

United States 2011 Stockholm Junior Water Prize

State Winners

Alabama

Cory Rasjeza

The Design and Development of a Structural-Based Eco-Sensitive
Hydroelectric Generator

Alabama School of Fine Arts

Teacher – Jo Chambers

Sponsored by the Alabama Water Environment Association

Alaska

Kevin Sigler

How Restoration Affects the Abundance of Juvenile Coho Salmon (*Oncorhynchus kisutch*)
in an Urban Stream near Juneau, Alaska

Juneau Douglas High School

Science Teacher - Henry Hopkins

Sponsored by the Alaska Water Wastewater Management Association

Arizona

Alexandra Polasko

Tracking the Flow of Electrons in a Mixed Microbial Consortium that
Bioremediates Trichloroethylene

Notre Dame Preparatory High School

Science Teacher - Linda Pecora

Sponsored by the AZ Water

Arkansas

Abhilasha Gokulan

Effect of Oil Spill and Oil Dispersants on the Growth and Development of Marine Life
Using *Danio rerio* (Zebrafish) as a Model

Little Rock Central High School

Science Teacher – Melissa Donham

Sponsored by the Arkansas Water Environment Association

California

Justin Choe

The efficacy of harnessing an induced magnetic field for the purpose of recycling
and reusing Ag-Fe nanoparticles in the water treatment process

Palos Verdes Peninsula HS

Science Teacher – Peter Starodub

Sponsored by the California Water Environment Association

Colorado

Johanna Phillips

Infested Forests and Evapotranspiration III: Developing a Watershed Model
Phase II: Establishing a Level of Competence and Reliability

Monte Vista High School

Science Teacher – Gary Wilkinson

Sponsored by the Rocky Mountain Water Environment Association

Connecticut

William Hallisey

Electrified Nanoscale Architecture in Mixed Matrix Membranes as a Means of Rapid Throughput
Water Sterilization

Greenwich High School

Science Teacher – Andrew Bramante

Sponsored by the New England Water Environment Association

Florida

Collin McAliley

Florida Harmful Algal Bloom Mitigation, Year 7: Effect of Cysteine Methyl Ester on the
Bioaccumulation of Brevetoxin in Mercenaria mercenaria Clams

Cocoa Beach Jr./Sr. High School

Science Teacher – Veronica Duys

Sponsored by the Florida Water Environment Association

Georgia

Julia Abelsky

Solution to Run-Off Pollution

North Springs High School

Science Teacher – Patti Lawrimore

Sponsored by the Georgia Association of Water Professionals

Hawaii

Jaubeline Butay and Anne Magbanua

Phytoremediation of Pollutants in Waipahu Freshwater Streams

Utilizing Native Hawaiian 'Ae'ae (*Bacopa monnieri*)

Waipahu High School

Science Teacher – Michael Sana

Sponsored by the Hawaii Water Environment Association

Illinois

Nishith Reddy

CdS/ZnS Quantum Dot-Photoexcited Glucose Oxidase Biosensor
for Ag⁺ Detection in Contaminated Aqueous Environments

Illinois Mathematics and Science Academy

Science Teacher - Jude Scheppler

Sponsored by the Illinois Water Environment Association

Indiana

Eric Fein

Characterizing Engineered TiO₂ Nanoparticle Adhesion: Implications
for Environmental Transport and Remediation

John Adams High School

Science Teacher – Nevin Longenecker

Sponsored by the Indiana Water Environment Association

Iowa

Atreya Dey

Biobased Ferrite Nanoparticles: A Novel Approach
to Extract Organic Solvents and Heavy Metals from Water
Maharishi School of the Age of Enlightenment
Science Teacher - Mousumi Dey
Sponsored by the Iowa Water Pollution Control Association

Kansas

Brett Wagner

Growth of High Lipid Scenedesmus dimorphus, Green Algae,
and Waste Water Treatment
Shawnee Mission South
Science Teacher - Jan Alderson
Sponsored by the Kansas Water Environment Association

Kentucky

Orsolya Hegyi

An Approach to Water Purification Using Carbon Nanotube Membranes
Paul Laurence Dunbar High School
Science Teacher – Heidi Anderson
Sponsored by the Kentucky-Tennessee Water Environment Association

