

MSEF 2021 Category Award Winners

| Division | Name | Grade | School Name | Teacher Name |
|------------|---|-------|--|--------------------|
| | Category | | Title | |
| Division S | | | | |
| 0 | Margaret Yang Energy | 11 | Cranbrook Kingswood Upper School Engineering Multi-Enzyme Whole-Cell Biocatalysts for Biofuel Production | Stephanie Kokoszka |
| 0 | Michelle Hua Robotics & Intelligent Machines | 10 | Cranbrook Kingswood Upper School Dilated Silhouette Convolutional Neural Network for Human Action Recognition | Allwyn Cole |
| 1 | Diya Ramesh Computational Biology & Bioinformatics | 10 | International Academy Sputum-Based mRNA-Targeting Probes in Lung Cancer - An Early Diagnostic Tool | Renee Kiriazis |
| 1 | Nicholas Kalkanis Biomedical & Health Sciences | 11 | Detroit Country Day Upper Evaluation of Raman Spectroscopy Probe in the Diagnosis of Brain Tumors | Duha Fahmy |
| 2 | Christopher Bernitsas Energy | 11 | Detroit Country Day Upper Towards Development of a Fish-Symbiotic Hydrokinetic Energy Harvester | Patricia Hanlan |
| 2 | Audrey Gunawan Translational Medical Science | 12 | West Bloomfield High School Developing an Opioid Painkiller Alternative using the Epigenetic Correlation b | Nic Fraylick |
| 2 | Angela Xu with Ethan Chen and Jonathan Chen Biomedical Engineering | 11 | Troy High School Non-contact Continuous Cardiovascular Monitoring System | Rebecca Brewer |
| 2 | Maria Cheriyan Systems Software | 12 | Detroit Country Day Upper Towards Affective Gaming for Post-ICU Lung Rehabilitation | Karen Lamb |
| 3 | Adam Sun Robotics & Intelligent Machines | 12 | Detroit Country Day Upper Efficient Monocular Depth Estimation with Fully-Convolutional Neural Networks | Rami Baroodi |

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| 3 Aaryan Chandna with Mick Gordinier Systems Software | 11 | West Bloomfield High School | Nic Fraylick Strategic Analysis of Streak Shooting in the NBA |
| 3 Evelyn Wang with Anjali Debrah Biomedical Engineering | 9 | MSEF-Midland HH Dow HS | Diane White Smart Vaccine Transportation and Storage Device |
| 3 Sneha Dinda Materials Science | 12 | Troy High School | Rebecca Brewer Mechanochemical synthesis of nanocrystalline hydroxyapatite |
| 3 Ali Alomari Behavioral & Social Sciences | 12 | Detroit Country Day Upper | John Doughert Optimizing Pandemic Related Shutdowns |
| 3 James Wolf Engineering Mechanics | 12 | MSEF-Saginaw Arts and Sciences | John Barnes Constructing a 3D Printer for the Fused Deposition Modeling of Solid Hydrogels |
| 4 Mikul Saravanan Robotics & Intelligent Machines | 10 | Cranbrook Kingswood Upper School | Stephanie Kokoszka Smart robot to purify, humidify and disinfect the air |
| 4 Gary Xu Physics & Astronomy | 11 | Troy High School | Rebecca Brewer Properties of Stellar Binaries |
| 4 Pooja Kannappan Translational Medical Science | 11 | Bloomfield Hills High School | Noelle Collis Investigating Differential Gene Regulation in the PBMC of Obese Adolescents |
| 4 Kristine Ma with Raha Zaman Behavioral & Social Sciences | 11 | Detroit Country Day Upper | John Dougherty Identifying a Possible Alternative Method to Diagnose ADHD through Saccades |
| 4 Akshara Karthik with Arya Goel Cellular & Molecular Biology | 11 | International Academy | Renee Kiriazis Identifying How To Directly Reprogram Other Cell Types Into Fibroblast Cells |
| 4 Vikram Goddla Computational Biology & Bioinformatics | 9 | Detroit Country Day Upper | Karen Lamb A comprehensive AI solution for largescale screening of Diabetic Retinopathy |

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| 4 | Akshith Pulgam Biomedical Engineering | 11 | Pioneer HS Can a Glove Stop Heart Attacks? | Steve Armstron |