

# Science and Engineering Fair of Metro Detroit

September, 2024  
68<sup>th</sup> Annual Science Fair  
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## What is the SEFMD?

The Science and Engineering Fair of Metropolitan Detroit (SEFMD), established in September 1956, is a nonprofit organization established to give students in southeastern Michigan an opportunity to develop and exhibit science fair projects.

### What is a science fair project?

A project is an investigation of a topic requiring a student to:

- design an experiment,
- analyze observations, and
- arrive at some new conclusion.

A finished project should consist of:

- a logbook,
- a report, and
- a visual display of the student's work.

The Science Fair competition reinforces the scientific method in completing a project. The concepts of creating an initial hypothesis, developing an experiment to prove/disprove the hypothesis, keeping a 'log book', and formulating conclusions form a framework for years to come, whether a student chooses a technical field or not. Students learn to develop the art of presenting a concept and 'selling' or explaining that concept to professionals in the field. Furthermore, they can earn the recognition and awards that go with completing a project successfully.

If your school does not participate in the Science Fair, maybe you should consider adding it -- for the students!

The **MISSION** of the SEFMD is to create student excitement for STEM (Science, Technology, Engineering, and Mathematics), inspire interest in scientific subjects and research, develop respect for the scientific method, encourage personal growth, provide recognition for student research, and broaden career opportunities across Metropolitan Detroit and the region.

## WHO may enter the science fair?

- The SEFMD competition is open to all 3<sup>rd</sup>-12<sup>th</sup> grade students who live in or attend school in the counties of Lenawee, Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne.

- Students may be from public, private, parochial, charter, or home schools.

- Competition is separated into three groups: Elementary Division (3<sup>rd</sup>-5<sup>th</sup> graders), Junior Division (6<sup>th</sup>-8<sup>th</sup> graders) and Senior Division (9<sup>th</sup>-12<sup>th</sup> graders).

- Students may enter as an individual or as part of a team (2-3 people; up to 10 people for Elementary).

- School Quota: For the 68<sup>th</sup> SEFMD, all schools may send up to 60 PROJECTS to the Science Fair. A school in the Junior Division may enter up to FOUR team projects, as part of its quota.

- A student may compete in one of 4-22 different categories. There are four categories in the Elementary Division. There are twelve categories in the Junior Division and there are twenty-two categories in the Senior Division. A student should select his or her project category

carefully. A complete description of the categories is available on the science fair website. (Entry Form Info → Category Descriptions)

- Students enter the competition through the schools they attend. Each school completes the affiliation process on the home page of the science fair website and pays the school affiliation fee of \$50 (discounted to \$25 if paid before 12/1).

- After a school is affiliated, students will also register online. Watch for links on the home page of the science fair website. See additional information in the next article on "how to enter the science fair"!

- The 2025 Fair will be an In-Person fair. All students will be asked to prepare a display board for the in-person judging and will have the option of uploading additional items, such as pictures, a pdf of the presentation, video, etc. . See "What's Due When" on the home page of the website for details.

## Major Events Calendar

October/November -  
Mentoring Sessions via  
Zoom

Dec 1, 2024 - SRC  
deadline; school  
affiliation deadline

Feb 14, 2025- All entries  
due ON LINE; any  
optional materials must  
also be submitted

Feb 17 - Teachers  
emailed notices

Feb 28 - Preliminary  
judging occurs of  
professional awards

Mar 11 (9AM-7PM)  
Project Set-up

Mar 12 (8AM-5PM)  
In-person Judging

Mar 13-14 (9AM-7PM)  
Public Viewing

Mar 14 (5PM-7PM)  
Project Removal

Mar 15 (9AM-11AM)  
Project Removal

May, 2025  
ISEF, Columbus, OH

## HOW to enter and compete in the science fair

(1) The student (or team) develops a research plan (planned experiment). Senior division students complete a Research Plan, Checklist for Adult Sponsor (1), Student Checklist (1A), and Approval Form (1B). These forms can be found on the website under the Forms/Documents heading.

(2) The student (or team) completes additional required SRC (Scientific Review Committee) paperwork (if needed) by the deadline on the calendar.

(3) The school affiliates on-line. The cost is \$50/school (discounted to \$25 if paid by 12/1).

(4) The student (or team) completes the on-line entry/registration form by February 14, 2025. The cost is \$20/project, which is billed to the school. As part of the entry form the student must write an abstract, summarizing their project. See the website under General Info → How to write an abstract.

(5) Students have the option of submitting additional online materials which may be

used by professional award judges. These items will also need to be submitted by February 14, 2025.

