

# ISEF Categories and Subcategories

The categories have been established with the goal of better aligning judges and student projects for the judging at ISEF. Local, regional, state and country fairs may or may not choose to use these categories, dependent on the needs of their area. Please check with your affiliated fair(s) for the appropriate category listings at that level of competition.

Please visit our website at [student.societyforscience.org/intel-isef-categories-and-subcategories](http://student.societyforscience.org/intel-isef-categories-and-subcategories) for a full description and definition of ISEF categories:

## **ANIMAL SCIENCES (ANIM)**

Animal Behavior  
Cellular Studies  
Development  
Ecology  
Genetics  
Nutrition and Growth  
Physiology  
Systematics and Evolution  
Other

## **BEHAVIORAL AND SOCIAL SCIENCES (BEHA)**

Clinical and Developmental Psychology  
Cognitive Psychology  
Neuroscience  
Physiological Psychology  
Sociology and Social Psychology  
Other

## **BIOCHEMISTRY (BCHM)**

Analytical Biochemistry  
General Biochemistry  
Medical Biochemistry  
Structural Biochemistry  
Other

## **BIOMEDICAL AND HEALTH SCIENCES (BMED)**

Cell, Organ, and Systems Physiology  
Genetics and Molecular Biology of Disease  
Immunology  
Nutrition and Natural Products  
Pathophysiology  
Other

## **BIOMEDICAL ENGINEERING (ENBM)**

Biomaterials and Regen Medicine  
Biomechanics  
Biomedical Devices  
Biomedical Imaging  
Cell and Tissue Engineering  
Synthetic Biology  
Other

## **CELLULAR AND MOLECULAR BIOLOGY (CELL)**

Cell Physiology  
Cellular Immunology  
Genetics  
Molecular Biology  
Neurobiology  
Other

## **CHEMISTRY (CHEM)**

Analytical Chemistry  
Computational Chemistry  
Environmental Chemistry  
Inorganic Chemistry  
Materials Chemistry  
Organic Chemistry  
Physical Chemistry  
Other

## **COMPUTATIONAL BIOLOGY AND BIOINFORMATICS (CBIO)**

Computational Biomodeling  
Computational Epidemiology  
Computational Evolutionary Biology  
Computational Neuroscience  
Computational Pharmacology  
Genomics  
Other

## **EARTH AND ENVIRONMENTAL SCIENCES (EAEV)**

Atmospheric Science  
Climate Science  
Environmental Effects on Ecosystems  
Geosciences  
Water Science  
Other

## **EMBEDDED SYSTEMS (EBED)**

Circuits  
Internet of Things  
Microcontrollers  
Networking and Data Communications  
Optics  
Sensors  
Signal Processing  
Other

## **ENERGY: CHEMICAL (EGCH)**

Alternative Fuels  
Computational Energy Science  
Fossil Fuel Energy  
Fuel Cells and Battery Develop  
Microbial Fuel Cells  
Solar Materials  
Other

## **ENERGY: PHYSICAL (EGPH)**

Hydro Power  
Nuclear Power  
Solar  
Sustainable Design  
Thermal Power  
Wind  
Other

## **ENGINEERING MECHANICS (ENMC)**

Aerospace and Aeronautical Engineering  
Civil Engineering  
Computational Mechanics  
Control Theory  
Ground Vehicle Systems  
Industrial Engineering-Processing  
Mechanical Engineering  
Naval Systems  
Other

## **ENVIRONMENTAL ENGINEERING (ENEV)**

Bioremediation  
Land Reclamation  
Pollution Control  
Recycling and Waste Management  
Water Resources Management  
Other

## **MATERIALS SCIENCE (MATS)**

Biomaterials  
Ceramic and Glasses  
Composite Materials  
Computation and Theory  
Electronic, Optical and Magnetic Materials  
Nanomaterials  
Polymers  
Other

## **MATHEMATICS (MATH)**

Analysis  
Combinatorics, Graph Theory, and Game Theory  
Geometry and Topology  
Number Theory  
Probability and Statistics  
Other

## **MICROBIOLOGY (MCRO)**

Antimicrobials and Antibiotics  
Applied Microbiology  
Bacteriology  
Environmental Microbiology  
Microbial Genetics  
Virology  
Other

## **PHYSICS AND ASTRONOMY (PHYS)**

Astronomy and Cosmology  
Atomic, Molecular, and Optical Physics  
Biological Physics  
Condensed Matter and Materials Mechanics  
Nuclear and Particle Physics  
Theoretical, Computational and Quantum Physics  
Other

## **PLANT SCIENCES (PLNT)**

Agriculture and Agronomy  
Ecology  
Genetics/Breeding  
Growth and Development  
Pathology  
Plant Physiology  
Systematics and Evolution  
Other

## **ROBOTICS AND INTELLIGENT MACHINES (ROBO)**

Biomechanics  
Cognitive Systems  
Control Theory  
Machine Learning  
Robot Kinematics  
Other

## **SYSTEMS SOFTWARE (SOFT)**

Algorithms  
Cybersecurity  
Databases  
Human/Machine Interface  
Languages and Operating Systems  
Mobile Apps  
Online Learning  
Other

## **TRANSLATIONAL MEDICAL SCIENCES (TMED)**

Disease Detection and Diagnosis  
Disease Prevention  
Disease Treatment and Therapies  
Drug Identification and Testing  
Pre-Clinical Studies  
Other