

# 2023 MSEF Middle School Award Winners

For Special Awards go to page 7
For Thermo-Fisher Junior Innovators Challenge delegates go to page 8
For MSEF Teacher Award go to page 9

## **Cabot Grand Prize Award**

Nichelle Thinagar Oak Middle School Shrewsbury Removing Nitrogen and Phosphorus from Water for the Prevention of Eutrophication

## **Cabot Spotlight First Place Award**

Anoushka Nikumbh Oak Middle School Shrewsbury CHARGE-Capturing Heat and Regenerating Electricity using Thermoelectric Generators

#### **First Place Awards**

Olivia Chen, Qinghe Zhao Boston Latin School Boston

Bioluminescence of A Glowing Algae

Audrianna Krikorian Saint Augustine School North

Andover

Is Blood Pattern Analysis Accurate?

Aisha Zaheer

Islamic Academy for Peace

Andover

Does gravity affect plant growth?

Katerina Panagiotidis West Tatnuck Elementary

Boylston

Grow Up

Arushi Vora

Sarah W. Gibbons Middle

Westborough

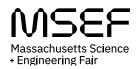
The effect of certain combinations of factors on luminol chemiluminescence

Giuliana Bonetti

Dr. Arthur F. Sullivan Middle
Worcester

A Glutton for Gluten

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Elizabeth Vetzev, Rebecca John Andover West Middle *Andover* 

Cardio for Chemo

**Harrison Braman** 

Lesley Ellis School Arlington

Fix it Until it Brakes

Rajarshi Mandal

Wm Diamond Middle Lexington Automated Apple Disease Detection Using a Deep Learning Approach Based on Convolutional Neural Networks

Chloe Abou-Ezzi

Saint Augustine School Methuen

The Effects of Pollutants on Botryllus schlosseri

## **Second Place Awards**

Pradnya Cowlagi

Oak Middle School Shrewsbury Screen Time for Worms: The Effects of Irregular Light Patterns on Locomotion and Fertility in Caenorhabditis Elegans

Sapna Malhotra

John Eliot K-8

Boston

How Clean Is Our Drinking Water? A Detection of Impurities in Water Sources Throughout Boston and other Cities.

**Suhrit Ghosh** 

Oak Middle School Shrewsbury Effectiveness of automatic braking vs. manual braking (in a car)

Aditya Naravane

North Attleboro Middle School North Attleboro Prediction of Heart Disease Using a Trained Multilayer
Perceptron

**Stephen Cronin** 

St Catherine of Siena Middle
Norwood

Glacier Geoengineering

Srivibhu Piratla

Advanced Math and Science Academy Charter School Bellingham

Rain or Shine

Ethan Mort, Shreyas Peddigari, Vikram Hiranandani

Sarah W. Gibbons Middle Westborough

Automated Pill Dispenser

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Graham Stoessell, Ian Mauro	Dover-Sherborn Regional Middle School Sherborn	Mealworms Decomposing Polystyrene
Serena Akinboboye	North Attleboro Middle School North Attleboro	Audio, Visuals, Words: What do most people learn best with?
Derek Liu, Elaine Zhang, Jackson Bender	Dover-Sherborn Regional Middle School <i>Dover</i>	SBS
Chelsea Bateman	Boston Latin School Boston	The Effects of Pollution on Vernal Pools in Urban Areas: A Comparison of Runoff Collected Near a Certified and Non- Certified Vernal Pool
Neha Nagireddy	Oak Middle School Shrewsbury	Battling World Issues with a New Water System
Seren Banner- Goodspeed	Boston Latin School <i>Boston</i>	Orca Health in Captivity and the Wild
Miftah Sifat	Sherwood Middle School Shrewsbury	Analysis of Vitamin C Content in Fresh Juices and Packed Juices
Shrinivasa Makaram	Robert E Melican Middle <i>Northborough</i>	Solenoid Forces
Abby Odden	Doherty Middle <i>Worcester</i>	The Effects of the Atmosphere on Light
Elizabeth Cosgrove	St Mary School <i>Mansfield</i>	Modeling Knee Movements
Giang Nguyen	Raymond J Grey Junior High Acton	Effect of NPK on Plant Development Indoors during Winter
Dhanusha Ramadas, Mia Zhao, Shriya Prabhakar	Sarah W. Gibbons Middle Westborough	Phototropism using different colored lights
Johan Coisman	Weston Middle School Weston	Chilling Out with Marine Cloud Brightening

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### **Third Place Awards**

Mercedes MacLean, **Reshum Aurora** 

Ashland Middle School **Ashland** 

Eco-Friendly Plant Fertilizer

**Anwita Wadekar** 

Saint Bernadette School Westborough

Breakfast for Plants: Fertilizers from Table to Farm

William Cullimore

Pioneer Charter School of Science II (PCSS-II) Salem

tide energy

**Manal Mahfudh** 

Pioneer Charter School of Science II (PCSS-II) Revere

How do holograms work?

