

United States 2016 Stockholm Junior Water Prize

State Winners

Alabama

Megan Lange

Removal of BTEX from Storm Water Using Nanoparticle
Enhanced Reactive Porous Concrete: Field Testing and Modeling
Auburn High School
Teacher – Mark Jones
Sponsored by the Alabama Water Environment Association

Alaska

Laurinne Balstad

Variability in Zooplankton Quality Across Large Marine Ecosystems
in the North Pacific
Juneau Douglas High School
Science Teacher – Johnathan Smith
Sponsored by the Alaska Water Wastewater Management Association

Arizona

Sara Jones

The Effect of Different Species of Bog Plant on the Reduction
of Nitrogen in Dairy Wastewater
Perry High School
Teacher – Karen Hutchinson
Sponsored by the AZ Water

Arkansas

Madeline Burke

Analysis of Trace Organic Leaching from Plastic Containers Exposed to the
Thermal Water at Hot Springs National Park, AR
ASMSA
Science Teacher – Lindsey Waddell
Sponsored by the Arkansas Water Environment Association

California

Visala Tallavarjula

Methods Based on Statistical Analysis to Improve
Water Retention in Sub-surface Irrigation
Wilcox High School
Science Teacher – Mary Slate
Sponsored by the California Water Environment Association

Colorado

Michelle Kummel

Modeling Transport in Creeks by Approximating Partial Differential Equations
Palmer High School
Science Teacher – Reed Carlson
Sponsored by the Rocky Mountain Water Environment Association

Connecticut

Lauren Pawlowski and Courtney Litts

Clean the Seas: The Effect of Pollutants on Aquatic Life

Shelton High School

Science Teacher – Lucia Dunham

Sponsored by the New England Water Environment Association

Delaware

No Entries

Sponsored by the Chesapeake Water Environment Association

District of Columbia

No Entries

Sponsored by the Chesapeake Water Environment Association

Florida

Stefan Wan

Functionalizing Biochar with Layered Double Hydroxides
for Phosphate Removal from Aqueous Solutions

A.W. Dreyfoos School of the Arts

Science Teacher – Michael Rathe

Sponsored by the Florida Water Environment Association

Georgia

Jeramie Paz

The Use of Biochar to Remove Stormwater Contaminants

Griffin High School

Science Teacher – Lisa Henderson

Sponsored by the Georgia Association of Water Professionals

Hawaii

Ariana Kim and Sreelakshmi Kutty

Novel Utilizations of Globally Invasive Algal Species: Environmental and
Economical Implementations of Fermented Macroalgae

St. Andrews Priory

Science Teacher – Ai Hirasuna

Sponsored by the Hawaii Water Environment Association

Illinois

Irein Thomas

Investigating the Effect of Water Contaminant Microbeads
on Health of Aquatic Organisms

Niles West High School

Science Teacher – Julieann Villa

Sponsored by the Illinois Water Environment Association

Indiana

Nirupama Devanathan

An Analysis of the Impact of Chlorophyll Levels on the Condition of Crooked Lake in
Whitley and Noble Counties, Indiana: Have Remedial Strategies Worked?

Homestead High School

Science Teacher – Matt Elder

Sponsored by the Indiana Water Environment Association

Iowa

Maggie Walker

Sodium Polyacrylate and Dioxin Used for Nitrate Runoff Prevention
Holy Trinity Catholic High School
Science Teacher – Gail Kunch
Sponsored by the Iowa Water Environment Association

Kansas

No Entries

Sponsored by the Kansas Water Environment Association

Kentucky

Derris Stanland

Peel Power Continued: The Effectiveness of Twelve Bio-Adsorbents
At Extracting Nine Toxic Elements from Contaminated Water
Lexington Christian Academy
Science Teacher – Kenna Jasper
Sponsored by the Kentucky-Tennessee Water Environment Association

Louisiana

Joshua Courtney

Condition Factors of Fish and Chlorophyll a Concentrations as Bioindicators
of Oyster Abundance and Ecosystem Services: A Five Year Study
Carmel Hill School
Science Teacher – Michael Courtney
Sponsored by the Louisiana Water Environment Association

