

2022 Senior Awards



Welcome

Students & Guests

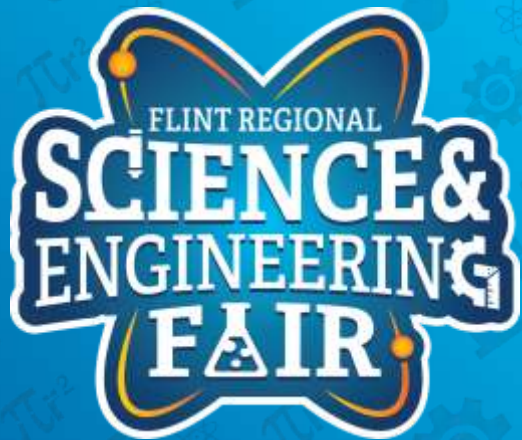


Our Mission

To inspire and empower curiosity, investigation, and understanding through science and engineering.

A huge “Thank you!”
to our hosts...





Masks are required.

You must wear a mask while indoors at all UM-Flint sites.

Masks are available at the entrance.

Scientific Review Committee

- Dr. Qazi Azher
- Dr. Andrew Wagner
- Dr. Martha Short
- Brian Weatherdon, P.A.
- Kathy Dutton
- Jordan Krell

Approval Form (18)

Assigned Title: _____

1. To be completed by Student and Parent

Student Name: _____

Parent Name: _____

Parent Signature: _____

Date: _____

2. To be completed by the School or Affiliated Fair Site

School Name: _____

Principal Name: _____

Principal Signature: _____

Date: _____

3. To be completed by the School or Affiliated Fair Site

Fair Site Name: _____

Fair Site Signature: _____

Date: _____

FRSEF Board of Directors

- **Mike Mosher, Retired – Kettering**
President & Operation Services
- **David C. Hill, Retired – Hill Funeral Home**
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- **Suresh Tumma**



Thank You to Our Generous Sponsors



James A. Welch Foundation



- Arthur G. Bishop Charitable Trust
- Stella and Frederick Loeb Charitable Trust

Thank You to Our Generous Sponsors



- Kavita & Suresh Tumma
- Cardiology Association of Port Huron
- Anna Paulina Foundation



Thank You to Our Generous Sponsors

Kettering
UNIVERSITY



Michigan Association of Hazardous Materials Professionals

- Mott Community College
- Mid States Bolt & Screw
- A Family Who Believes in Science
- Women's OB-GYN PC of Saginaw



Special Awards



American Meteorological Society

- Outstanding achievement for creative scientific endeavor in the areas of atmospheric and related oceanic and hydrologic sciences
- Anthony Daoud
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



American Psychological Association

- Outstanding research in psychological science under the category of behavioral and social sciences or any category related to psychology.
- Reece Metcalfe
 - The effect of gender on the severity of crime punishment



AMERICAN
PSYCHOLOGICAL
ASSOCIATION



ASM Materials Education Foundation

- Most outstanding exhibit in materials science.
- Arohi Nair
 - A Computational Approach to the Binding of Per- and Polyfluoroalkyl Substances to the PPAR γ Protein Receptor



ASM MATERIALS
EDUCATION FOUNDATION



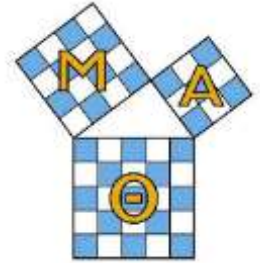
Association for Women Geoscientists

- High standard of innovativeness and scientific excellence in the geosciences.
- Julia Barnes
 - Heavy Metal Testing and Analysis of Water Quality in a Local Pond



MU Alpha Theta

- Demonstrates the most challenging, original, thorough, and creative investigation of a problem involving mathematics.
- Arohi Nair
 - A Computational Approach to the Binding of Per- and Polyfluoroalkyl Substances to the PPAR γ Protein Receptor



NASA EARTH System Science Award

- Best demonstrates insight into Earth's interconnected spheres.
- Emma Kato
 - The Repercussion of Removing Microplastics



