

USEF 2018 - Senior Division			
Category and Rank	Name	School	Project Title
Behavioral & Social Sciences - First	Daphne Liu & Mia Yu	West High	Undetected Suicide: Classification of Undetermined Drug Overdose Deaths Using Machine Learning Techniques
Behavioral & Social Sciences - Second	Emma Sun	The Waterford School	Externality Framing Effects on Cognition
Behavioral & Social Sciences - Third	Sanjana Kargi & Dua Azhar	Beehive Academy	Can a Student's Knowledge of Their Test Scores Affect Improvement?
Behavioral & Social Sciences - Fourth	Sasha Singh & Sahana Kargi	Beehive Academy	Virtual Reality: The new approach to education
Biology & Biochemistry - First	Christopher Li	West High	Molecular and Functional Characterization of a Novel p16 Mutation in Patients with Multiple Primary Melanoma
Biology & Biochemistry - Second	Olivia Slaughter & Molly Chien	Salt Lake Center for Science Education (SLCSE)	An Investigation of Host Choice Using the Feather Louse <i>Columbicola columbae</i>
Biology & Biochemistry - Third	Connor Smith & Alexander Housley	Salt Lake Center for Science Education (SLCSE)	Off With Their Heads: An Investigation of the dietary patterns of <i>Pogonomyrmex occidentalis</i> and <i>Pogonomyrmex ruginosus</i>
Biology & Biochemistry - Fourth	Sreemanti Dey	Skyline High	Developing SieA Overcoming Mutants of P22
Chemistry - First	Nihal Kariparduc & Zachary Maynard	Beehive Academy	The Effect of Photodegradation and Ozonation on Polymers
Chemistry - Second	Jose Galang	Juan Diego Catholic High	Temperature and Sublimation Rate Measurements of a Single Graphite Nanoparticle
Chemistry - Third	Parker McKay	Alta High	The Correlation Between Brand of Painkillers and Speed of Capsule Breakage
Chemistry - Fourth	Ayden Carbaugh	Juan Diego Catholic High	Synthesis of Peptide Conjugates
Earth & Environmental Sciences - First	Wensen Zhang	Hillcrest High	Prediction of Hurricanes Using Neural Networks
Earth & Environmental Sciences - Second	Acacia Ott	Salt Lake Center for Science Education (SLCSE)	How do Pollutants from Microfibers Affect Zebrafish Growth, Development, and Physiology?
Earth & Environmental Sciences - Third	Tejita Agarwal & Anisa Habib	West High	Thyroid Cancer Trends in Communities Exposed to Nuclear Fallout
Earth & Environmental Sciences - Fourth	Sophia Wrathall	Salt Lake Center for Science Education (SLCSE)	Elemental Composition of Particulate Matter
Energy: Chemical & Physical - First	Andrew Carlton	Alta High	What is the Ideal Ratio of Magnetism and Weight on a Simple Electric Train?
Energy: Chemical & Physical - Second	Julian Castillo	American Preparatory Academy	Underwater Sound
Energy: Chemical & Physical - Third	Hassan Ismail, Hassan Alsarrieh & Hector Flores	Salt Lake Center for Science Education (SLCSE)	Does octane rating on fuel effect the amount of particulate matter a car emits?
Engineering: Civil & Environmental - First	Isaac Bromley-Dulfano & Colin Pollard	AMES High School	Water Widget
Engineering: Civil & Environmental - Second	Grace Wang	West High	Investigating Granulated Activated Carbon Physisorption Potential for Plastic Microfiber Cleanup
Engineering: Civil & Environmental - Third	Jake Lawlor, Lydia Smith & Alon Meir	Highland High	Does controlling positive movement of traffic volume reduce CO2 emissions compared to traditional timed traffic lights?
Engineering: Civil & Environmental - Fourth	Alexandria Hong	Skyline High	Emergency Water Treatment Using Household Items
Engineering: Electrical & Computer Science - First	Shriya Pingali	West High	Using Neural Networks to Optimize Key-Length Prediction for Polyalphabetically Encrypted Text
Engineering: Electrical & Computer Science - Second	Ayush Nahata	Skyline High	Thermally Controlled Propagation Properties for a Metallic Terahertz Waveguide
Engineering: Electrical & Computer Science - Third	Pheonix Jones	Beehive Academy	Guardian : Anti-Bullying System
Engineering: Electrical & Computer Science - Fourth	Wentao Zhang	Hillcrest High	Evaluation of Encryption Algorithms
Engineering: Materials & Biomedical - First	Marina Gerton	West High	Mucoadhesive HA-based film releasing metronidazole to treat bacterial vaginosis
Engineering: Materials & Biomedical - Second	Alexander Cheng	Hillcrest High	Automatic Detection of Intravitreal Neovascularization in Retinal Flat Mount Images Using Deep Learning Methods
Engineering: Materials & Biomedical - Third	Kyllie Furukawa	Juan Diego Catholic High	Targeted Drug Delivery Using Thermoresponsive Nanotechnology for Cancer Therapy
Engineering: Materials & Biomedical - Fourth	Cynthia Chen	West High	Decellularized Bone Marrow Matrix Composite Materials for Mesenchymal Stem Cell Culture
Engineering: Mechanical - First	John York & James Eckstein	AMES High School	HoneyComb Armor
Engineering: Mechanical - Second	Rachel Maxfield	American Preparatory Academy	Creating a Low-cost Solution to Water Problems in Developing Countries
Engineering: Mechanical - Third	Spencer Kenison	Tooele High	Winglet Development

