

**Global Youth Science and Technology Bowl (GYSTB) 2021**  
**Award List**  
**Phycis and Engineering (PE) Category**

<b>Award</b>	<b>Team No.</b>	<b>Project Title</b>	<b>Country</b>
Grand Prize - Gold Award	IAPE03	Sanjeevani: A Novel Automated System for Hospital Acquired Infection Monitoring and Prevention	United States
Grand Prize - Gold Award	IAPE05	C.A.R.D. - Augmented Reality Game for Identifying Early-age School Kids with Dyslexia	Hong Kong
Grand Prize - Silver Award	IAPE22	Eye-tracking Powered Wheelchair	Qatar
Grand Prize - Silver Award	IBPE20	Using Artificial Intelligence and Algorithms for Natural Language Processing to Analyze the Emotions of Gender in Literature and Songs	Sweden
Grand Prize - Bronze Award	IAPE08	Robovid20: A Novel Robotic Arm for Social Distancing, Using Tele-operation, Pneumatic Actuators and Haptic Technology to Give a Sense of Touch to the User.	India
Grand Prize - Bronze Award	IBPE14	Stool Recognition for Colorectal Cancer Detection through Deep Learning	Singapore
First Prize	IAPE06	Super Skin	Hong Kong
First Prize	IAPE37	Life Saver	Romania
First Prize	IAPE39	Development of a Position and Orientation Sensor for Robotics	South Africa
First Prize	IAPE50	Car Accident Monitoring and Prevention System Using Driver's Drowsiness Detection	Thailand
First Prize	IAPE62	Juan Wheel: Automated -Hybrid Powered Wheelchair Made of Bamboo	Philippines
First Prize	IBPE19	Smart Knee Brace Diagnostic Device Built on Arduino-Enhanced Joint Evaluation Algorithm	South Korea
Second Prize	IAPE07	Prediction Dyslexia with Machine Learning and Using Mobile Based Eye Tracker	Macau
Second Prize	IAPE38	IndivHear: An Inexpensive Smartphone-based Individualized Adaptive Hearing Aid Using Deep Learning	India

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Second Prize	IAPE42	Using Machine Learning to Improve Numerical Weather Prediction	Ireland
Second Prize	IAPE45	Contactless and Non-destructive Detection of Chicken Meat Contamination with Laser Speckle Method	Turkey
Second Prize	IBPE01	Investigation of Self-oscillations in Hydrodynamic Systems	Ukraine
Second Prize	IBPE08	Solar Heater - Sole	South Africa
Second Prize	IBPE09	Blob birth zone Position in the Edge Plasma of Tokamak GOLEM	Czech Republic
Second Prize	IBPE22	Earthquake Magnitude and b-value Prediction Model using Extreme Learning Machine	India
Third Prize	IAPE19	A Novel Design for Wind Turbine to Harvest Air from Four Directions in Urban Spa	Qatar
Third Prize	IAPE20	Automated Fluid Handling Machine	Qatar
Third Prize	IAPE33	The Effect of Nitinol and Metal Flexibility on Vehicle Reliability	Turkey
Third Prize	IAPE34	Deaf Sound Tracker - DST	United Arab Emirates
Third Prize	IAPE48	Biodegradable Cushioning Foam from Natural Composite Rubber and Extracted Cellulose Coated on 3D Mold for Laboratory Glassware	Thailand
Third Prize	IAPE59	Securing QR Codes: Implementation of Data Integrity System of QR Codes by Applying Hash	South Korea
Third Prize	IBPE04	Curve Optimization Using Curvature Based Models with Calculus of Variations	South Korea
Third Prize	IBPE07	Gait Monitoring and Analysis of Parkinson's Disease Patients	Singapore
Third Prize	IBPE17	Real-time Monitoring of Iron Oxide-Based Magnetic Nanoparticles for Escherichia coli Detection in Vitro using a High Sensitivity Magnetic Impedance Sensor	Thailand
Third Prize	IBPE23	Iron Oxide Nanoparticle for Local Heating in Cancer Treatment	Vietnam

Award	Team No.	Project Title	Country
Honourable Mention	IAPE09	Autonomic Heating Gloves	Ukraine
Honourable Mention	IAPE12	Specs - A Wearable Smart Device for Dementia Patients	Ireland
Honourable Mention	IAPE21	Design and Development of Silicon based Air Actuated Soft Robot Hand for Prosthetic Application	Qatar
Honourable Mention	IAPE26	Carbon and Dust Capture for Qatar Construction Sites	Qatar
Honourable Mention	IAPE30	Utilization of Humidity for Cleaning Solar Panels in Qatar	Qatar
Honourable Mention	IAPE51	Using Smart Buoys to Build the Global Four-in-one Internet of Things	Macau
Honourable Mention	IAPE52	System for Controlling Thermometry and Hand Treatment with the Dispenser Anticovid-19	Russia
Honourable Mention	IAPE53	An Innovation of Patient Heart Rate and Oxygen Saturation Analysis and Monitoring Technology Based On Internet of Things Technology In Pressing The Transmission of Covid-19	Indonesia
Honourable Mention	IAPE54	Transporter with Internet of Things (IoT) Based Camera	Indonesia
Honourable Mention	IAPE55	SOMATA (Pattern detection on guiding blocks for the visually impaired)	Indonesia
Honourable Mention	IAPE63	A Hand Prosthesis Controlled by Electromyography	South Africa
Honourable Mention	IAPE64	Detection and Classification of Cardiac Arrhythmia Using Machine Learning	South Africa
Honourable Mention	IAPE65	Predicting COVID-19 Trends in Vietnam Using Mathematical Models	Vietnam
Honourable Mention	IAPE66	Fabrication and Characterization of Fe <sub>2</sub> O <sub>3</sub> Nanoparticles for Drug Delivery Application	Vietnam
Honourable Mention	IBPE02	Image Analysis of Rehabilitating Patients' Exercise to Measure and Improve Recovery	Ireland

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Honourable Mention	IBPE06	Angle of Attack of an Aircraft Wing	South Africa
Honourable Mention	IBPE13	The Application of Phyphox in Vehicle Stability Research of the Public Transportation in Macao	Macau
Honourable Mention	IBPE24	Synthesis ZnO nanoparticles for Solar Cells Application	Vietnam