National Oceanographic Atmospheric Association

- Research emphasizes NOAA's mission of Science, Service, and Stewardship:
 - *To understand and predict changes in climate, weather, oceans, and coasts, To share that knowledge and information with others, and To conserve and manage coastal and marine ecosystems and resources.*
- Anthony Daoud
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



Ricoh Sustainable Development Award

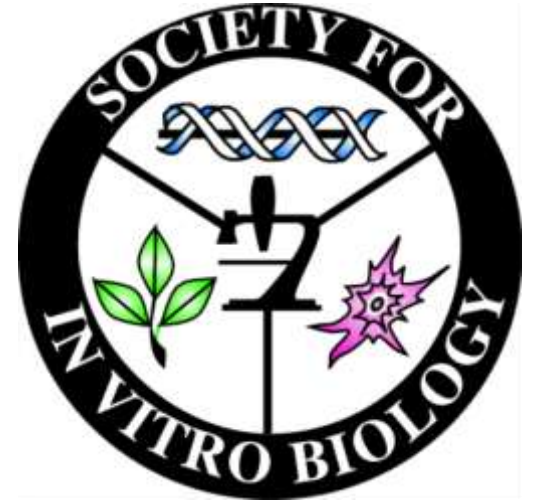
- Outstanding project that addresses issues of environmental responsibility and sustainable development.
- Devlin Wieszczeinski
 - Oyster Mushrooms (*Pleurotus ostreatus*) as a Biodegradation Agent of Naphthalene in Soil

RICOH
imagine. change.



Society of In-Vitro Biology

- Outstanding project that addresses issues of environmental responsibility and sustainable development.
- Shruti Singh
 - Effects of *Azadirachta indica* on *Staphylococcus Epidermidis*



Stockholm Junior Water Prize

- Best water-science projects
- Andrew Wagner
 - Hydrogen and Oxygen Gas Production from Water for a Marine Engine as a Function of Voltage and Electrolyte Concentration
- Arohi Nair
 - A Computational Approach to the Binding of Per- and Polyfluoroalkyl Substances to the PPAR γ Protein Receptor
- Anthony Daoud
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



US AID Science Champion

- Exceptional project that has the potential to make an impact on addressing international development challenges.
- Olivia Wagner
 - A Quantitative Graphic Study and Wilcoxon Signed Rank Analysis to determine if there is a Significant Gender Difference in Summer Olympic Uniforms



US Metric Association

- Best use of the metric system
- Niloy Islam
 - Developing a Smart Shoe to Count the Number of Steps Taken



US Air Force

- Excellence in Science, Technology, Engineering and Math
- Shaanbir Daod
 - Relationship between Exposure Time and Chance of Infection during Covid-19



U.S. AIR FORCE



US Navy and Marine Corps

- Excellence in Science, Technology, Engineering and Math

- Shaanbir Doad
 - Relationship between Exposure Time and Chance of Infection during Covid-19



Yale Science and Engineering Association

- Most outstanding 11th grade project exhibiting in the areas of Computer Science, Engineering, Physics, or Chemistry.
- Ayan Nair
 - Machine learning approach for predicting the location of atoms from the backbone of mutated proteins



Genesee County Medical Society

- Excellence in Medical Studies
- Winner receives plaque

- Saiyan Tabrej
 - Comparing the Depressive Properties of Conventional Chemicals on the Heart Rate of Daphnia Magna



Hurley Medical Center

- Excellence in Medical Studies
- Winner receives a trophy

- Ayan Nair
 - Machine learning approach for predicting the location of atoms from the backbone of mutated proteins



City of Flint – Mayor's Office

- Outstanding achievement in the Flint Science Fair
- 1st place Grand Award Winner receives certificate



Matthew Bauerle Mathematics Award

- Excellence in Mathematics
- 1st Award: \$50 Gift Card

- Arohi Nair
 - A Computational Approach to the Binding of Per- and Polyfluoroalkyl Substances to the PPAR γ Protein Receptor



Michigan Association of Hazardous Material Professionals

- Excellence in Environmental Science and Engineering
- Winner receives plaque

- Arohi Nair
 - A Computational Approach to the Binding of Per- and Polyfluoroalkyl Substances to the PPAR γ Protein Receptor



