2025 USEF - Senior Division

Category and Rank	Name	School	Project Title
Behavioral & Social Sciences - First	Aadi Mishra	The Waterford School	Engaging Minds, Debunking Lies: Using Moral Foundations to Fight Misinformation
Behavioral & Social Sciences - Second	Jacob Tanner	Juan Diego Catholic High	Characterizing an IHK Mouse Model of Epilepsy With a Focus on Seizure Frequency
Behavioral & Social Sciences - Third	Sienna Vonderhoe	Juan Diego Catholic High	The Emotional and Physical Experiences of Adolescents from Coloring
Behavioral & Social Sciences - Fourth	Matthew Tita	Juan Diego Catholic High	Student Testing Behavior in Response to Repeating Answers on Multiple Choice Tests
Biology & Microbiology - First	Eli Hatton	Rowland Hall	Investigation of Biophysical Relationships Between a Unique Codon Reassignment, Morphological Plasticity, and Virulence in Candida Fungal Pathogens of the CTG Clade
Biology & Microbiology - Second	Nina Zhu	West High	Investigating the Induction of Dedifferentiation and Cellular Plasticity in Mouse Bone Progenitor Cells by Antler Regeneration-Associated Proteins
Biology & Microbiology - Third	Jialai Ying	Skyline High	The Role of the Lysine-rich Domain of Pcdh-α Constant Region in Dendrite Growth
Biology & Microbiology - Fourth	Kayla Portman	Juan Diego Catholic High	Uncovering Genetic Adaptations for Species' Survival in a Changing Climate
Chemistry & Biochemistry - First	Thea DeBellis, Ainsley Moore, Rachel Brague	Rowland Hall	Blooming solutions: Transforming eutrophic algal blooms into biofertilizers
Chemistry & Biochemistry - Second	Rainer Slattery	Highland High	Fish Sunscreen: Total Synthesis of Gadusol
Civil & Environmental Engineering - First	Aneesh Rao	Skyline High	Enhancing Water Quality and Soil Reusability through Bio-Organic Biochar : A Novel Approach to Environmental Remediation and Sustainability
Civil & Environmental Engineering - Second	Abigail Downs, Rebecca Miles, Liam Decker	Rowland Hall	Improving sustainable industrialization: Macroalgae Halimeda opuntia as a substitute for calcite in a novel biocement
Civil & Environmental Engineering - Third	Aiden Karnam	The Waterford School	We are the gateway of PFAS compounds in the environment
Civil & Environmental Engineering - Fourth	Victor Young, Forest Young	Skyline High	FlameFender
Computer Science & Applied Computational Methods - First	Narayani Shankar	Hillcrest High	Virtual Reality and Neural Networks for Enhancing Neck Mobility
Computer Science & Applied Computational Methods - Second	Aiden Gandhi	Rowland Hall	U-Net Vertebrae Segmentation for Spinal Cord Stimulation
Computer Science & Applied Computational Methods - Third	Wenray Zhang	Hillcrest High	Predicting Lung Adenocarcinoma Using Gene Expression and Artificial Intelligence Techniques
Computer Science & Applied Computational Methods - Fourth	Atharv Khemka	West High	Mathematical Modeling of Cancer Tumor Growth Using Logistic Growth Equations
Earth & Environmental Sciences - First	Samantha Gillman, Lucia Horner	Salt Lake Center for Science Education (SLCSE)	A Study of Daphnia and Insect Repellents to Save the Environment.
Earth & Environmental Sciences - Second	DJ Dimick	Salt Lake Center for Science Education (SLCSE)	How do two constructed wetlands affect the water quality flowing into the Jordan River?
Electrical Engineering - First	Ethan Bo	Judge Memorial	A Novel Axial Flux Synchronous Reluctance Induction Motor Hybrid
Electrical Engineering - Second	Anda Xie	West High	Appliance X-Ray: A Novel Inference-Based Approach in Circuit Image to Schematic Translation with YOLOv5, Matching and Graph Convolutional Networks
Electrical Engineering - Third	Srivatsav Sura, Srinath Ramakrishnan, Navin Karthik	Hillcrest High	The Biomechanical Knee Orthotic System (BKOS)
Electrical Engineering - Fourth	Andrew Yenchek	Skyline High	Signal Transmission Through Aqueous Salt Solutions
Energy: Chemical & Physical - First	Anna Lui, Isaac Granger	Rowland Hall	Investigating effectiveness and efficiency: Yeast-algae co-cultures in microbial fuel cells
Energy: Chemical & Physical - Second	Tindur Christianson	The Waterford School	Improving the entrained flow gasification process through research into the characteristics of various bio-liquid mixtures
Energy: Chemical & Physical - Third	Adolfo Contreras	Salt Lake Center for Science Education (SLCSE)	Portable Wind Turbine