(6) Students and teachers are notified if projects are accepted for competition.

(7) Students complete experimentation work and prepare their reports and project displays. Follow the Display and Safety Guidelines found on the website, under the Forms/Documents heading.

(8) Students bring their project displays to Huntington Place on Tuesday, March 11. All online presentations and display boards must be approved by the Display and Safety Committee.

(9) Projects will be judged in person on Judging Day. The top Senior Division projects will be interviewed by the judges and students must be present. (Junior teams may also have interviews.)

(10) Judging results are usually posted by midnight of judging day on the website.

## Do You Need Additional Forms? Animals? Humans?

Projects that use vertebrate animals, human subjects, human or animal tissue, recombinant DNA, pathogenic agents or are continuation projects require additional forms. These forms may be obtained from the web site under the Forms/Documents heading.

All of these forms must be completed before beginning your project. In addition, the student **must enter online** before submitting the forms.

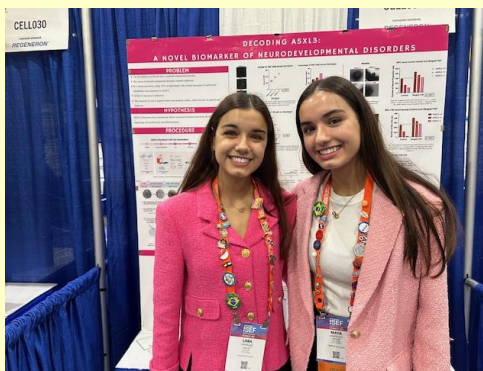
**Senior Division** students (grades 9-12) must submit these forms online by **Dec. 1** in order

to receive **pre-approval** from the Science Fair's SRC. Projects involving human subjects must first be approved by the school's IRB, followed by the fair SRC.

**Junior Division** students (Grades 6-8) should submit these completed forms online by **February 14**. SRC pre-approval is not needed. School IRB approval is required for work with human subjects.

**Elementary Division** students (Grades 3-5) should not plan to carry out projects that use vertebrates, humans, tissues, DNA, and pathogenic agents.

## MSEF & ISEF Grand Award winners - Lara & Maya Hammoud



## TOP AWARDS

### Elementary and Junior Divisions

Grand Award (top 6 students and top team) - medal, certificate

1<sup>st</sup>-3<sup>rd</sup> place (~20%) - certificate

Blue (outstanding) ~20%, certificates

Green/Red - all other participants

### Senior Division

Grand Award (top 6 students and top team) - medal, certificate; participate in state science fair; may be sent to International science fair; scholarships; may compete for Weizmann award

1<sup>st</sup>-3<sup>rd</sup> place (~20%) - certificate, may be invited to participate in state science fair

Various special awards are given at the Fair by technical societies, professional associations and institutions, governmental agencies, and businesses. These are in addition to the category awards given by the Fair itself.

At the 2024 SEFMD, the value of all awards given including scholarships, was close to \$100,000. The particular awards are varied: plaques, books, certificates, company dinners and recognitions, cash awards and savings bonds. A four-week trip is awarded to attend the Weizmann Institute in Israel.

## MSEF/ISEF

The 31<sup>st</sup> Annual **Michigan Science and Engineering Fair (MSEF)** will be held on April 5, 2025 at Lawrence Technological University. All Senior Division 1<sup>st</sup> place winners and some selected 2<sup>nd</sup> place and 3<sup>rd</sup> place winners will be invited to participate in the State Fair. Students from other parts of the state may also participate in the state fair. State fair participants will be competing for state fair awards.

The **International Science and Engineering Fair (ISEF)** will be held in May, 2025, in Columbus, Ohio, and will be an in-person fair. Up to six individual Division Projects and one team project will be selected at the Metro Detroit Fair to compete at the ISEF. Over \$2 million in awards and scholarships will be presented.

## Senior Grand Award Winners for 2024

The following students were Grand Award winners at the **2024 SEFMD** and were able to participate in the in-person ISEF. (See the back page for ISEF results). We congratulate them for their success at the SEFMD!

**Tesko Chaganti** (grade 11), Canton High School, Translational Medical Science

**Sungwon (Daniel) Lee** (grade 11), Troy High School, Environmental Engineering

**Qian Li** (grade 11), Huron High School, Biomedical Engineering

**Haodong (Ryan) Wei** (grade 10), Cranbrook Kingswood Upper School, Robotics and Intelligent Machines

**Judy Bai** (grade 10), Greenhills School, Biomedical and Health Sciences

**Michael Hua** (grade 9), Cranbrook Kingswood Upper School, Robotics and Intelligent Machines

The following students were Grand Award winners at the **2024 MSEF**, held at Lawrence Tech University, and also participated in the ISEF.