Michigan Association of Hazardous Materials Professionals



MIDHHS Explore Lab Science

- Creativity and exploration
- 3rd Award: Bronze medallion and certificate
- Saiyan Tabrej
 - Comparing the Depressive Properties of Conventional Chemicals on the Heart Rate of Daphnia Magna



MIDHHS Explore Lab Science

- Creativity and exploration
- 2nd Award: Silver medallion and certificate

- Niloy Islam
 - Developing a Smart Shoe to Count the Number of Steps Taken



MIDHHS Explore Lab Science

- Creativity and exploration
- 1st Award: Gold medallion and certificate

- Anthony Daoud
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



Kettering University Summer Programs

- Winner receives invitation and scholarship to Computer Engineering Day Camp
- Andrew Wagner
 - Hydrogen and Oxygen Gas Production from Water for a Marine Engine as a Function of Voltage and Electrolyte Concentration

Kettering
UNIVERSITY



McLaren Health - Behavioral and Social Science

- Outstanding Achievement in Behavioral and Social Science
- Winner receives a certificate.

- Jonathan Colon
 - Testing the Effects of Group Separation on the Superiority Complex



McLaren Health - Microbiology

- Outstanding Achievement in Microbiology
- Winner receives a certificate.

- Shaanbir Doad
 - Relationship between Exposure Time and Chance of Infection during Covid-19



McLaren Health - Biochemistry

- Outstanding Achievement in Biochemistry
- Winner receives a certificate.

- Anthony Daoud
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



McLaren Health - Medicine & Health Sciences

- Outstanding Achievement in Medicine & Health Sciences
- Winner receives a certificate.
- Shruti Singh
 - Effects of Azadirachta indica on Staphylococcus Epidermidis



McLaren Health - Cellular & Molecular Biology

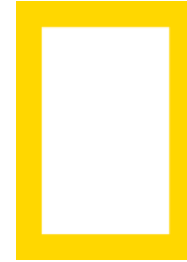
- Outstanding Achievement in Cellular & Molecular Biology
- Winner receives a certificate.

- Shruti Singh
 - Effects of Azadirachta indica on Staphylococcus Epidermidis



National Geographic Society – That's Geography! - Cultivating Empathy for the Earth Award

- Project focused on issues of oceans, land, wildlife, human histories & cultures, and human ingenuity
- Winner receives an award packet
- Andrew Wagner
 - Hydrogen and Oxygen Gas Production from Water for a Marine Engine as a Function of Voltage and Electrolyte Concentration



**NATIONAL
GEOGRAPHIC
SOCIETY**



Regeneron Biomedical Science Award 2022

- A project that leads with science, takes on big ideas, makes it happen, displays leadership ability, and does what is right
- Focus on Biomedical Science
- Winner receives \$500

- Sivani Mamillapalli
 - Effect of Salinity on Oleophilic Bacteria

REGENERON
SCIENCE TO MEDICINE®



Bosch Motorsport - Technology for the Fast Track Award

- Project demonstrates excellence in computer science or electrical engineering.
- Winner receives a certificate, Bosch Power Tools kit



BOSCH

- Rayen Aouadi
 - Using Machine Learning to Grade Student Written Essays



Bosch Motorsport - We Set the Pace Award

- Project demonstrates solutions for tomorrow's transportation needs.
- Winner receives a certificate, Bosch Power Tools kit



BOSCH

- Ethan Miller
 - Replacing conventional automotive suspension with magnetic suspension

Bosch Motorsport - Invented for Life Award

- Projects that improve quality of life, and that help conserve natural resources
- Winner receives a certificate, Bosch Power Tools kit



BOSCH

- Blaise Maliskey
 - Testing Ammonium-Phosphate Concentrations to Determine Which Is Best for Regrowth After Forest Fires



100K Ideas – Most Promising Future Business Award

- For outstanding inventors with business applications
- Winner receives business potential study

- Helsa Thomas
 - Bacterial Gram Staining of Air Purification Systems



Kettering University

- \$3,000 Renewable Scholarship for 4 Years
- Ethan Miller
 - Replacing conventional automotive suspension with magnetic suspension

Kettering
UNIVERSITY



University of Michigan-Flint

- Full tuition and mandatory fee scholarship for 4 years
- Top 3 Grand Award Winners



