United States 2015 Stockholm Junior Water Prize

State Winners

Alabama
Megan Lange
Removal of BTEX from Storm Water using Improved HDTMA Nano-Particle Enhanced Reactive Porous Concrete
Auburn High School
Teacher – Jacque Middleton
Sponsored by the Alabama Water Environment Association

Alaska
Alta Dean
Conclusions from an IV Year Research Study:
Ocean Acidification in Prince William Sound, Alaska
Colony High School
Science Teacher – Dorrie Dean
Sponsored by the Alaska Water Wastewater Management Association

Arizona
Amanda Minke
An Engineered System for Filtering Pb2+ using Chlorophyta - Phase 2
Immaculate Heart High School
Science Teacher – Danielle Abrames
Sponsored by the AZ Water

Arkansas
Sophia Ly
The pH Dependence of the Biosorption of Nickel (II) Ions by Escherichia coli
Arkansas School for Mathematics, Sciences and the Arts
Science Teacher – Dr. Fred Buzen
Sponsored by the Arkansas Water Environment Association

California
Michele Eggleston
Is It Clear? Is it Clean? Correlating Turbidity and Bacterial Contamination Using a Home Made Nephelometer
Mt Everest Academy
Science Teacher – Trudy Pachon
Sponsored by the California Water Environment Association

Colorado
Hannah Fischer
Pharmacoenvironmentology: Developing a Baseline for PPCP Contaminant Levels at the Monte Vista Wildlife Refuge
Sierra Grande School
Science Teacher – Judy Lopez
Sponsored by the Rocky Mountain Water Environment Association
Connecticut
Julia Ennis
The Analysis of Clay Flocculation’s Effect on the Benthic Zone Used as a Mitigation Technique for Harmful Algal Blooms (HABs)
Bridgeport Regional Aquaculture School
Science Teacher – Kirk Shadle
Sponsored by the New England Water Environment Association

Delaware
Shalini Sundar
Analyzing the Efficiency of Activated Carbon in Removing Dissolved Painkillers from Drinking Water
The Charter School of Wilmington
Science Teacher – Timothy Carr
Sponsored by the Chesapeake Water Environment Association

District of Columbia
No Entries
Sponsored by the Chesapeake Water Environment Association

Florida
Maria Elena Grimmitt
Adsorption of Sulfamethazine from Environmentally Relevant Aqueous Matrices onto Hypercrosslinked Adsorbent MN250
Oxbridge Academy of the Palm Beaches
Science Teacher – Kate Kilian
Sponsored by the Florida Water Environment Association

Georgia
Aksai Vashi
Waste-Based Runoff Pollutant Ion-Exchanging, Biosorptive Permeable Barriers
Collins Hill High School
Science Teacher – Laura Herbid
Sponsored by the Georgia Association of Water Professionals

Hawaii
Iokua Spennner
Bioluminescent Bacteria as a Natural Water Pollution Indicator
Olomana School
Science Teacher – Ellen Schroeder
Sponsored by the Hawaii Water Environment Association

Illinois
Ambria Benesch
The Viability of a Mixed Bacterial Culture for Bioremediation of Heavy Metals, Poly-Cyclic Hydrocarbons, and Volatile Organic Compounds
Niles North High School
Science Teacher – Susie Posnock
Sponsored by the Illinois Water Environment Association
Indiana
Mohammed Amir Sankari
Study and Effects of Escherichia coli 0157:H7 Contamination in Water Basins
Eman Schools
Science Teacher – Mia Sankari
Sponsored by the Indiana Water Environment Association

Iowa
Kelsey Bryant
The Effectiveness of Moringa oleifera in Purification of Turbid Water: Phase III
Central Lee High School
Science Teacher – Alicia Schiller
Sponsored by the Iowa Water Environment Association

Kansas
Clara Towey
The Effect of Rainfall on pH at the Goddard High School Outdoor Wildlife Learning Site (OWLS) Pond
Goddard High School
Science Teacher - Marylee Ramsay
Sponsored by the Kansas Water Environment Association

Kentucky
Ellen Kendall
Evaluation of Heavy Metal Removal by Sodium Alginate Beads
Notre Dame Academy
Science Teacher – Terri Ann Perrino
Sponsored by the Kentucky-Tennessee Water Environment Association