Maine

Paige Brown

Constructing Low Cost Calcium Alginate Based Scaffolds for Pollutant Reduction
Bangor High School
Science Teacher - Cary James
Sponsored by the New England Water Environment Association

Maryland

Zainab Hayat

Development of a Water Filtration Method Using
Inexpensive and Recycled Materials
Elkton High School
Science Teacher – Wendy Pasmore
Sponsored by the Chesapeake Water Environment Association

Massachusetts

Lillian Cane

Washing with Fertilizer; Engineering Greywater
for Reuse in Hydroponic Systems
Massachusetts Academy of Math and Science
Science Teacher – Maria Borowski
Sponsored by the New England Water Environment Association

Michigan

Nathaniel Haut, William Hackbarth, and Matthew Schafer

Spider Sensor System

Midland High School

Science Teacher – Bob Fox

Sponsored by the Michigan Water Environment Association

Minnesota

Jacob Schmidt and Levi Peterson

“A Nice Fracking Solution:” The Effect of Fracking Water Salts vs.
Road Salts on the Growth of *Lumbriculus variegatus*

Cloquet Senior High School

Science Teacher – Cynthia Welsh

Sponsored by the Central States Water Environment Association

Mississippi

Sichen Shawn Chao

Numerical Modeling of Algae Concentration in a Well-Mixed Lake

Oxford High School

Science Teacher – Sarah Robinson

Sponsored by the Mississippi Water Environment Association

Missouri

Dustin Bax

Remediation Matters -Year Two: Engineering Remediation Mats
for Copper Pollution in Aquatic Environments

Tuscumbia High School

Science Teacher – Constance Wyrick

Sponsored by the Missouri Water Environment Association

Montana

Brenna DeMarois

Use of Vetiver to Remove Tetracycline and Estrogen from Water

Sentinel High School

Science Teacher – Lindsay Manzo

Sponsored by the Montana Water Environment Association

Nebraska

Marcella Jurotich

The Use of Graph Theory to Determine the Effect of Loss
of Taxonomic Diversity on Trophic Function

Wayne Junior Senior High School

Science Teacher – Lee Brogie

Sponsored by the Nebraska Water Environment Association

Nevada

Holly Darlene Merrill

Copper: The Biocide to Marine Lifeforms

Earl Wooster High School

Science Teacher – Holly Merrill

Sponsored by the Nevada Water Environment Association

New Hampshire

Mary Zhu

Food for Thought: A Novel Computational Approach to Modeling the
Impacts of School Nutrition Policies on the Blue Water Footprint

Nashua High School South

Teacher – Neil Claffey

Sponsored by the New England Water Environment Association

New Jersey

Nishita Sinha

Experimental Studies in Developing Safe Sanitation Solutions

Chatham High School

Science Teacher – Yelena Naumova

Sponsored by the New Jersey Water Environment Association

New Mexico

Akshay Jain

Solving the Water Crisis: A Novel Method
of Environmentally Safe Desalination of Seawater-Phase II

La Cueva High School

Science Teacher – Lena Eddings

Sponsored by the Rocky Mountain Water Environment Association

New York

Jaehyup Song

Humidity-based Solar Water Generation

St. Mary's High School

Science Teacher – Ann Tomlinson

Sponsored by the New York Water Environment Association

North Carolina

Joshua Zhou

Low-Cost Heteronanostructure Semiconductor Uses Energy in
Visible Light to Efficiently Degrade Toxins Threatening Aquatic Life

North Carolina School of Science and Mathematics

Science Teacher – Myra Halpin

Sponsored by the North Carolina Water Environment Association

North Dakota

Branden Skjoiten

A Chemical and Plant Analysis of Lake Elsie

Hankinson Public School

Science Teacher – Patty Kratcha

Sponsored by the North Dakota Water Environment Association

Ohio

Travis O'Leary

Liquid Nitrogen's Effect On Oil Spills

Carroll High School

Science Teacher – Laura Wright

Sponsored by the Ohio Water Environment Association

Oklahoma

Lexi Hill

Municipal Wastewater Effluent Has Sublethal Effects

on Freshwater Snails (*Helisoma trivolvis*)

