

## 2024 Science Fair Highlights

The **67<sup>th</sup> Science and Engineering Fair of Metropolitan Detroit** was held on Wednesday, March 20, 2024 at Huntington Place in Detroit. There were 858 projects entered (723 individual and 125 team) from seven counties across southeastern Michigan. The **30<sup>th</sup> Michigan Science and Engineering Fair** was hosted on Saturday, April 6, 2024, by Lawrence Technological University in Southfield and included 42 projects from across the state. During the week of May 12-18, 2024, the grand award winners from SEFMD and MSEF presented their projects at the **Regeneron International Science and Engineering Fair** in Los Angeles, CA, competing against over 1600 students from around the world!

All of the stages of science fair competition (from the local school fairs to the International Fair) would not be possible without the numerous volunteers (judges, mentors, display and safety team), teachers, parents, board members, operating council members, and donors! **Thank you to all!** Save these dates for **2025**:

**SEFMD: March 11-15, 2025** (Judging day: Wed., 3/12/2025) at Huntington Place

**MSEF: Saturday, April 5, 2025** at Lawrence Technological University



### **Regeneron ISEF Finalists from SEFMD, MSEF, and the Southwest Michigan Science & Engineering Fair**

*Top row:* Aryaman Mishra, Qian Li, Suraj Dixit, Jason Shaye (Aryaman, Suraj, and Jason were finalists from the Southwest Michigan fair)

*Middle Row:* Daniel Lee, Lara Hammoud, Maya Hammoud, Tesko Chaganti

*Bottom row:* Michael Hua, Ryan Wei, Judy Bai, Vikram Goddla

### **MSEF Grand Award Winners**

**Maya Hammoud & Lara Hammoud** (grade 10, Detroit Country Day Upper School): “Decoding ASXL3: A Novel Biomarker for Neurodevelopmental Disorders.” **ISEF Awards:** 1<sup>st</sup> place (\$5,000) category award in Cellular and Molecular Biology, and a \$500 award from the Qatar Research, Development, and Innovative Council.

**Vikram Goddla** (grade 12, Detroit Country Day Upper School): “Optimal Sparsification and Low-Rank Decomposition of Deep Reinforcement Learning Policies for Surgical Robot Task Automation.” **ISEF Award:** 4<sup>th</sup> place (\$500) category award in Robotics and Intelligent Machines.

**Haodong (Ryan) Wei** (grade 10, Cranbrook Kingswood Upper School): “Extraterrestrial Exploration Hexapod with Tactile AI-Based Gait Adjustment.” **ISEF Awards:** 4<sup>th</sup> place (\$500) category award in Robotics and Intelligent Machines, and the 2<sup>nd</sup> place (\$3,000) Qorvo Innovator Award.

**Tesko Chaganti** (grade 11, Canton High School): “The Secrets of Healthy Aging: Semi-Automated Discovery of Natural Senolytics.” **ISEF Award:** 4<sup>th</sup> place (\$500) category award in Translational Medical Science.

**Sungwon (Daniel) Lee** (grade 11, Troy High School): “Revision in Airfoil Design to Increase Fuel Efficiency in Commercial Aircraft.” **ISEF Award:** scholarship valued at up to \$58,000 from Arizona State University.

**Judy Bai** (grade 10, Greenhills School): “A ChatGPT Empowered Application in Biomedical Research.”

**Michael Hua** (grade 9, Cranbrook Kingswood Upper School): “Multi-Scale Knowledge Transfer Convolutional Transformer: A Novel Deep Learning Framework for 3D Brain Vessel Segmentation.”

**Qian Li** (grade 11, Huron High School): “Cost-Efficient and Precise Manometer for Thoracentesis.”

### **SEFMD Junior & Elementary Grand Award Winners**

**Simran Adnani** (grade 5, Roeper Elementary): “From Diapers to Mars: Harnessing Unconventional Materials for Terraforming.”

**Nathan Gibbs** (grade 7, Gompers Elementary-Middle School): “Liar Liar Snacks on Fire.”

**Dylan Key** (grade 6, Bates Academy-Middle School): “Blast Off.”

**Lakshya Matele** (grade 8, Larson Middle School): “IntelliEats – Solution to making healthier food choices.”

**Sofia Morales Ruiz** (grade 6, Clippert Academy Middle School): “Kaboom Kaboom with Different Sweeteners.”

**Lara Natick** (grade 7, Star International Academy – Middle School): “Yippee We Saved Money on Energy.”

**Smayan Sharma** (grade 8, Baker Middle School): “Intelligent Portable Real-Time Braille Translator.”



**THANK YOU to CODE313, ThermoFisher Scientific and Broadcom Coding with Commitment for their support of the 2024 SEFMD and for providing activities for the students who visited during the fair!**