Louisiana
Natalie Bush
Mitigation of Hypoxic Ecosystems Using Hemolymph Analysis of Callinectes sapidus and Procambarus clarkii in Relation to Spartina Grasses, Year 2.
St. Joseph's Academy
Science Teacher – Linda Messina
Sponsored by the Louisiana Water Environment Association

Maine
Paige Brown
Identifying and Remediating the Sources of Pollution in Impaired Bangor Streams
Bangor High School
Science Teacher - Cary James
Sponsored by the New England Water Environment Association

Maryland
Jack Andraka
A Novel Paper Biosensor for Mobile Surveillance of Water Quality
North County High School
Science Teacher – Beth Kennedy
Sponsored by the Chesapeake Water Environment Association
Massachusetts

Harshal Sheth and Nihar Sheth
Developing a Water Efficient Irrigation Controller Using a Multivariate Logistic Regression Algorithm
Westford Academy
Science Teacher – Wayne Kotary
Sponsored by the New England Water Environment Association

Michigan

Jennie Yang and Richard Yang
Filtering Water: Accelerated Sintering and Controlled Pore Sizes in Yttria-Stabilized Tetragonal Polycrystalline Zirconia Ceramic
Troy High School
Science Teacher – Rebecca Brewer
Sponsored by the Michigan Water Environment Association

Minnesota

Tayiah Hanson
The Power of Clay: The use of clay a possible pharmaceutical wastewater treatment removal method and the subsequent effect on germination and root length of Lactuca sativa (Grand Rapids Lettuce)
Cloquet Senior High School
Science Teacher – Cynthia Welsh
Sponsored by the Central States Water Environment Association

Mississippi

Andrew Neely
Redefinition of the Boiling Point Elevation Equation Through Consideration of Various Aspects of Solute Nature on the Magnitude of Ion-Dipole Interactions in Aqueous Solution
St. Andrew's Episcopal High School
Science Teacher – Roscoe Stribling
Sponsored by the Mississippi Water Environment Association

Missouri

Tiffani Jones
Using Sodium Alginate Beads as a Potential Delivery Mechanism for Distributing the Hydrocarbon-degrading Marine Bacterium - Alcanivorax borkumensis - to Deep Sea Oil Spills
Camdenton High School
Science Teacher – Christopher Reeves
Sponsored by the Missouri Water Environment Association

Montana

Brenna DeMarois
Use of a Tertiary Algae System to Remove Pharmaceuticals from Wastewater
Sentinel High School
Science Teacher – Kate Dircksen
Sponsored by the Montana Water Environment Association
Nebraska
Marcella Jurotich
The Effect of a Riparian Buffer on Total Dissolved Solids, Sediment Depth, and Water Velocity in a Nebraska Agricultural Stream
Wayne Junior Senior High School
Science Teacher – Lee Brogie
Sponsored by the Nebraska Water Environment Association

Nevada
No Entries
Sponsored by the Nevada Water Environment Association

New Hampshire
Erica Doucet
The Effect of Coastal Restoration Techniques on Erosion
Pembroke Academy
Teacher – Donna Ray
Sponsored by the New England Water Environment Association

New Jersey
William Lin
The Effect of Biochar-Amended Mycofiltration Techniques on Stormwater Runoff Quality
High Technology High School
Science Teacher – Michael Roche
Sponsored by the New Jersey Water Environment Association

New Mexico
Akshay Jain and Priyanka Jain
Solving the Water Crisis of the World: A Novel Method of Desalination of Sea Water
La Cueva High School
Science Teacher – Thomas Freyermuth
Sponsored by the Rocky Mountain Water Environment Association

New York
Amanda Morel
The Importance of Particle Association with Antibiotic Resistant Bacteria and Sewage-Related Bacteria in an Aquatic Environment
Pelham Memorial High School
Science Teacher – Steven Beltecas
Sponsored by the New York Water Environment Association

North Carolina
Vibha Puri
Enhanced Biosorption of Hexavalent Chromium in Monoionic Solution by Chemically Treated Green Algae
North Carolina School of Science and Mathematics
Science Teacher – Myra Halpin
Sponsored by the North Carolina Water Environment Association
North Dakota
Desa Sand
Grazing For Rain
Ellendale High School
Science Teacher – Peter Sykora
Sponsored by the North Dakota Water Environment Association

