High-Schoolers Receive ASA Awards at the 2023 International Science and Engineering Fair

Abbey L. Thomas and Peter F. Assmann

Figure 1. ***Left to right:*** *Michelle Hua, Peter Assmann (ASA Lead Judge), Shodai Tanaka, and Anton Bulancea.*

Acoustical Society of America (ASA) members representing the Society as a Special Awards Organization presented high-school finalists with prizes for outstanding acoustics projects at the Regeneron International Science and Engineering Fair (ISEF) held in Dallas, Texas, on May 13-19, 2023. The ASA judging team included Peter F. Assmann (lead judge), Abbey L. Thomas, Satwik Dutta, and Nursadul Mamun from the University of Texas at Dallas, Richardson, Texas, and Christopher Ainley from Wrightson, Johnson, Haddon & Williams, Inc. Fifteen acoustics projects were selected from over 1,600 projects for an in-person review by the ASA judges, and the finalists who received awards from the ASA each demonstrated an in-depth understanding of acoustic principles relevant to their projects. The projects by this year's winners of the ASA awards showcased acoustic theories and applied them in innovative ways.

Shodai Tanaka (Sapporo Kaisei Secondary School, Sapporo, Hokkaido, Japan) was awarded first prize for his project *A Mathematical Study About the Sustaining Phenomenon of Overtone in Flageolet Harmonics on Bowed String Instruments*. Shodai demonstrated impressive knowledge of and passion for this complex topic. His presentation was clear and informative despite the complex equations his model included. Shodai will receive a cash prize of $1,500.00. The ASA will also send $500.00 to his mentor and $200.00 to his school.

Anton Bulancea (Pushkin Lyceum, Chisinau, Moldova) won second prize for his project *Designing and Building an Acoustic Levitation Prototype*. The judges were amazed by Anton's enthusiasm for the project and his grasp of the physics of acoustic levitation. Anton demonstrated extensive work and initiative in building and testing his system. Anton will receive a cash prize of $1,000.00. The ASA will also send $250.00 to his mentor and $100.00 to his school.

Michelle Hua (Cranbrook Kingswood School, Bloomfield Hills, Michigan) was awarded the ASA third prize for her project *3D Acoustic Simulation and Optimization Algorithms for Transcranial Focused Ultrasound Delivered with Robotic Systems.* The judges were impressed by Michelle's understanding of how different materials affect the propagation of ultrasonic waves. Michelle will receive a cash prize of $600.00, and her mentor will receive $150.00.

Anu Iyer (Little Rock Central High School, Little Rock, Arkansas) won the honorable mention for the second consecutive year. Anu's current project, *VAST (Voice and Spiral Tool): A Novel Multimodal Machine Learning Method to Detect Parkinson's Disease and Assess Severity*, built on her work from the previous science fair. Anu demonstrated a thorough understanding of the unique acoustic features of voices of patients with Parkinson's disease. The judges commend Anu for her dedication to this project.

All awardees, including the honorable mention, are invited to attend the next ASA meeting, with waived registration fees. Please see exploresound.org/isef-asa-winners to read the abstracts of these ASA awardees. The judging team was inspired by the quality of the studies produced by these young scientists and their fellow finalists. The judges commend these students for their enthusiasm and devotion to scientific study and look forward to seeing their future contributions to the field of acoustics and beyond.

Contact Information

Abbey L. Thomas Abbey.Thomas@UTDallas.edu

University of Texas at Dallas
Richardson, Texas 75080-3021, USA

Peter F. Assmann assmann@utdallas.edu

University of Texas at Dallas
Richardson, Texas 75080-3021, USA

https://doi.org/10.1121/AT.2023.19.3.75