Senior Awards



Honorable Mention



Honorable Mention

- Ahmed Mirza
- Amari Carthron
- Antwone Humes
- Dev Patel
- Emily Kinnicutt
- Gabriel Howald
- Gavin Gwizdala
- Gwyndolin Park
- Haider Tuma
- Hudson Strayer
- Jaideep Gill
- Jordan Gaiter
- Kaleah Walker
- Leland Petelka
- Logan Smith
- Lorraine Bigger
- Marcello Gonzalez
- Nathaniel Watson
- Tanvi Malewar
- Vanessa Burkhard



Research Fellow



Research Fellow

- Aanchal Jain
- Akhilesh Kanmanthreddy
- Alexej Goychay
- Andrew Hunter
- Arohi Nair
- Aryan Maniar
- Audrey Wong
- Blaise Maliskey
- Cade Coonan
- Chitleen Singh
- Emma Guza
- Emma Kato
- Gavin Gutierrez
- Helsa Thomas
- Jonathan Colon
- Joseph Crachiola
- Leiana Trumble
- Levi Asiala
- Mason Weinstein
- Mohammad Tuma
- Nick Shepich
- Paris Ngo
- SAMHITH GINJUPALLI
- Sarah Parashar
- Sivani Mamillapalli
- Tara Lee
- Xavier Laffoon





Thank You!

**Parents, Teachers. Mentors,
Family and Friends...**

Judges and Volunteers...

for encouraging all these young minds. Our future is in good hands with children like these!

7th Award



7th Award

- Kole David Goychay
- Saiyan Tabrej
- Reece Metcalfe
- Md. Jubaeear Rahman
- Evan VanDriessche
- Shruti Singh
- Julia Barnes
- Abbie Wong
- Ethan Miller
- Harman Singh



6th Award

- \$200 Cash



6th Award

- \$200 Cash
- Gabriel Gipson
- Niloy Islam
- Sharmitha Bandla
- Devlin Wieszczecinski
- Ayan Nair
- Braydon Evans
- Shaanbir Doad
- Armaan Mahajan
- Addison Wagner



5th Award

- \$400 Cash



5th Award

- \$400 Cash
- Ricardo Pastor
- Colin Kaul
- Miriam Haddad
- Arjun Singh
- Andres Flores
- Rayen Aouadi*

**ISEF Alternate*



ISEF 2022

- ISEF 2022 is an in-person event!
- The Top 4 Award Winners will be attending ISEF
- All-expense paid trip for 1 week to Atlanta, GA



4th Award

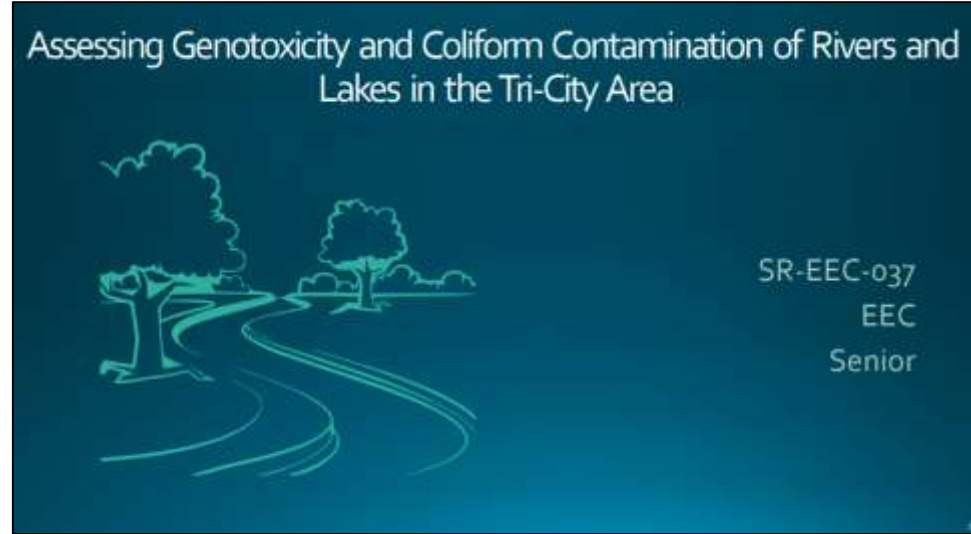
- \$500 Cash
- ISEF Competitor



4th Award

- \$500
- ISEF Competitor

- Anthony Daoud
 - Saginaw Arts & Sciences Academy
 - Assessing Genotoxicity and Coliform Contamination of Rivers and Lakes in the Tri City Area