**Abigail Manning** 

St. Francis Xavier School Acushnet

Store-bought, Frozen, or Off the Tree, Which Has More Vitamin C?

Aditi Korrapati

Raymond J Grey Junior High Acton

How do Different Packaging Materials Affect the Quality of Vegetables and Fruits?

St Catherine of Siena Middle

Norwood

Kidneys

Dhatri Daggubati, Sanjana Karlmarx

Freddy Elhayek

Foxborough Regional Charter Plainville, Foxborough

The Secret Life of Worms Under the Grass

**Zach Chiu** 

Lesley Ellis School Newton

Chill Out! How To Make a Better Ice Pack

**Ryan Groszmann** 

Lesley Ellis School Belmont

Low Cost Crosswalk Alert System For Pedestrians

Vineeth Godavarti

Blanchard Middle Westford

It's Never Too Late to Quit. How Smoking Affects the **Human Body** 

**Aarin Mugundu** 

Jonas Clarke Middle Lexington

The effect of human body temperature on reaction time

Eli Stroika, Liam O'Neill, **Parker Stephenson** 

Saint Augustine School Haverhill, Tewksbury, Andover

How Do Different Liquids Affect Plant Growth?



Aidan Leschuk, Avery Squiciarino, Dan Winterberg

Pierce Middle School Milton

Going Off the Grid: A Solar Solution for Energy Independence

Olivia Amaral

North Attleboro Middle School North Attleboro

How Does Color Affect Memory?

Alyssa Merriam

West Tatnuck Elementary Worcester

Exercise is Heart Work - Which exercise will affect heart rate the most?

Anshika Pradham, Loukya Ravi

Sarah W. Gibbons Middle School Dudley, Westborough

Nitrogen Fertilized Plant

**Emerson Ohashi** 

**Boston Latin School Boston** 

The Effect of a Condition on a Plant's Growth

Abdul muhaymin rahman

Islamic Academy for Peace Leominster

sucrose and glucose oh my! uncovering hidden sugar in your food

Daryn Do

Heath School Brookline

Harvesting Energy from Rain or Snow Using Triboelectric Nanogenerator

## **Honorable Mention**

Ishika Kumar

Foxborough Regional Charter Attleboro

Let There Be Light

Cecilia Held

Lesley Ellis School Belmont

How do different colored LED grow lights affect plant growth?

**Ryan Stimpson** 

Littleton Middle School Littleton

A study of the effect of mint on the temperature of water.

**Aishwarya** Ananthakrishnan, Jaydon Treadway, Sainaveen Lakshmi Narayan

Chandru Science Academy Andover, Lexington

Interstellar travel: Cryogenics and the effect of Cryopreservation on Seed Germination

