**Students earn TOP awards at 2019 International Science and Engineering Fair**

**Special TOP Awards
 Craig R Barrett Award for Innovation, First award of $10,000** BMED046 — *A Novel, Noninvasive Approach to Melanoma Diagnosis Using Optical Coherence Tomography and Bioconjugated Gold Nanoparticles* Shriya Reddy, Northville High School, MI, United States of America

**Category Awards
 Biomedical and Health Sciences, Best of Category Award of $5000 plus $1,000 to School and $1,000 to local Science Fair** BMED046 — *A Novel, Noninvasive Approach to Melanoma Diagnosis Using Optical Coherence Tomography and Bioconjugated Gold Nanoparticles* Shriya Reddy, Northville High School, MI, United States of America

 **Biomedical and Health Sciences, First Award of $3000** BMED046 — *A Novel, Noninvasive Approach to Melanoma Diagnosis Using Optical Coherence Tomography and Bioconjugated Gold Nanoparticles* Shriya Reddy, Northville High School, MI, United States of America

 **Biomedical and Health Sciences, Second Award of $1,500** BMED047 — *Enabling Influenza Virus-like Particles (VLPs) as a Universal Vaccine* Madeleine Yang, Detroit Country Day School, MI, United States of America

 **Behavioral and Social Sciences, Third Award of $1,000** BEHA033 — *A Data-Driven Optimization of Economic Resource Allocation* Vihaar Nandigala, Walled Lake Western, MI, United States of America
 **Computational Biology and Bioinformatics, Fourth Award of $500**
 CBIO020 — *Deep Learning to Evaluate the Combinatorial Impact of Genetic Variants on Gene Expression* Collin Wang, Detroit Country Day School, MI, United States of America

**Professional Award Organization Awards
National Aeronautics and Space Administration**

The National Aeronautics and Space Administration (NASA) is the United States government agency responsible for the nation's civilian space program and for aeronautics and aerospace research. Founded in 1958, NASA drives advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.
**Second Award of $750** ROBO037 — *Hardware Integrated LiDAR Simulation for the Development of Collision Avoidance Algorithms* Matthew Tan, Cranbrook Kingswood School, Stevensville, MI, United States of America