

# WESTERN MASSACHUSETTS Science & Engineering Fair

## Western Massachusetts Science & Engineering Fair 2023 High School Results

### Sanofi Specialty Grand Prize Award

**Elizabeth Hanechak**

Pope Francis Preparatory  
School (Springfield)

*The Deletion of a Disulfide Bridge Through Site-Directed  
Mutagenesis to Adapt Cutinase to the Biodegradation of  
Polyethylene Terephthalate*

Biochemistry

### FIRST PLACE

**Harene Kim**

Northfield Mount  
Hermon School

*A Novel Diagnostic Method for Lung and Breast Cancer using Feces  
and Urine-based Liquid Biopsy*

Biochemistry

**Milani Camilleri**

Westfield High

*Testing the Effectiveness of Celebrity-Endorsed vs. Dermatologist  
Approved Facial Cleansers (Part 2)*

Biology

**HyeonKi Lee**

Northfield Mount  
Hermon School

*Development of Cost-Effective, Sustainable Microbial Fuel Cells for  
Purifying Manure Polluted River*

Chemistry

**Sheng-Chun Chang**

Northfield Mount  
Hermon School

*A Novel Eco-friendly Route of Sustainable and Natural Indigo  
Dyeing and Coating for Denim Textiles*

Chemistry

**Alison Regish**

Hopkins Academy

How Does Physical Exercise Affect Your Mood?

Behavioral and  
Social Sciences

## SECOND PLACE AWARDS

### Yinuo Zhou

Miss Hall's School	<i>The relationship between Quarantine and Anxiety level</i>	Behavioral and Social Sciences
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### Yuchen Dai

Berkshire School	<i>Study on Earthquake Early Warning using Deep Learning</i>	Computer Science
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### Hao Zeng

Williston Northampton School	<i>Preparation and Interfacial Chemistry of Sulfide Electrolytes for High-Performance Solid-State Lithium-Metal Batteries</i>	Chemistry
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### Wunnyuriti Ziblim

Westfield High	<i>Maximizing Microbial Metabolism in the Rhizosphere to Generate Electrical Current</i>	Biology
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### Mihir Shenoy

Amherst Regional High	<i>Thermal Energy Harvesting for Wearable Sensing</i>	Engineering: Electrical and Mechanical
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## THIRD PLACE AWARDS

### Nora Scott and Alexis Masciadrelli

Westfield High	<i>How do disinfectants work against Germs/Bacteria/Viruses?</i>	Biology
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### Ciara Johnson-Corwin

Westfield High	<i>Finding which worm biodegrades polystyrene faster</i>	Biology
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### Teagan Chisholm-Godshalk

Westfield High	<i>Thriving Harvest with Thrifty Materials: The Comparison of Solanum lycopersicum Growth Between Every Day Growing and Hydroponic Growing</i>	Biology
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### John Doyle

Westfield High	<i>Using Portable Solar Energy To Power Electronic Devices In Remote Locations</i>	Physics and Electronics
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### Grant Donta-Venman

Hopkins Academy      *Algal Cooking Oil and Its Potential to be a Risk-Free Cooking Oil*      Biochemistry

### Luke Bulan

Westfield High      *Inventing a Cheap and Comfortable Yet Effective Phototherapy Blanket For Babies*      Engineering:  
Electrical and  
Mechanical

### Sydney Drugan

Westfield High      *Does the Presence and Concentration of Volcanic Ash in Soil Affect Plant Growth?*      Environmental  
Sciences

### Bradley Geaughan, Yogesh Karki

West Springfield High      *Orange vs Orange Glucose off! How much glucose is actually in oranges?*      Biology

## 2023 SPECIAL AWARDS & RECOGNITION

Elizabeth Hanechak	Sanofi Specialty Care Grand Prize Award
Harene Kim	Regeneron Biomedical Science Award
Milana Camilleri	National Geographic "That's Geography Award"
HyeonKi Lee	Sanofi Specialty Care First Prize Award
Sheng-Chun Chang	Sanofi Specialty Care First Prize Award
Alison Regish	Sanofi Specialty Care First Prize Award
Yinuo Zhou	The American Psychological Association Award for Research in Psychological Science
Yuchen Dai	NOAA "Taking the Pulse of the Planet Award"
Hao Zeng	MA Chemistry & Technology Alliance
Wunnyuriti Ziblim	New England Branch of the American Society for Microbiology Award
Mihir Shenoy	National Grid Engineering Excellence Award
John Doyle	Westfield Gas & Electric Power Plus Award
Gemma Conca, Emma Krivolenko, Milena Lavar	MA Chemistry & Technology Alliance
Jalani Lopez, Torres Sonne	US Stockholm Junior Water Prize