Louisiana

Carrington Cain

Remediation of Hydrocarbons in Louisiana Waters by Use of Natural Products
Airline High School
Science Teacher – Steve Gann
Sponsored by the Louisiana Water Environment Association

Maine

Leila Musavi

Development and Optimization of Gold-Nanoparticle Modified Carbon Electrode
Biosensor for Detection of *Listeria monocytogenes*
Bangor High School
Science Teacher - Cary James
Sponsored by the New England Water Environment Association

Maryland

Luke Andraka

Dynamic Electrochemical Remediation of Acid Mine Drainage
North County High School
Science Teacher – Karen Gruner
Sponsored by the Chesapeake Water Environment Association

Massachusetts

Andrew Bellesis

The Reduction of Heavy Metals Using Naturally Occurring Zeolites
Wachusett Regional High School
Science Teacher – Carol Sullivan
Sponsored by the New England Water Environment Association

Michigan

Karalyn Kiessling
Well Water Analysis for Potential Carcinogens
Battle Creek Area Mathematics and Science Center
Science Teacher – Scott Hanson
Sponsored by the Michigan Water Environment Association

Minnesota

Rebecca Southern and Cara Kowalchyk
Investigating use of *Pseudomonas putida* Fu1 to clean up toxic
furan agricultural byproducts in soil to prevent runoff
Breck School
Science Teacher – Lois Fruen
Sponsored by the Central States Water Environment Association

Mississippi

Morgan Hertz
The effects of *Crassostrea virginica* on the Growth of *Juncus roemerianus*
in an Aquaponics System
St. Patrick Catholic High School
Science Teacher – Debbie Worrel
Sponsored by the Mississippi Water Environment Association

Missouri

Mrigank Gupta
Living Bacteria into Electrical Energy
Parkway West High
Science Teacher – Ellen Wilke
Sponsored by the Missouri Water Environment Association

Montana

Markie Kindred and Miranda Tornator
A Comparison of Algae Growth in Waste Water
versus Standard Bristol Media
Sentinel High School
Science Teacher – Brett Taylor
Sponsored by the Montana Water Environment Association

Nebraska

Mikayla Messing
Using Aquatic Plants to Remove Water Contaminants
Lakeview High School
Science Teacher - Edward Kinzer
Sponsored by the Nebraska Water Environment Association

Nevada

Kirsten Perry
Utilization of a Thermophilic Sulfate-Reducing Species
for Bioremediation Purposes
Elko High School
Science Teacher – Brian Zeiszler
Sponsored by the Nevada Water Environment Association

New Hampshire

Jay Lizotte, Steve Edmonds, and Katelyn Veneman
Acid Rain Titration in an Aquatic Environment
Goffstown High School
Science Teacher – Sara Tower
Sponsored by the New England Water Environment Association

New Jersey

Alison Bick
Development and Evaluation of a Microfluidic Co-Flow Device
to Determine Water-Quality
Millburn High School
Science Teacher – Paul Gilmore
Sponsored by the New Jersey Water Environment Association

New Mexico

Alexander Kendrick
Electromagnetic Detection of Aquifers
Los Alamos High School
Science Teacher – Kathy Boerigter
Sponsored by the Rocky Mountain Water Environment Association

New York

Arianne Papa and Jane Smyth
Mussels, a natural approach to sewage treatment: Evaluating *Geukensia demissa*
as biofilters of local bay pollution
Long Beach High School
Science Teacher – Veronica Ade
Sponsored by the New York Water Environment Association

North Carolina

Jenifer Brown
Modification of Cotton Fabric by Silane Coupling Agents,
and Assessment for Use in Oil Spill Remediation
North Carolina School of Science and Mathematics
Science Teacher – Myra Halpin
Sponsored by the North Carolina Water Environment Association

North Dakota

Gage Metzen
The Phytoremediation Properties of Aquatic Plants on River Water
Hankinson High School
Science Teacher – Marcus Friskop
Sponsored by the North Dakota Water Environment Association

Ohio

Rachel Yurchisin
Fertilizer in Our Water Yields Dead Zone in Our Lake
Padua Franciscan High School
Science Teacher – Seth Jennrich
Sponsored by the Ohio Water Environment Association

