

United States 2017 Stockholm Junior Water Prize

State Winners

Alabama

Noel Lange

Factors Effecting the Discharge of Micro-Plastic Fibers from Household Laundry

Auburn High School

Teacher – Mark Jones

Sponsored by the Alabama Water Environment Association

Alaska

Jedediah Dean

A longitudinal study of fluctuating radiation levels in prince William sound, Alaska;

a conclusion to a four-year study

Colony High School

Science Teacher – Theodore Dean

Sponsored by the Alaska Water Wastewater Management Association

Arizona

Joseph Galasso

A Novel, Cost-Effective Water Filtration and Desalination Technique

Based on Biodegradable Superabsorbent Polymers

Galasso Home School

Science Teacher – Sandra Galasso

Sponsored by the AZ Water

Arkansas

Grace Xiang

Water Filtration: The Effects of Coconut Fiber

and Burnt Rice Hull on the herbicide Atrazine

Little Rock Central High School

Science Teacher – Patrick Foley

Sponsored by the Arkansas Water Environment Association

California

Visala Tallavarjula

Statistically Designed Experimental Optimization of

Root Zone Water Delivery Using a Low-Cost Surface Drip

Micro-irrigation Method for Regions Suffering from Drought

Wilcox High School

Science Teacher – Deanna Dutton

Sponsored by the California Water Environment Association

Colorado

McKinley Dirks; Alexandra Rivera

Methods to Reduce Micropollutants in Treated Waters

Skyview Academy

Science Teacher – Timothy Smith

Sponsored by the Rocky Mountain Water Environment Association

Connecticut

Luca Barcelo

Crowd Sourced Detection and Mapping of Nitrate Water Pollutants
via a Mobile Web-Based Image Analysis System

Greenwich High School

Science Teacher – Andrew Bramante

Sponsored by the New England Water Environment Association

Delaware

No Qualifying Entries

Sponsored by the Chesapeake Water Environment Association

District of Columbia

No Qualifying Entries

Sponsored by the Chesapeake Water Environment Association

Florida

Talar Terzian

Spin Cycle: An Off-the-Grid Hydrodynamic Water Filtering Washing Machine

Oak Hall School

Science Teacher – Sandra Swindler

Sponsored by the Florida Water Environment Association

Georgia

Sophia Woodrow; Ethan Asher

Exploring the Aquaponic Theory as a Sustainable Water Solution

Centennial High School

Science Teacher – Robert Kuhn

Sponsored by the Georgia Association of Water Professionals

Hawaii

Felix Peng

Optimal pairings of locally isolated bacteria for
maximum hydrocarbon bioremediation efficiency

Waiakea High School

Science Teacher – Whitney Aragaki

Sponsored by the Hawaii Water Environment Association

Idaho

Ari Carter

SiNK

Moscow High School

Science Teacher – Pat Blount

Sponsored by the Pacific Northwest Clean Water Association

Illinois

Ashritha Karuturi

How the Chemical Speciation of Sn and Zn Control
Their Biouptake by Organisms through Adsorption of Zinc on Abrasives

Illinois Science and Math Academy

Science Teacher - TBA

Sponsored by the Illinois Water Environment Association

Indiana

Julia Hunkler

Determining the Optimal Vegetation to Decrease Fertilizer Runoff
Marian High Schools
Science Teacher – Ken Andrzejewski
Sponsored by the Indiana Water Environment Association

Iowa

Maggie Walker

Sodium Polyacrylate Used for Nitrate Runoff Prevention Phase: 2
Holy Trinity High School
Sponsor Teacher – Gail Kunch
Sponsored by the Iowa Water Environment Association

Kansas

Ellie Green

Detection of Lead in Drinking Water Using Internally Referenced
Competitive Assays Allowing Low Cost Source Sample Testing
at 1 ug/L Reading Positive/Negative at Action Level
Shawnee Mission East High School
Science Teacher – Jerrod Bardwell
Sponsored by the Kansas Water Environment Association

Kentucky

Adithya Iyengar; Louis Yang

The Effect of Different Materials and Solar Disinfection on
Filtering out Excessive Nutrients in Urban Streams
duPont Manual High School
Science Teacher – Erin Moss
Sponsored by the Kentucky-Tennessee Water Environment Association