Mechanical & Materials Engineering - First	Bala Naga Sahasra Tella	West High	Engineering Fluorapatite for Bone Scaffolds: The Role of Thermal Processing in Structural Performance
Mechanical & Materials Engineering - Second	Lavanya Mohnani	Hillcrest High	Regenerate to Generate Novel Advanced Biomaterials for the Cardiovascular System
Mechanical & Materials Engineering - Third	Ian Jake Kim	West High	Reducing Hydrofluorocarbon Emissions: Fine Tuning Phase Transitions in Two-Dimensional (2D) Perovskites For Solid-State Refrigeration
Mechanical & Materials Engineering - Fourth	Fiona Jiang	The Waterford School	Saving Implants, Saving Lives: Computational Design of Nanoscale Coatings for Titanium Implant Protection
Medicine, Health Sciences, & Biomedical Engineering - First	Samuel Lu	Rowland Hall	The Role of the Small GTPase ARF6 in Mediating Oxidative Stress-Induced Senescence in the Retinal Pigment Epithelium
Medicine, Health Sciences, & Biomedical Engineering - Second	Krishnam Goel	West High	Cutting the Cord: Using Inductive Coupling Principles & Litz Coils to Wirelessly Power Implanted Batteries and Sensors
Medicine, Health Sciences, & Biomedical Engineering - Third	Mingchuan Cheng	West High	Correcting temporal inaccuracies using a trial-by-trial myoelectric signal realignment algorithm.
Medicine, Health Sciences, & Biomedical Engineering - Fourth	Aimee Solzbacher	Rowland Hall	Development of a simulator for blindness to define the requirements for visual prosthesis with eye-tracking and the focusing of phosphenes
Physics, Astronomy & Math - First	Aadhi Umamageswaran	West High	Serenading Sands: Sketching Avian Sounds
Physics, Astronomy & Math - Second	Maximus Widmaier	Juan Diego Catholic High	Stellar simulations: How fuel density and temperature affect fusion reaction rates
Physics, Astronomy & Math - Third	William Hall	Salt Lake Center for Science Education (SLCSE)	An Analysis of Cosmic Ray Data compared to weather patterns
Plant Sciences - First	Betty Otterstrom-Young	Salt Lake Center for Science Education (SLCSE)	Remediating the soil with mycorrhizae
Plant Sciences - Second	Aditi Rao	Skyline High	A Novel Green Strategy for Mitigating Drought Stress: Investigating the Impact of Varied Concentrations of different Biodegradable Hydrogels on Enhancing Drought Resistance in Zea Mays
Plant Sciences - Third	Hannah Tsao	West High	Decontaminating Our Great Salt Lake utilizing Tagetes Erecta & Tagetes Patula for Phytoremediation
Plant Sciences - Fourth	Phuc An Nguyen	Hunter High	Aloe Barbadensis Bioplastic Wrap: A Natural Solution for Prolonging Food Freshness

Regeneron ISEF Observers			
Observer	Aimee Solzbacher	Rowland Hall	Development of a simulator for blindness to define the requirements for visual prosthesis with eye-tracking and the focusing of phosphenes
Observer	Ian Jake Kim	West High	Reducing Hydrofluorocarbon Emissions: Fine Tuning Phase Transitions in Two-Dimensional (2D) Perovskites For Solid-State Refrigeration

Regeneron ISEF Alternates			
1st Alternate	Mingchuan Cheng	West High	Correcting temporal inaccuracies using a trial-by-trial myoelectric signal realignment algorithm
2nd Alternate	Bala Naga Sahasra Tella	West High	Engineering Fluorapatite for Bone Scaffolds: The Role of Thermal Processing in Structural Performance

Regeneron ISEF Grand Champion Winners			
Winner	Ethan Bo	Judge Memorial	A Novel Axial Flux Synchronous Reluctance Induction Motor Hybrid
Winner	Krishnam Goel	West High	Cutting the Cord: Using Inductive Coupling Principles & Litz Coils to Wirelessly Power Implanted Batteries and Sensors
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