

Science and Engineering Fair of Metro Detroit

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68th Annual Science Fair
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Kathy Kitzmann & Tim Fino,
Fair Co-Directors



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.

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!

WHO may enter the science fair?

- The SEFMD competition is open to all 3rd-12th 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 (3rd-5th graders), Junior Division (6th-8th graders) and Senior Division (9th-12th 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 68th 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.

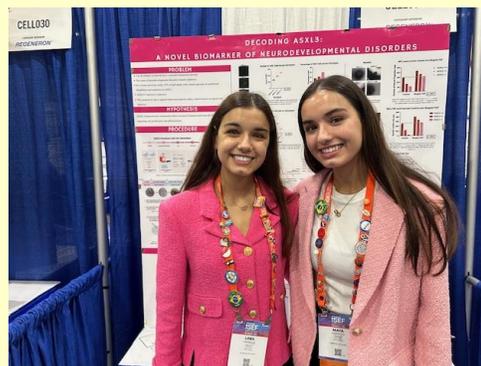
Senior Division students (grades 9-12) must submit these forms online by **Dec. 1** in order

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

1st-3rd 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

1st-3rd 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 31st Annual Michigan Science and Engineering Fair (MSEF) will be held on April 5, 2025 at Lawrence Technological University. All Senior Division 1st place winners and some selected 2nd place and 3rd 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.

Scientific method
Empowering
 Experience
Access for **A**ll
Recognition
Creativity and
Confidence
Highest 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
OR
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, 1st place (\$5000) category award in Cellular and Molecular Biology; \$500 award from the Qatar Research, Development, and Innovative Council

Vikram Goddla, 4th place (\$500) category award in Robotics and Intelligent Machines

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

Tesko Chaganti, 4th 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!