Deer Creek High School

Science Teacher – Kaytlyn Goodwin

Sponsored by the Oklahoma Water Environment Association

Oregon

Jared Kerman and Sarah Hatcher

Designing a Multimetric Approach to Assess Water Quality in the
Pacific Northwest Using Epilithic Diatoms (Bacillariophyceae):

Implications for Conservation, Stream Health,

and Ecosystem Management

Northwest Academy

Science Teacher – Molly Sultany

Sponsored by the Pacific Northwest Clean Water Association

Pennsylvania

Amanda Plichta

Moringa Oleifera/SODIS A Novel Approach

To Turbid Water Purification in Developing Countries

Council Rock High School

Science Teacher – Matthew Ciaudelli

Sponsored by the Pennsylvania Water Environment Association

Puerto Rico

Vincent Hwang

Pervious Concrete Pavement and Bamboo Bioretention Basin for
Stormwater Runoff Volume Control and Water Quality Enhancement

Southwestern Educational Society (SES)

Science Teacher – Evelyn Montalvo

Sponsored by the Puerto Rico Water & Environment Association

Rhode Island

Nicholas Berg

Investigating the Death of an Ecosystem

Bishop Hendricken High School

Science Teacher – Jeremy Graney

Sponsored by the New England Water Environment Association

South Carolina

Sarayu Das

The Effect of Tri-sprintec and Metformin and Their Doses on the Mortality and Reproduction of Ampullariidae, Daphnia Magna, and Lemnoideae & the Heart Rate of Daphnia Magna in Aquatic Ecosystems

Spring Valley High School

Science Teacher – Dale Soblo

Sponsored by the Water Environment Association of South Carolina

South Dakota

Hannah Reeves

Increasing Crop Production Through Efficient Irrigation Techniques

Avon High School

Science Teacher – Paul Kuhlman

Sponsored by the South Dakota Water Environment Association

Tennessee

Ayushi Sinha

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

Deemah Pulak

Development of an Affordable Tabletop Bio-Sand

Water Filter Using Scrap Iron and Old Cloth

Richardson High School

Science Teacher – Amy Hammer

Sponsored by the Water Environment Association of Texas

Utah

Raymond Li

Removing Aqueous Phosphate Using Sand Adsorption Columns

Logan High School

Science Teacher – Elizabeth Wright

Sponsored by the Water Environment Association of Utah

Vermont

Josie Ford

Project Clean Water: The Effect of Ultraviolet Germicidal

Irradiation on Bacteria in Lake Water

South Burlington High School

Science Teacher – Nathaniel Moore

Sponsored by the New England Water Environment Association

Virgin Islands

No Entries

Sponsored by the Seven Seas Water Corporation

Virginia

Ana Humphrey

ColiFind: A Digital Image Analysis Application to Identify E. coli Colonies
in Coliscan Easygel Water Quality Tests

T.C. Williams High School

Science Teacher – Shawn Lowe

Sponsored by the Virginia Water Environment Association

Washington

Apoovr Khandelwal

Optimizing Water Permeability in Nanoporous Graphene for
Reverse Osmosis Desalination

Tesla STEM High School

Science Teacher – Allender

Sponsored by the Pacific Northwest Clean Water Association

West Virginia

Brittany Kelley

Does Water Type Affect Plant Growth?

Spring Mills High School

Science Teacher – Jana Woofter

Sponsored by the West Virginia Water Environment Association

Wisconsin

Laurel Chen and Reilly Olinger

How Green is "Green"? Assessing Detergent Toxicity on the Environment

Brookfield Central High School

Science Teacher – Yaxi Shen

Sponsored by the Central States Water Environment Association

Wyoming

Shelby Schainost

Types of Water vs Bean Plant Growth

Southeast High School

Science Teacher – Robin Schainost

Sponsored by the Rocky Mountain Water Environment Association