3rd Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint



3rd Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint

- Olivia Wagner
 - H. H. Dow High School
 - A Quantitative Graphic Study and Wilcoxon Signed Rank Analysis to determine if there is a Significant Gender Difference in Summer Olympic Uniforms

A Quantitative Graphic Study and Wilcoxon Signed Rank Analysis to determine if there is a Significant Gender Difference in Summer Olympic Uniforms



Figure 1: Women's track outfit compared to men's track outfit worn by the same model <https://www.youtube.com/watch?v=...>



Figure 2: USA track players show the trade off on the 400 relay <https://www.youtube.com/watch?v=...>

Project ID SR-LS-087
Category
Senior Division

2nd Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint



2nd Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint

- Andrew Wagner
 - Nouvel Catholic Central High School
 - Hydrogen and Oxygen Gas Production from Water for a Marine Engine as a Function of Voltage and Electrolyte Concentration

Hydrogen and Oxygen Gas Production from Water for a Marine Engine as a Function of Voltage and Electrolyte Concentration

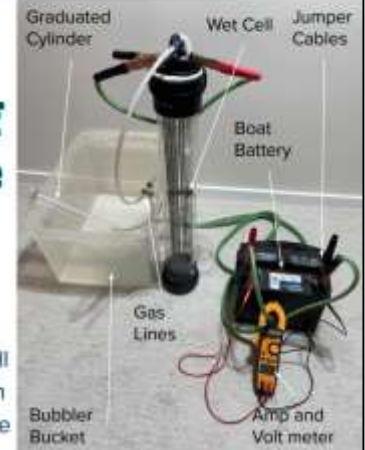
SR-PSE-054

Category PSE

Senior Division

Designing, engineering and producing a new wet cell system with automotive batteries to produce enough Hydrogen and Oxygen (HHO) gas for a Marine Engine

Figure 1: The Apparatus Dry



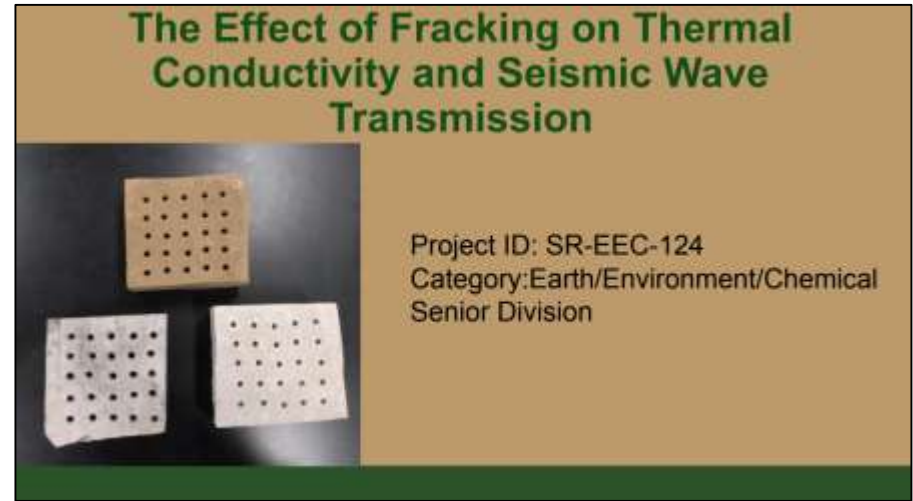
1st Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint



1st Award

- \$500
- ISEF Competitor
- 4-Year Scholarship to UM-Flint



- Jett Miller
 - Saginaw Arts & Sciences Academy
 - The effect of fracking on thermal conductivity and seismic wave transmission

ISEF 2022 – Let's Keep On Winning!

- Short time frame to register.
- We will have an information meeting this week.
- Watch your email for more instructions!





Awards and certificates will be mailed to everyone not in attendance.

Projects will be available for viewing at ***flintsciencefair.org***



**Thank You
for attending.**

See you next year!

visit us online:
flintsciencefair.org