Louisiana

Anna Koonce

The Effect of Sodium Chloride on Hybrid Taxodium Species
St. Joseph's Academy
Science Teacher – Linda Messina
Sponsored by the Louisiana Water Environment Association

Maine

Mei Tian

Testing the Effectiveness of Mycorrhizae in the Remediation
of Phosphorus from Stormwater
Bangor High School
Science Teacher - Cary James
Sponsored by the New England Water Environment Association

Maryland

Claire Wayner

Interactions between a Stormwater Pathogen Indicator, Escherichia coli,
and Various Bacteria Present in an Engineered Infiltration System
Baltimore Polytechnic Institute
Science Teacher – Lisa Fridman
Sponsored by the Chesapeake Water Environment Association

Massachusetts

Sangwon Cha; Ji Yeon Kwon; Jin Young Shin

Utilization of Food Dyes as Photosensitizers for
Enhanced Solar Disinfection of Water

Lourus Academy

Science Teacher – Eric Ahn

Sponsored by the New England Water Environment Association

Michigan

Anjini Chandra

Extraction of Bacteria from Untreated Wastewater
Using Magnetic Nanoparticles

Okemos High School

Science Teacher – Evangelyn Alocilja

Sponsored by the Michigan Water Environment Association

Minnesota

Maxwell Vogel

Can a Golf Course Riparian Buffer Zone Reduce Fertilizer, Pesticide and
Sediment Runoff into the Brown's Creek Watershed?: Year One - Phase I

Oak-Land Junior High School

Science Teacher – Katy Pupungatoa

Sponsored by the Central States Water Environment Association

Mississippi

Ian Espy

Effects of Perfluorooctanoic Acid on Daphnia Magna

St. Andrew's Episcopal High School

Science Teacher Claudia Bhagat

Sponsored by the Mississippi Water Environment Association

Missouri

Kelli Alford

Photo- and Chemotactic Response of *Orconectes virilis*: Determining the
Efficacy of a Positive and Negative Taxis System for Nuisance Crayfish

Camdenton High School

Science Teacher – Christopher Reeves

Sponsored by the Missouri Water Environment Association

Montana

Ella DeGrandpre

Ion Exclusion in Partially Frozen Water and the Effects of the
Newly Concentrated Water on Daphnia Magna Mortality

Hellgate High School

Science Teacher – Rob Jensen

Sponsored by the Montana Water Environment Association

Nebraska

Marcella Jurotich

Signal Flow Graph Theory is Effective in Modeling
Inter-Functional Relationships in an Aquatic Ecosystem

Wayne Junior Senior High School

Science Teacher – Lee Brogie

Sponsored by the Nebraska Water Environment Association

Nevada

No Qualifying Entries

Sponsored by the Nevada Water Environment Association

New Hampshire

Meghana Avvaru

A Novel and Economical Approach for Testing Lead in Water at Home
by using a Combination of Infrared Spectroscopy and Colorimetry

Nashua High School South

Teacher – Stephen Minnigh

Sponsored by the New England Water Environment Association

New Jersey

Shravya Jasti

Evaluating the Effectiveness of Copper and Silver Ions
in Removing Contaminants from Wastewater

Holmdel High School

Science Teacher – Josephine Blaha

Sponsored by the New Jersey Water Environment Association

New Mexico

Matuke Fomukong

Helios Aqua System Phase 3: Comparing the Methods of
Thermal and Electrical Energy Storage for 24-Hour Water Purification

Rio Rancho High School

Science Teacher – Melissa Marks

Sponsored by the Rocky Mountain Water Environment Association

New York

Rachel Chang; Ryan Thorpe

A Novel Approach to Rapidly and Sensitively Detect and Purify Water
Contaminated with Shigella, E. coli, Salmonella, and Cholera

Manhasset Secondary School

Science Teacher – Alison Huenger

Sponsored by the New York Water Environment Association

North Carolina

Kenny Hoang

Photocatalytically Degrading Organic Pollutants from Aqueous
Environments using Solar-Powered Palladium-end-capped Gold Nanorods

North Carolina School of Science and Mathematics

Science Teacher – Myra Halpin

Sponsored by the North Carolina Water Environment Association

North Dakota

Lauren Knoll

There is No Planet B: Aquaponics, Farming of the Future
Park Christian School
Science Teacher – Krista Rankin
Sponsored by the North Dakota Water Environment Association

