Natural Resources Research Institute
University of Minnesota Duluth
Driven to Discover

NRRI *Now*

Monthly Edition

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NRRI Mission:
Deliver research solutions to balance our economy, resources and environment for resilient communities.

www.nrri.umn.edu

From the Editor:

Happy New Year! NRRI researchers are excited to keep rolling with exciting progress made last year. New partners are seeking NRRI expertise while mature relationships take new twists.

We hope you'll continue your engagement with us as we follow the winding path called research. And please share this newsletter with friends and colleagues.

NRRI bird researchers will be deploying tiny technologies in new ways in 2019 to track birds with more detail than ever before.

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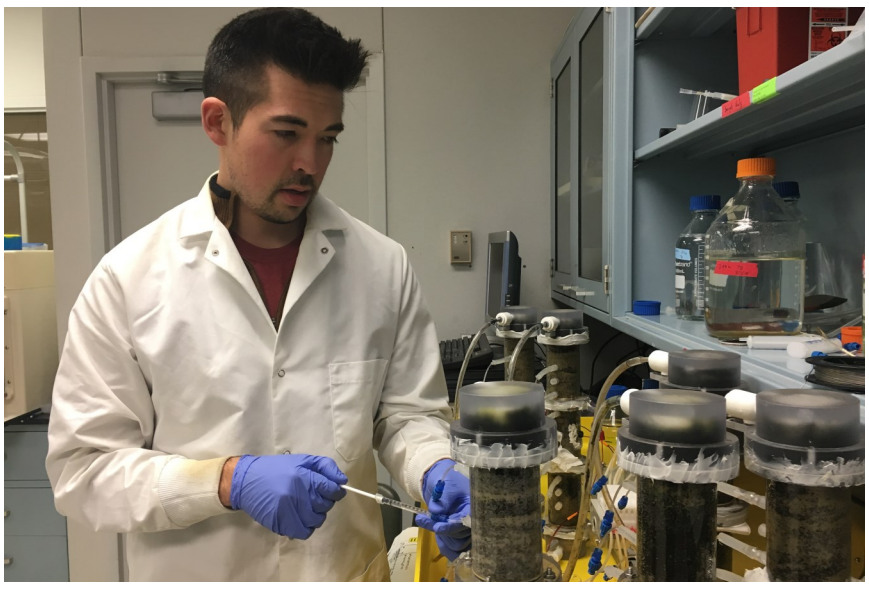
NRRI graduate student researcher receives Knauss Fellowship in D.C.

A passion for freshwater and environmental justice landed Daniel Takaki a prestigious fellowship in Washington, D.C. next year. After completing his Master's thesis research at NRRI on an innovative and inexpensive bioreactor to treat sulfate contaminated water, Takaki is ready to put science into action at the highest levels of government.



Daniel Takaki extracts water from an innovative filtering system in development at NRRI.

Becoming a Knauss Fellow is an honor that only 60 advanced degree students across the U.S. achieve, and Takaki is representing Minnesota through the national Sea Grant program. He was chosen to work as a Group on Earth Observations (GEO) Blue Planet Policy Fellow, to be a liaison between scientists and policy makers about climate change impacts to coastal areas.

"We'll be studying how communities are responding and adapting to sea level rise and major storm events, and then inform policymakers so they can be proactive," said Takaki. "It's really exciting for me."

His path to freshwater research started at Villanova University, Penn., as an undergraduate student. Takaki spent time in Panama with the Villanova Chapter of Engineers Without Borders to work with a community to develop a drinking water system. There he acquired a deep appreciation for the importance of scientific research coupled with impacts to people.

Takaki chose UMD's Water Resources program for his Master's degree because of the research Chanlan Chun was doing at NRRI to find solutions to sulfate in freshwater resources, understand impacts to wild rice growth and the cultural importance of native wild rice.

"I grew up near Lake Michigan and feel very connected to the Great Lakes," he said. "Minnesota's program was really unique and allowed me to study across many disciplines including engineering, chemistry and policy. Plus, if you want to study freshwater, this is the place to do it."

The Knauss Fellowships are housed within the Executive and Legislative Branches of government. Takaki's work is tied to the National Oceanic and Atmospheric Administration (NOAA), and similar international agencies. He's looking forward to increasing his ability to communicate science to a wide array of audiences, the travel opportunities involved and networking with legislators and scientists from a variety of disciplines.

The Knauss Fellowship began in 1979 and is funded by the National Sea Grant College Program.

NRRI's top 5 stories of 2018: From toxic algae to persistent potholes

People are often amazed by the variety of research underway at NRRI. This list of the most read stories from 2018 reflects that variety.

Persistent algae problem puzzles scientists
Warming climate makes breeding ground for toxic algae in shallow Minnesota resort lake.

Getting to the root of wild rice
Why do some wild rice restoration sites thrive while others don't? It could be the microbes.

Seeing rocks beneath the surface
NRRI geologist develops tool to help MnDOT understand potential exposure to sulfide-bearing rocks during road building.

NRRI celebrates 35 years of collaboration
Pictures of our event and a short video of NRRI researchers sharing their excitement for what's ahead.

City demonstration fills potholes
What happens when you mix innovation with waste rock and potholes? Hopefully, a new road repair product that lasts.

Toxic blue green algae is a problem for northern Minnesota resorts.

What's ahead for 2019?
You'll hear more about Minnesota's emerging bioeconomy, UMD partnerships to develop new materials, defining Minnesota's iron future and piloting new sulfate remediation techniques.

2019 will be a busy one!