith Society
Certificate	
107	<b>Ring Ring! It's Bacteria calling</b> 6
	Lawrence Intermediate
	<b>Aditi Moturi</b>
<b>Division:</b> Senior	<b>Category:</b>
<b>1st</b>	<b>From:</b> Theobald Smith Society
Certificate	
2400	<b>Bacteria Killer? A Novel Galvanic Compound</b> 10
	Lawrenceville School
	<b>Jacob Wu</b>
<b>Division:</b> Elementary	<b>Category:</b>
<b>Best Use of Photography</b>	<b>From:</b> Le Camera and Video
Gift certificate at Le Camera and Video Certificate	
611	<b>Under What Conditions do Potatoes Sprout the Fastest</b> 4
	George E. Wilson Elementary
	<b>Jalese Bailey</b>

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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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2500	<b>Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)</b> Lawrenceville School <b>Nikhil Gopal</b>	11
1300	<b>Carbaryl-induced cytotoxicity and inflammation in both Mytilus edulis and human tissues implicate the pathogenesis of IBD</b> Lawrenceville School <b>Bradford Lin</b>	11
1304	<b>MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance</b> Other <b>Diana Voronin</b>	11
1600	<b>An Immunologic Basis for the Pathogenesis of Autism Spectrum Disorder: Toll-like Receptor Mechanisms and Downstream Processes</b> West Windsor-Plainsboro High North <b>Kiruthika Devasenapathy</b>	12

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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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100	<b>The Roles of pH, Nitrates, Nitrogen, and Enzymes in Pitcher Plant Digestion and Growth</b> Community Middle School <b>Oliver Li</b>	6
108	<b>Are you having a Heart Attack? - Using Biomarkers to Detect and Prevent Heart Attacks</b> Lawrence Intermediate <b>Anushka Paulchoudhury</b>	6
323	<b>Cell Phones: Just Like Cigarettes</b> St. Gregory the Great School <b>Devon Elizabeth Pasieka</b>	8

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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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2500	<b>Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)</b> Lawrenceville School <b>Nikhil Gopal</b>	11
1304	<b>MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance</b> Other <b>Diana Voronin</b>	11

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

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

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|------|--|----|
| 2202 | <b>A study on preparation of biochar from shells and using it to remove pollutants from river water</b><br>The Peddie School<br><b>Yiyu Wu</b>   | 10 |
| 1601 | <b>In silico Evaluation of a Hydrogen Production System with Enzyme Produced from Cell-Free Protein Synthesis</b><br>Princeton International School of Mathematics and Science<br><b>Jiaqi Huang</b> | 11 |

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

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

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|------|---|----|
| 2200 | <b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE Stream Observation and Networking Equipment</b><br>Hopewell Valley Central High<br><b>Sonja Michaluk</b> | 9  |
| 2202 | <b>A study on preparation of biochar from shells and using it to remove pollutants from river water</b><br>The Peddie School<br><b>Yiyu Wu</b>  | 10 |

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**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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|------|---|---|
| 2200 | <b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE Stream Observation and Networking Equipment</b><br>Hopewell Valley Central High<br><b>Sonja Michaluk</b> | 9 |
|------|---|---|

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**Division:** Senior  
**NASA Earth**

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

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|------|---|----|
| 2600 | <b>Identifying Two Newly Discovered Black Hole X-ray Transients in the Galactic Center</b><br>Princeton High<br><b>Matthew Wang</b> | 11 |
|------|---|----|

<b>Division:</b> Senior <b>NOAA Award</b>	<b>Category:</b> <b>From:</b> National Oceanic and Atmospheric Administration	
Certificate		
1700	<b>Is it Time for a Thunderstorm Ranking System?</b> West Windsor-Plainsboro High North <b>Alexander Li</b>	9
<b>Division:</b> Senior <b>Superior Achievement</b>	<b>Category:</b> <b>From:</b> ASM International Foundation	
2400	<b>Bacteria Killer? A Novel Galvanic Compound</b> Lawrenceville School <b>Jacob Wu</b>	10
<b>Division:</b> Senior <b>Superior Achievement</b>	<b>Category:</b> <b>From:</b> American Meteorological Society	
1700	<b>Is it Time for a Thunderstorm Ranking System?</b> West Windsor-Plainsboro High North <b>Alexander Li</b>	9
<b>Division:</b> Senior <b>Special Award</b>	<b>Category:</b> <b>From:</b> Association for Women Geoscientists	
2200	<b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE S'Tream Observation and Networking Equipment</b> Hopewell Valley Central High <b>Sonja Michaluk</b>	9
<b>Division:</b> Senior <b>Superior Achievement</b>	<b>Category:</b> <b>From:</b> Society for In Vitro Biology	
1 Certificate		
1300	<b>Carbaryl-induced cytotoxicity and inflammation in both Mytilus edulis and human tissues implicate the pathogenesis of IBD</b> Lawrenceville School <b>Bradford Lin</b>	11
<b>Division:</b> Senior <b>Intel Excellence in Computer Science</b>	<b>Category:</b> <b>From:</b> Intel Corp.	
1 Certificate and \$200		
1304	<b>MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance</b> Other <b>Diana Voronin</b>	11