Ohio

Katelyn Niehaus

Smart Soil Tester and App Reduce Fertilizer Runoff and Increase Water Quality
Eaton High School
Science Teacher – Amy Kochensparger
Sponsored by the Ohio Water Environment Association

Oklahoma

Liza Williams

Oh, Well: A Study of the Effects of
Common Oil Well Practices on Induced Seismicity
Bartlesville High School
Science Teacher – Gary Layman
Sponsored by the Oklahoma Water Environment Association

Oregon

Bryan To

Reactions of *Salvinia* sp. to Copper
Contamination; Death or Absorption?
Oregon Episcopal School
Science Teacher – Peter Langley
Sponsored by the Pacific Northwest Clean Water Association

Pennsylvania

Anna Dewey

Utilizing Used Coffee Grounds and Bioelastomeric
Composite Foam to Remove Metals from Water
Academy of Notre Dame de Namur
Science Teacher – Emily Giannantonio
Sponsored by the Pennsylvania Water Environment Association

Puerto Rico

Vincent Hwang

Phosphorus Recovery from Storm Water Runoff with Seawater-Mixed
Pervious Concrete for Reutilization as a Mineral Fertilizer
Southwestern Educational Society (SESO)
Science Teacher – Evelyn Montalvo
Sponsored by the Puerto Rico Water & Environment Association

Rhode Island

Nicolas Berg

Impacts of 1,2-Propanediol Effluent Discharge on Reproductive Rates and
Dispersion Patterns of *Anabaena inaequalis* and *Chlamydomonas reinhardtii*
Bishop Hendricken High School
Science Teacher – Jeremy Graney
Sponsored by the New England Water Environment Association

South Carolina

Sarayu Das

A novel technique to purify water using the coagulant
Properties of Moringa oleifera to filter pharmaceuticals, heavy
metals, and herbicides from contaminated water sources

Spring Valley High School

Science Teacher – Michelle Spigner

Sponsored by the Water Environment Association of South Carolina

South Dakota

Jeanne Rasmussen

Model for a Sustainably Powered Ultraviolet Irradiation
Water Purification System

Aberdeen Central High School

Science Teacher – Charles Hermansen

Sponsored by the South Dakota Water Environment Association

Tennessee

Lindsey Phillips; Emilee Guinn

The Effect of Differing Aquatic Plants on Chlorella Variabilis Control
Heritage High School

Science Teacher – Cheri Reznicek

Sponsored by the Kentucky-Tennessee Water Environment Association

Texas

Hudson Nash

Microbial Fuel Cells for Environmental Monitoring II

The Academy of Science and Technology

Science Teacher – Larry Walker

Sponsored by the Water Environment Association of Texas

Utah

Divyam Goel

Resource Recovery from Liquid Waste: A Strategy for Ensuring Food Security

West High School

Science Teacher – Melissa Anderson

Sponsored by the Water Environment Association of Utah

Vermont

Aida Arms

The Effect of Different Nitrogen to Phosphorus Ratios
on the Growth of Cyanobacteria

South Burlington High School

Science Teacher – Nathaniel Moore

Sponsored by the New England Water Environment Association

Virgin Islands

No Qualifying 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

Apoorv Khandelwal

Molecular Dynamics Simulation and Experimental Fabrication
of Nanoporous Graphene Membranes for Optimal Water
Permeability in Reverse Osmosis Desalination
Tesla STEM High School
Science Teacher – Kate Allender

Sponsored by the Pacific Northwest Clean Water Association

West Virginia

Dylan Collis; Matthew Betts; Dylan Doyle

Water you wasting your money for?
Musselman High School
Science Teacher – Cindy Raines

Sponsored by the West Virginia Water Environment Association

Wisconsin

Laurel Chen; Reilly Olinger

Removal of Cyanobacterial Contaminants with Solar-Power
via Electrocoagulation-Sand Filtration and Optimization of pH
Brookfield Central High School
Science Teacher – Michael Mohammad

Sponsored by the Central States Water Environment Association

Wyoming

Shelby Stith

Toxic Tides

Newcastle High School

Science Teacher – Zach Beam

Sponsored by the Rocky Mountain Water Environment Association