Engineering: Mechanical - Fourth	Dannion Nelson	American Preparatory Academy	Automatic Dog-Feeding Machine
Medicine & Health Sciences - First	Divyam Goel	West High	Viruses to the Rescue: Using D. Tsuruhatensis to Demonstrate Phage Therapy's Effectiveness Against Antibiotic Resistant Bacterial Biofilms
Medicine & Health Sciences - Second	Clara Tandar	West High	The Possible Suppression of FSH by a Regulatory Region of FSH-B
Medicine & Health Sciences - Third	Sai Parsawar	Hillcrest High	MS of MS: An Innovative Investigation of the Quantitative and Qualitative CSF Proteome of Multiple Sclerosis Patients using Bruker maXis II ETD Mass Spectrometry
Medicine & Health Sciences - Fourth	Cade Novara	Juan Diego Catholic High	The Effects of Sleep Deprivation on Seizure Threshold in C57BL/6J
Physics, Astronomy & Math - First	Tarun Kumar Martheswaran	The Waterford School	Exploring the Transmission and Strategic Intervention of Dengue Fever Using SIR Compartment Mathematical Modeling and Ordinary Differential Equations
Physics, Astronomy & Math - Second	Megan Zeng	Skyline High	Developing a Mathematical Model for the Reduction of Radiation Dose in Computed Tomography
Physics, Astronomy & Math - Third	Alan Zhao	Hillcrest High	Counting Elliptic Curves Over the Gaussian Rational Numbers
Physics, Astronomy & Math - Fourth	Emma Howard	Alta High	Diamagnetism in Salt Water
Plant Sciences - First	David Zhong	Skyline High	The Impact of Xylem Cavitation on Hydraulic Conductivity
Plant Sciences - Second	Dillon Boone & Jessie Flynn	Salt Lake Center for Science Education (SLCSE)	Using Isotope Analysis to Determine Archaeological features
Plant Sciences - Third	Srinithya Lakireddy	Beehive Academy	How do different types of lights affect plant growth?
Plant Sciences - Fourth	Sakyla Pratt & isabella Todd	Beehive Academy	The Aura Of Music

<b>Intel ISEF Grand Champion Winners</b>			
Observer	Rachel Maxfield	American Preparatory Academy	Creating a Low-cost Solution to Water Problems in Developing Countries
Observer	David Zhong	Skyline High	The Impact of Xylem Cavitation on Hydraulic Conductivity
Observer	Tarun Kumar Martheswaran	The Waterford School	Exploring the Transmission and Strategic Intervention of Dengue Fever Using SIR Compartment Mathematical Modeling and Ordinary Differential Equations
Winner	Daphne Liu & Mia Yu	West High	Undetected Suicide: Classification of Undetermined Drug Overdose Deaths Using Machine Learning Techniques
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