USEF 2019 - Senior Division			
Category and Rank	**Name**	**School**	**Project Title**
Behavioral & Social Sciences - First	Daphne Liu	West High	An Innovative Approach to Estimating Suicide Underreporting Among Opioid-Related Deaths Using Machine Learning
Behavioral & Social Sciences - Second	Emma Sun	The Waterford School	Exploring Motivated Numeracy
Behavioral & Social Sciences - Third	Leia Dorn	AMES High School	Talking About Difficult Topics
Behavioral & Social Sciences - Fourth	Paige Cameron	Juan Diego Catholic High	Characterizing Behavioral Comorbidities in Mouse Model of Dravet Syndrome
Biology & Biochemistry - First	Madeline Joklik-McLeod	Juan Diego Catholic High	p53-bad: a Novel Mitochondrially Targeted Gene Therapy for Ovarian Cancer
Biology & Biochemistry - Second	Christopher Li	West High	Utilizing Ligand Structuring Metaservers to Model Pathogenic p16 Mutation Effects on Binding Sites of Cell Signaling Pathways
Biology & Biochemistry - Third	Aiden Pasinsky	Beehive Academy	Can You Breed a Super Algae Through Forced Adaptation?
Biology & Biochemistry - Fourth	Dhruvan Gopinath & Daniel Elliott	Skyline High	pH Variations on the Rate of Reaction Between Diastase and Starch
Chemistry - First	Ryan Williamson	Juan Diego Catholic High	Emission Spectra of Single, Trapped Nanoparticles
Chemistry - Second	Ethan Lamé	Juan Diego Catholic High	Testing the Reaction Rate of Tetrazine and Isonitrile in Bioorthogonal Conditions
Chemistry - Third	Sofya Akhetova	Highland High	Fat Content in Foods
Chemistry - Fourth	Adam Larsen	Salt Lake Center for Science Education (SLCSE)	Bamboo's ability to Remediate arsenic contaminated water
Earth & Environmental Sciences - First	Anisa Habib & Tejita Agarwal	West High	An Epidemiological Study Quantifying Differences in Thyroid Cancer Risk Across Birth Cohorts and I-131 Exposure Levels
Earth & Environmental Sciences - Second	Tara Horscroft	Entheos Academy	Evaluating Salt Lake County Watershed Phase 2: A Six-Month Longitudinal Water Quality Study of the Jordan River Corridor, Salt Lake County, Including Wastewater Discharge Detection using Inexpensive Passive Samplers and a Multi-Point Chemical Assay to Promote Environmental Awareness
Earth & Environmental Sciences - Third	Wensen Zhang	Hillcrest High	Improvement in Hurricane Forecast Using Neural Networks
Earth & Environmental Sciences - Fourth	Tyler Young	Juan Diego Catholic High	How does the biodiversity of bird populations change along an urban gradient?
Energy: Chemical & Physical - First	Nihal Kariparduc & Zachary Maynard	Beehive Academy	Vibration Analysis in Additive Manufacturing
Energy: Chemical & Physical - Second	Elizabeth Raven	Juan Diego Catholic High	NADH Regeneration System at an Electrode by a Redox-Active Cobaltocene-PAA Diaphorase System for Biofuel Production
Energy: Chemical & Physical - Third	Erika Jensen	Alta High	Temperature And Train Efficiency
Energy: Chemical & Physical - Fourth	Hassan Alsarrieh & Hector Flores	Salt Lake Center for Science Education (SLCSE)	Does Octane rating on fuel affect the amount of Particulate Matter a car emits?