Ohio
Bluyé DeMessie
Sustainable Water Cleaning System for Point-of-Use Household Application in Developing Countries to Remove Contaminants from Drinking Water
William Mason High School
Science Teacher – George Sorial
Sponsored by the Ohio Water Environment Association

Oklahoma
Sarah Riley
An Even More Fluid Idea: The study of water quality improvement in fluidized sand filters compared to drip sand filters.
Grove High School
Science Teacher – Kelli Steen
Sponsored by the Oklahoma Water Environment Association

Oregon
Sahil Veeramoney
The Development of an Oleophilic and Hydrophobic Polystyrene Synthetic Polymer Coated Cotton for High Efficiency Marine Oil Spill Absorption
Oregon Episcopal School
Science Teacher – Bevin Daglen
Sponsored by the Pacific Northwest Clean Water Association

Pennsylvania
May Wang
A Practical Solution for Remediating Bisphenol A Contaminants in Wastewater
Council Rock High School
Science Teacher – Joseph Warwick
Sponsored by the Pennsylvania Water Environment Association

Puerto Rico
Vincent Hwang
Pervious concrete: Mix design optimization of fly ash nanogemopolymer and bioremediation of fecal coliform-containing water
Southwestern Educational Society (SESO)
Science Teacher – Evelyn Montalvo
Sponsored by the Puerto Rico Water & Environment Association

Rhode Island
Morgan Kane
Can the Use of Natural Aquifers
Mt. Hope High School
Science Teacher – Joseph Koger
Sponsored by the New England Water Environment Association
South Carolina
Rakib Siddique
Development of Novel and Cost-effective Adsorbents for Wastewater Treatment Using the Common Dandelion
Spring Valley High School
Science Teacher – Michelle Spigner
Sponsored by the Water Environment Association of South Carolina

South Dakota
Dhwani Kharel and Kia Witt
A Novel Disinfectant: Sphagnum Moss for Coliform and Turbidity Reduction
Brookings High School
Science Teacher – Kelly Riedell
Sponsored by the South Dakota Water Environment Association

Tennessee
Ayushi Sinha
Zebra Mussels: The Effect of the Surface on Zebra Mussel Attachment
Girls Preparatory School
Science Teacher – Tracie Durham
Sponsored by the Kentucky-Tennessee Water Environment Association

Texas
Perry Alagappan
Novel Renewable Filter for Heavy Metal Removal: A Practical Application of Functionalized Multi-Walled Carbon Nanotubes
Clear Lake High School
Science Teacher – Brenda Pinchbeck
Sponsored by the Water Environment Association of Texas

Utah
Merry Joseph
A Novel Terracotta Water Filtration System for the Removal of Arsenate (V) and Microbiological Organisms present in Brackish Water
Hillcrest High School
Science Teacher – Alexander Mettler
Sponsored by the Water Environment Association of Utah

Vermont
Nick Knudsen
The Levels and Sources of Escherichia coli in Lake Champlain and the Surrounding Watershed
South Burlington High School
Science Teacher - Curtis Belton
Sponsored by the New England Water Environment Association

Virgin Islands
Alexandra Starr
The Presence of Bacteria in Fresh and Saltwater in Salt River Bay National Historical Park & Ecological Preserve: Could it indicate contamination from human activities?
The Good Hope School
Science Teacher – Jane Coles
Sponsored by the Seven Seas Water Corporation
Virginia
Kelly Devens
Utilizing a Piezoelectric Crystal Tree to Harvest Electrical Energy from Rain Water
Roanoke Valley Governor's School
Science Teacher – Brent Holt
Sponsored by the Virginia Water Environment Association

Washington
Sabreen Mohammed
Projecting Mercury Flux Due to Arctic Sea Ice Melt with Machine Learning
STEM High School
Science Teacher – Mike Town
Sponsored by the Pacific Northwest Clean Water Association

West Virginia
Andy Orellana and Ever Rivas
Fishing In Biofilter
Musselman High School
Science Teacher – Cindy Raines
Sponsored by the West Virginia Water Environment Association

Wisconsin
Jennah Durbin and Kayla Johnson
Carcinus maenas in the Mudflat of the Little River
Cumberland High School
Science Teacher – Laura Jackson
Sponsored by the Central States Water Environment Association

Wyoming
Shelby Schainost
What's In Your Water?
Southeast High School
Science Teacher – Jo Gronewold
Sponsored by the Rocky Mountain Water Environment Association