

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

Tayah 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 Dirksen

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 nanogeopolymer
and bioremediation of fecal coliform-containing water

Southwestern Educational Society (SES)

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