Engineering: Civil & Environmental - First	Aarushi Verma	Skyline High	Functionality of the Oligodynamic Effect in Copper to Purify Water
Engineering: Civil & Environmental - Second	Jonah Bennett & Alexander Housley	Salt Lake Center for Science Education (SLCSE)	Comparing Drought Stress by Diversity of Xeric Bioswales
Engineering: Civil & Environmental - Third	Maya Feggo-Judkins	Highland High	Clear the air; getting rid of particulate matter through different air filtration methods
Engineering: Civil & Environmental - Fourth	Ian Ackermann	Alta High	Constructing the Strongest Bridge
Engineering: Electrical & Computer Science - First	Sanjana Kargi & Dua Azhar	Beehive Academy	Using Machine Learning Techniques to Predict Mutant p53 Transcriptional Activity
Engineering: Electrical & Computer Science - Second	Wentao Zhang	Hillcrest High	Performance Evaluation of Encryption Schemes for Secure Communication
Engineering: Electrical & Computer Science - Third	Sreemanti Dey	Skyline High	Machine Learning for the Classification of Cyber Attacks on a Smart Grid
Engineering: Materials & Biomedical - First	Alexander Cheng	Hillcrest High	Determining the Role of Microvascular Pathology as Reflected by Changes in Primary and Secondary Retinal Vessels in the Pathophysiology of Diabetic Complications

Engineering: Materials & Biomedical - Second	Malavika Singh	West High	Precision Medicine: Analysis of Clinical Literature Corresponding to Genetic Mutations to Determine Cancer Drivers Using Machine Learning Methods
Engineering: Materials & Biomedical - Third	Shilp Shah	The Waterford School	Patient Compliant Non-Invasive Diagnostic Apparatus
Engineering: Materials & Biomedical - Fourth	Erin Garzella	Juan Diego Catholic High	Design of Improved Inverse Transition Cycling Protein Purification Method
Engineering: Mechanical - First	Steven Marz	Stansbury High School	Affordable Survey ROV
Engineering: Mechanical - Second	Rachel Maxfield	American Preparatory Academy APA Draper 3	Creating a Cost Effective Solution for Water Problems in Developing Countries
Engineering: Mechanical - Third	Rey Sellers	Stansbury High School	Drone Wind
Engineering: Mechanical - Fourth	Gabriel Jorgensen	Stansbury High School	Flight Endurance Testing
Medicine & Health Sciences - First	Divyam Goel	West High	Using a Microtiter Plate Assay and a Novel Simulated Anatomic Plastic Lung Model to Determine the Effectivity of Phage Therapy as a Preventative Measure against Poly-Microbial Biofilms in Cystic Fibrosis Patients
Medicine & Health Sciences - Second	Huck Jones	American Preparatory Academy APA Draper 3	New Results on the Dynamics of Electrical Activity in the Visual Cortex of Humans
Medicine & Health Sciences - Third	Clara Tandar	West High	The Influence of Mitochondrial Calcium on Cell-Cycle Specific Chemotherapy
Medicine & Health Sciences - Fourth	Matthew Simmons	Hillcrest High	Silent Killer: Investigation of Silent Myocardial Infarction (SMI) Using Machine Learning Techniques
Physics, Astronomy & Math - First	Tarun Kumar Martheswaran	The Waterford School	A Novel Mathematical Model for the Early Detection of Dengue Fever using SIR Infectious Disease Epidemiological Compartments, Ordinary Differential Equations, and Statistical Computing
Physics, Astronomy & Math - Second	Braxton Dake	Beehive Academy	Speedy Steel
Physics, Astronomy & Math - Third	Connor Smith	Salt Lake Center for Science Education (SLCSE)	Implementation of Markov Chains in Weather Forecasting
Physics, Astronomy & Math - Fourth	Jaspar Ruegemer	Park City High	The Earth Needs To Chill! How About Some Cool Sunshades? The Furtherance
Plant Sciences - First	David Zhong	Skyline High	A LEAF IN THE WIND - A STUDY OF MECHANICAL STRENGTH ON A LEAF, BRANCH AND TREE INDUCED BY WIND LOADING
Plant Sciences - Second	Sriram Srinivas	West High	Rhizosphere Microbiota and Drought Tolerance in Sunflowers
Plant Sciences - Third	Maxwell Porter & Landon Evans	Salt Lake Center for Science Education (SLCSE)	Cultivating Mars
Plant Sciences - Fourth	Aidana Smat & Jessie Flynn	Salt Lake Center for Science Education (SLCSE)	Using Isotopes to Identify Archaeological Features

Intel ISEF Grand Champion Winners			
Observer	Matthew Simmons	Hillcrest High	Silent Killer: Investigation of Silent Myocardial Infarction (SMI) Using Machine Learning Techniques
Observer	Aiden Pasinsky	Beehive Academy	Can You Breed a Super Algae Through Forced Adaptation?
Observer	Clara Tandar	West High	The Influence of Mitochondrial Calcium on Cell-Cycle Specific Chemotherapy
Observer	Huck Jones	American Preparatory Academy APA Draper 3	New Results on the Dynamics of Electrical Activity in the Visual Cortex of Humans
Winner	Christopher Li	West High	Utilizing Ligand Structuring Metaservers to Model Pathogenic p16 Mutation Effects on Binding Sites of Cell Signaling Pathways
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