Oklahoma

Paige Parrack

Heavy Metal Bioremediation: A Second Year Study of Tar Creek

Southmoore High School

Science Teacher Macie Viets

Sponsored by the Oklahoma Water Environment Association

Oregon

Ajay Krishnan

Improving the Generation of Electricity and the Treatment of Wastewater in a Novel Dual-

Chambered Mediator-less Microbial Fuel Cell

Oregon Episcopal School

Science Teacher – Catherine Molloseau

Sponsored by the Pacific Northwest Clean Water Association

Pennsylvania

Sarah Thompson

The Effect of Oil Dispersant on the Growth Rate of *Cycloclasticus pugetii*: A Microorganism

Contributing to the Bioremediation of the Gulf of Mexico Oil Spill

Hempfield High School

Science Teacher – Neal Kuhn

Sponsored by the Pennsylvania Water Environment Association

Puerto Rico

Zoila Alvarez and Alexandra Arroyo

The Impact of Human Population on Surface Water Quality”

Radians High School

Science Teacher – Luz Burgos

Sponsored by the Puerto Rico Water & Environment Association

Rhode Island

Naryan Murthy

Is Pharmaceutical Waste a Potential Problem in the World's Water Supply?

La Salle Academy

Science Teacher – Cheryl Williams

Sponsored by the New England Water Environment Association

South Carolina

Matthew Hunter

Oil Spill Dispersants and Aquatic Hypoxia

Academic Magnet School

Science Teacher – William Newton

Sponsored by the Water Environment Association of South Carolina

South Dakota

Luke VanGerpen and Jordan Johnson

The Use of Electrolysis to Capture Excess Energy Produced by Wind Turbines

Avon High School

Science Teacher – Paul Kuhlman

Sponsored by the South Dakota Water Environment Association

Tennessee

Michael Hulick and Andrew Howington
Use of Brewery Wastewater to Increase Heterotrophic Algae Biomass Production
Morristown Hamblen High School East
Science Teacher – Robert Gant
Sponsored by the Kentucky-Tennessee Water Environment Association

Texas

Sharjeel Syed
Duckweed as an Efficient Water Filter: Year 2
John Jay Science and Engineering Academy
Science Teacher – Jay Sumpter
Sponsored by the Water Environment Association of Texas

Utah

Shwan Javdan
Oleophilic Investigation: Analysis of an Oil Spill's Impact
on Microbial Abundance and Diversity
Academy for Math, Engineering, and Science
Science Teacher – Tara Wion
Sponsored by the Water Environment Association of Utah

Vermont

Riya Patel
The Optimization of Bioremediation
South Burlington High School
Science Teacher - Curtis Belton
Sponsored by the New England Water Environment Association

Virgin Islands

Willow Nelson
Marina Bacteria
The Good Hope School
Science Teacher – Jane Coles
Sponsored by the Virgin Island Water and Power Authority

Virginia

Darwin Li
A Novel Remote Sensing-Based Water Quality Monitoring System for
the Chesapeake Bay Using Landsat 5 Thematic Mapper
Thomas Jefferson High School for Science and Technology
Science Teacher – Lisa Wu
Sponsored by the Virginia Water Environment Association

Washington

Kathryn McClintic
Can You Drink a River? An Evaluation of Solar Disinfection Efficiency in the Inactivation of E.coli
and Coliform Bacteria at a Northern Latitude
Cedarcrest High School
Science Teacher – Kellie Halverson
Sponsored by the Pacific Northwest Clean Water Association

West Virginia

Catherine Breault

Year Study: Reducing BOD in Simulated Industrial
and Domestic Wastewater

Bishop Donahue

Science Teacher - Robert Ball

Sponsored by the West Virginia Water Environment Association

Wisconsin

Shannon Marcoux

Residence Time of Green Fluorescent Protein in a Biosand Filter

Divine Savior Holy Angels

Science Teacher – Betty Jo Azpell

Sponsored by the Central States Water Environment Association

Wyoming

Jessica Hunt

Application of Hydrothermal Mesophiles as a Control for Oil Contamination

Greybull High School

Science Teacher - Joel Kuper

Sponsored by the Rocky Mountain Water Environment Association