**Vikram Goddla** (grade 12), Detroit Country Day School, Robotics and Intelligent Machines

**Mara Hammoud and Lara Hammoud** (grade 10), Detroit Country Day School, Cellular and Molecular Biology

**CONGRATULATIONS to all of these students!!**

### Judging - 3 Phases

#### 1-Entry Form

- is received on time
- is completed correctly
- is a project-not a book report
- complies with SRC/IRB pre-approvals (if necessary)

#### 2-Judging - Preliminary Round & Prof. Awards

- Online for all divisions

#### 3-Judging - Final Rounds

- Interviews (Sr)
- Possible Interviews (top Jr. Teams) - TBD
- Stand alone (Jr/Elem)
- Selection of ISEF Finalists (Sr)
- Selection of Jr Grand Awards

#### Scoring/Judging

- 10%-Research Question
- 15%-Design/Methodology
- 20%-Execution
- 20%-Creativity
- 35%-Presentation
  - 10%-Board
  - 25%-Interview

## SEFMD VALUES - S.E.A.R.C.H.

**S**cientific method  
**E**mpowering  
 Experience  
**A**ccess for **A**ll  
**R**ecognition  
**C**reativity and  
**C**onfidence  
**H**ighest Integrity  
 and Ethical  
 Behavior



## GRAND AWARD - Winning SCHOOLS (2021-2024)

Our 'virtual' office is:

**SEFMD**

PO Box 158  
Farmington, MI  
48332-0158

**Phone:**

(248) 471-9900

**Fax:**

(248) 479-0383

**E-mail:**

SF2025@sefmd.org

**Website**

[www.sefmd.org](http://www.sefmd.org)

**OR**

[www.sciencefair.info](http://www.sciencefair.info)

Allen Park High School (2022)

Baker MS (2024)

Bates Academy MS (2024)

Boulan Park MS (2022)

Canton HS (2024)

Clague M.S. (2021-2022)

Clippert Academy M.S. (2021-2022,  
2024)

Cranbrook Kingswood Upper (2021-2024)

Dakota High School (2023)

Davis Aerospace Technical HS (2022-  
2023)

Dearborn Center for Math, Science, and  
Technology (2022)

Detroit Country Day Upper School (2021-  
2024)

DPSCD Virtual School (2022)

Gompers Elementary/MS (2024)

Greenhills School (2024)

Huda School and Montessori (2023)

Huron H.S. (2022-2024)

International Academy (2021-2023)

Larson Middle School (2021-2024)

Nolan Elementary/M.S. (2021)

Novi Senior H.S. (2023)

Novi Middle School (2021)

Pasteur Middles School (2023)

Pioneer H.S. (2021)

Plymouth Scholars MS (2022)

Roeper Elementary School (2023, 2024)

Star International Academy (2024)

St. Patrick Elementary (2023)

Tawheed Center School (2023)

Troy High School (2021-2024)

West Bloomfield H.S. (2021)

## INTERNATIONAL SCIENCE FAIR RESULTS

The Regeneron International Science and Engineering Fair (ISEF) was held in May, 2024, in Los Angeles, CA, and the senior grand award winners from SEFMD and MSEF (whose names are given on the previous page) participated in ISEF. The awards received at the ISEF were as follows.

**Maya & Lara Hammoud**, 1<sup>st</sup> place (\$5000) category award in Cellular and Molecular Biology; \$500 award from the Qatar Research, Development, and Innovative Council

**Vikram Goddla**, 4<sup>th</sup> place (\$500) category award in Robotics and Intelligent Machines

**Haodong (Ryan) Wei**, 4<sup>th</sup> place (\$500) category award in Robotics and Intelligent Machines and the 2<sup>nd</sup> place (\$3000) Qorvo Innovator Award

**Tesko Chaganti**, 4<sup>th</sup> place (\$500 category award in Translational Medical Science

**Sungwon (Daniel) Lee**, scholarship valued at up to \$58,000 from Arizona State University

*(The photo at the right also includes the three students from the SW Michigan Science Fair in Kalamazoo: Aryaman Mishra, Suraj Dixit, and Jason Shaye.)*



## GRAND AWARD Winners - Elementary/Middle School

Simran Adnani, Nathan Gibbs, Dylan Key, Lakshya Matele, Sofia Morales Ruiz, Lara Natick, and Smayan Sharma were the students who won Grand Awards in the Elementary and Middle School Divisions at the 2024 SEFMD. Congratulations to all of these students! See you at the 2025 Fair!