**Shyam Srinivasan** 

North Attleboro Middle School North Attleboro

Using Ultraviolet Light to Preserve Fruits

Devangi Bhargava, Tanvi Marri

Wm Diamond Middle Lexington

The Effect of Indoor Plants on Human Health

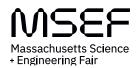


Caroline Hoenscheid. **Newton Country Day School** Stay Clean, Keep It Green Rebecca Chen Newton Pioneer Charter School of Science **Mannat Markan** Three-in-one Everett Isabelle Tao, Kyle Vo, Plouffe Academy **Ant Memory** Valerie Lindh **Brockton** Al-Noor Academy **Zainab Chaudhry** The Stroop Effect Norton Worcester East Middle School Slowing the Surge! Which structure is more effective in slowing **Trieu An Luong** Worcester the effects of a tsunami? Annika Nordman, Dr. Arthur F. Sullivan Middle Julia Gould (Student), Tomato sauce vs. Stain remover; Who will win? Worcester Selina Nguyen-Chau St Catherine of Siena Middle Microplants: Good or Bad **Alexis Cavanaugh** Walpole Rindge Avenue Upper School The Impact of Color on the Human Mind; An Exploration of **Peter Van Voorhis** Common Effects on Mood and Informational Processing Cambridge **Aarav Desetty, Aryan** Sarah W. Gibbons Middle School Taming the Tsunami **Rakesh Nair** Westborough St. Francis Xavier School **Dominic Shaughnessy** The Effect of Group Dynamics on Conformity Acushnet Aarez Osman, Aryan Dover-Sherborn Regional Middle Levitating Water with the Leidenfrost Effect **Dhoria** Dover, Sherborn Mokkshita Arun, Pioneer Charter School of Science Atmospheric Water Generator (AWG) Raaina Daniar Melrose, Chelmsford **Boston Latin School Brian Xu** Effects of Screen Time on Sleep Quality Boston Stanford OHS Rishi Balaji Brushing Away Tremors with Spherification

scifair.com

Acton





**Hunter Sherman** 

Quaboag Regional High Monson

Which Wing Style Produces the Most Lift

Dhruv Kadam, Gus Patterson Raymond J Grey Junior High

Acton

Effects of different colored light on plant growth

Sena Kaplan

Islamic Academy for Peace

Metheun

**Growth of Plants** 

**Mark Gemmett** 

Boston Latin School Sherborn

Solar Activity v. Radio

Abraham Klein, Charlie Young, Daniel Richardson

Dover-Sherborn Regional Middle Sherborn, Dover

Wind effectiveness on turbines

# **Special Awards**

## **Lemelson Early Inventor Prize**

Ethan Mort, Shreyas Peddigari, Vikram Hiranandani

Sarah W. Gibbons Middle School Westborough

Automated Pill Dispenser

# **Broadcom Coding for Commitment Award**

Rajarshi Mandal

Wm Diamond Middle Lexington Automated Apple Disease Detection Using a Deep Learning Approach Based on Convolutional Neural Networks

## **Novartis Award**

**Aditya Naravane** 

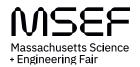
North Attleboro Middle School, North Attleboro Prediction of Heart Disease Using a Trained
Multilayer Perceptron

#### **Eversource Environmental Award**

Daryn Do

Heath School Brookline Harvesting Energy from Rain or Snow Using
Triboelectric Nanogenerator





#### Pauline J. LaMarche Memorial Award

Isabelle Tao, Kyle Vo, Valerie Lindh Plouffe Academy Brockton

**Ant Memory** 

## **Analog Devices Award**

**Sophie DeSavage** 

Burncoat Middle School Worcester

Can I make a Rube Goldberg machine that can transfer one cup of water to another one?

# Thermo Fisher Scientific Junior Innovators Challenge Massachusetts Science & Engineering Fair Nominees\*

Nichelle Thinagar Oak Middle School

Anoushka Nikumbh Oak Middle School

Olivia Chen, Qinghe Zhao Boston Latin School

Audrianna Krikorian Saint Augustine School (Andover)

Aisha Zaheer Islamic Academy for Peace

**Katerina Panagiotidis** West Tatnuck Elementary

Arushi Vora Sarah W. Gibbons Middle School

**Giuliana Bonetti** Dr. Arthur F. Sullivan Middle

Elizabeth Vetzev, Rebecca John Andover West Middle

Harrison Braman Lesley Ellis School

Rajarshi Mandal Wm Diamond Middle

**Chloe Abou-Ezzi** Saint Augustine School (Andover)

Pradnya Cowlagi Oak Middle School

Sapna Malhotra Eliot, John K-8

Suhrit Ghosh Oak Middle School

Aditya Naravane North Attleboro Middle School

Stephen Cronin St Catherine of Siena Middle School

Srivibhu Piratla Advanced Math and Science Academy

Charter School

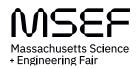
Ethan Mort, Shreyas Peddigari,

Vikram Hiranandani

Sarah W. Gibbons Middle School

**Graham Stoessell, Ian Mauro** Dover-Sherborn Regional Middle School





Serena Akinboboye North Attleboro Middle School

**Derek Liu, Elaine Zhang, Jackson Bender** Dover-Sherborn Regional Middle School

**Chelsea Bateman** Boston Latin School

## MSEF 2023 Teacher Award: Middle School Sponsored by Sanofi Specialty Care

Ms. Saadia Coleman

Dearborn STEM Academy Boston Public Schools