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

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

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2300 **Application of ElGamal ECC algorithm** 10  
The Pennington School  
**Ye Teng**

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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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1304 **MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance** 11  
Other  
**Diana Voronin**

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

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

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

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1601 **In silico Evaluation of a Hydrogen Production System with Enzyme Produced from Cell-Free Protein Synthesis** 11  
Princeton International School of Mathematics and Science  
**Jiaqi Huang**

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**Division:** Senior  
**Genius Olympiad**

**Category:**  
**From:** SUNY Oswego

Students can compete in the Genius Olympiad science competition in SUNY Oswego in New York. Room and board costs covered but winners must provide transportation. The competition open to all other senior division students but they must register and be accepted to compete.

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2500 **Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)** 11  
Lawrenceville School  
**Nikhil Gopal**

1304 **MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance** 11  
Other  
**Diana Voronin**

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**Division:** Elementary  
**Honorable Mention**

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

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680	<b>Chromatography Can Be Surprisingly Sweet</b>	4
	Perry L. Drew Elementary <b>Brett Anthony Carter</b>	
645	<b>My Fish Tank is not a Swimming Pool</b>	4
	Grace N. Rogers Elementary <b>Gabriella DeMarco</b>	
615	<b>Sour Power</b>	4
	Ethel McKnight Elementary <b>Caden Christopher Felton</b>	
684	<b>Gummy Bear Lab</b>	4
	Yardville Elementary <b>Remy Feniello</b>	
623	<b>Parachuting Prediction</b>	4
	Kisthardt Elementary <b>Skyler Linke</b>	
693	<b>How Do Your Nails Grow?</b>	4
	University Heights Elementary <b>Elisa Salzano</b>	
609	<b>Headmuffs</b>	4
	Lawrence Intermediate <b>Peyton Riley Valentino</b>	
717	<b>Watery Soils</b>	5
	Other <b>Areebah A Bhatti</b>	
681	<b>Thick or Thin Wires</b>	5
	Kisthardt Elementary <b>Bryan D Martinez</b>	
653	<b>Peanut Power</b>	5
	Mercerville Elementary <b>Mason Patrick Watson</b>	









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**Division:** Junior

**Category:**

**Broadcom Masters Award**

**From:** Society For Science & The Public

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

Winners of the Superior awards winners 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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105	<b>Nature's Thermometer</b>	6
	St. Gregory the Great School	
	<b>Thomas J. Black</b>	
100	<b>The Roles of pH, Nitrates, Nitrogen, and Enzymes in Pitcher Plant Digestion and Growth</b>	6
	Community Middle School	
	<b>Oliver Li</b>	
315	<b>Parachute Shape Show</b>	7
	St. Gregory the Great School	
	<b>Jimmy Burrows</b>	
317	<b>Ocean vs. River: How Gravity Currents Work</b>	7
	Lawrence Middle	
	<b>Charlotte Hunter</b>	
312	<b>Hair-Raising Truth</b>	8
	St. Gregory the Great School	
	<b>Estelle Rose Kulesa</b>	

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

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708	<b>OMG! Distracted Driving</b>	4
	Perry L. Drew Elementary <b>Rachna Acharya</b>	
627	<b>Rock, Paper, Scissors - Strategy or Chance?</b>	4
	University Heights Elementary <b>Aidan Lipman</b>	
657	<b>Memory: Visual Vs. Auditory</b>	4
	Morgan Elementary <b>Ethan S Zimmerman</b>	
618	<b>Air Ball</b>	5
	St. Gregory the Great School <b>Chase Burrows</b>	
697	<b>Water Quality Comparison</b>	5
	Perry L. Drew Elementary <b>Megan Elizabeth Khazem</b>	
601	<b>What is the optimum ratio of baking soda to cream of tartar to make the most fizz in a bath fizzy?</b>	5
	Lawrence Intermediate <b>Emma Charlotte Phelan</b>	

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**Division:** Junior **Category:** Physical  
**Outstanding Achievement** **From:** Mercer Science and Engineering Club  
certificate

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319	<b>The Effect of the Type of Electrolytes on the Amount of Electricity Being Produced</b>	6
	St. Ann's School <b>Sean Geherty</b>	
313	<b>Breaking the Bridges</b>	6
	St. Gregory the Great School <b>Ian Rivera Perez</b>	
305	<b>Deflategate: Who Was Right?</b>	7
	St. Gregory the Great School <b>Connor Michael Stachowski</b>	
303	<b>It's Too Loud!</b>	7
	Chapin School <b>Lily Tsahalis</b>	

<b>Division:</b> Junior	<b>Category:</b> Biological	
<b>Outstanding Achievement</b> certificate	<b>From:</b> Mercer Science and Engineering Club	
107	<b>Ring Ring! It's Bacteria calling</b> Lawrence Intermediate <b>Aditi Moturi</b>	6
111	<b>The Effect of Ethylene from Ripe Fruits on the Ripening of Other Fruits</b> St. Ann's School <b>Matthew Kuever</b>	8
<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>Expanded Medicaid Program and Its Impact on Self-perceived Health Status</b> The Pennington School <b>XinYi Zheng</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	
1300	<b>Carbaryl-induced cytotoxicity and inflammation in both Mytilus edulis and human tissues implicate the pathogenesis of IBD</b> Lawrenceville School <b>Bradford Lin</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	
1601	<b>In silico Evaluation of a Hydrogen Production System with Enzyme Produced from Cell-Free Protein Synthesis</b> Princeton International School of Mathematics and Science <b>Jiaqi Huang</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>Is it Time for a Thunderstorm Ranking System?</b> West Windsor-Plainsboro High North <b>Alexander Li</b>	9

<b>Division:</b> Senior	<b>Category:</b> Environmental Engineering
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club
2202	<b>A study on preparation of biochar from shells and using it to remove pollutants from river water</b> The Peddie School <b>Yiyu Wu</b>
10	
<b>Division:</b> Senior	<b>Category:</b> Mathematical Sciences
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club
2300	<b>Application of ElGamal ECC algorithm</b> The Pennington School <b>Ye Teng</b>
10	
<b>Division:</b> Senior	<b>Category:</b> Physics and Astronomy
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club
2600	<b>Identifying Two Newly Discovered Black Hole X-ray Transients in the Galactic Center</b> Princeton High <b>Matthew Wang</b>
11	
<b>Division:</b> Senior	<b>Category:</b> Robotics and Intelligent Machines
<b>Second Place</b>	<b>From:</b> Mercer Science and Engineering Club
2800	<b>Investigating Autonomous Car Strategies for Dealing with Unexpected Speed Changes Using Simulations</b> Hopewell Valley Central High <b>Christian Zapata-Sanin</b>
10	



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

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- 105 **Nature's Thermometer** 6  
St. Gregory the Great School  
**Thomas J. Black**
- 100 **The Roles of pH, Nitrates, Nitrogen, and Enzymes in Pitcher Plant Digestion and Growth** 6  
Community Middle School  
**Oliver Li**
- 

**Division:** Elementary **Category:**  
**Most Superior** **From:** Rider University  
Plaque and certificate

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- 705 **What is the best gripper FOR MINDSTORMS ROBOTIC ARMS ?** 5  
Lawrence Intermediate  
**Piyush Nawade**
- 

**Division:** Junior **Category:** Biological  
**Most Superior** **From:** Rider University  
Plaque and certificate

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- 105 **Nature's Thermometer** 6  
St. Gregory the Great School  
**Thomas J. Black**
- 

**Division:** Junior **Category:** Physical  
**Most Superior** **From:** Rider University  
Plaque and certificate

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- 312 **Hair-Raising Truth** 8  
St. Gregory the Great School  
**Estelle Rose Kulesa**
- 

**Division:** Senior **Category:**  
**Most Superior** **From:** Rider University  
Plaque and certificate

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- 2500 **Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)** 11  
Lawrenceville School  
**Nikhil Gopal**
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<b>Division:</b>	Senior	<b>Category:</b>	Animal Sciences
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1000	<b>Remicade as a Remedy for Chemotherapeutic Fibrosis</b>		12
	Lawrence High		
	<b>James Gow</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Computational Biology and Bioinformatics
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1600	<b>An Immunologic Basis for the Pathogenesis of Autism Spectrum Disorder: Toll-like Receptor Mechanisms and Downstream Processes</b>		12
	West Windsor-Plainsboro High North		
	<b>Kiruthika Devasenapathy</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Embedded Systems
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
1304	<b>MotivateMe: A Cost-Effective Wristband Device to Aid Stroke Patients with Real-Time Physical Rehabilitation Exercise Performance</b>		11
	Other		
	<b>Diana Voronin</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Environmental Engineering
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
2200	<b>Networked Measurement of Ionic Strength to Monitor Waterway Health: The STONE Stream Observation and Networking Equipment</b>		9
	Hopewell Valley Central High		
	<b>Sonja Michaluk</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Materials Science
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
2400	<b>Bacteria Killer? A Novel Galvanic Compound</b>		10
	Lawrenceville School		
	<b>Jacob Wu</b>		
<b>Division:</b>	Senior	<b>Category:</b>	Microbiology
<b>First Place</b>		<b>From:</b>	Mercer Science and Engineering Club
2500	<b>Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)</b>		11
	Lawrenceville School		
	<b>Nikhil Gopal</b>		

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**Division:** Senior **Category:**  
**2nd Runner Up** **From:** Mercer Science and Engineering Club

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1000 **Remicade as a Remedy for Chemotherapeutic Fibrosis** 12  
Lawrence High  
**James Gow**

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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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1600 **An Immunologic Basis for the Pathogenesis of Autism Spectrum Disorder: Toll-like Receptor Mechanisms and Downstream Processes** 12  
West Windsor-Plainsboro High North  
**Kiruthika Devasenapathy**

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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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2500 **Early Detection of Malaria Infection with Isothermal Loop Amplification (LAMP)** 11  
Lawrenceville School  
**Nikhil Gopal**