

# Ohio Water Resources Center Newsletter

## From Our Directors

The 2019 Annual NIWR Meeting was an opportunity for all 54 Water Resource Research Institutes to get together and share success stories, discuss the program's 10-year vision, meet with state representatives on Capitol Hill, and work together to further advance the vision and mission of NIWR. This meeting allows the Institutes to collaborate to ensure they continue to address the nation's most pressing water resources issues through research, shared information and technology, and developing a diverse workforce. During the meeting, Ohio WRC Co-Director Linda Weavers (right) and Graduate Administrative Assistant Matt Young (left) visited Capitol Hill. There they met with staffers for Senators Brown and Portman, as well as, Representatives Balderson, Stivers, Joyce, and Johnson and discussed Ohio WRC research and the impact of Ohio WRC activities to Ohio's water stakeholders.



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## Spotlight

### Water Resources Research Act Program 10-Year Vision

For over 50 years, the Water Resources Research Act (WRRRA) Program has invested in university-based, water-related research; information and technology transfer; and workforce development. To continue using these investments to resolve water issues across all scales, WRRRA Program Director Earl Green recently presented the WRRRA Program's 10-year vision to guide activities and investments needed to sustainably protect and manage our nation's water resources. The vision includes 7 Focus Areas: (1) Water Scarcity and Availability; (2) Water-Related Hazards and Climate Change; (3) Water Quality and Human Health; (4) Water Policy, Planning, and Socioeconomics; (5) Watershed and Ecosystem Function; (6) Water Technology Innovation; and (7) Workforce Development and Literacy.



The goal of the 10-year vision is to identify priority research, outreach, engagement, and education strategies leading to reliable, sustainable supplies of quality water in order to support sustainable economic development, environmental health, water-related hazard resilience, and social equity and well-being.

## News Updates

[Ohio EPA considers rules for water-quality certification](#)

Via The Vindicator, February 27th, 2019

### [EPA Announces Development of Water Reuse Action Plan](#)

Via contractor, February 27th, 2019

### [Ohio governor promises water quality initiative](#)

Via The Columbus Dispatch, February 24th, 2019

### [An Ohio city will vote on whether Lake Erie has the same rights as a person](#)

Via WTVA, February 21st, 2019

### [Toledo Scientists Advance Technology to Protect Drinking Water from Algal Toxins in Lake Erie](#)

Via WaterWorld, February 19th, 2019

### [Cincinnati researchers developing an energy-efficient filtration material to mitigate water scarcity throughout the world](#)

Via The News Record, February 16th, 2019

### [EPA, WRF to reduce excess nutrients in US waterways](#)

Via Water Technology, February 8th, 2019

### [Group sues U.S. EPA for not holding Ohio accountable for Lake Erie algae](#)

Via The Columbus Dispatch, February 7th, 2019

### [Tainted water: the scientists tracing thousands of fluorinated chemicals in our environment](#)

Via Nature, February 6th, 2019

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Have a news article you'd like us to feature in our Newsletter? Email us at [OhioWRC@osu.edu](mailto:OhioWRC@osu.edu)!

## Ohio WRC Research Highlight

### Composite Membranes for Produced Water Clean-up

Within Ohio, hydraulic fracturing, or fracking continues to be a common method for energy production in which oil or gas is extracted from rock and shale formations by drilling and injecting high-pressure water and chemicals into wells. This process uses millions of gallons of water and leaves the wastewater produced filled with salts, proprietary industrial chemicals, radionuclides, and toxic metals. The Ohio WRC is funding **Dr. Pelagia-Iren Gouma** and her team at the Ohio State University to study innovative water treatment technologies that can make removal of metals and radionuclides from fracking wastewater cost effective and scalable. Dr Gouma and her team focus on filtration using cellulose acetate-amyloid fibril mats, a natural biomaterial that they derive from wheat proteins, to efficiently remove specific contaminants.



Through our seed funding, Dr. Gouma and her team have reached three major breakthroughs. Firstly, they have come up with a cost effective way to scale the production of amyloid fibrils from common plant proteins. Next, they have successfully managed to encapsulate amyloid fibrils into non-woven mats of cellulose acetate via a single step process of electrospinning. Lastly, they have successfully utilized the electrospun mats to treat produced water. We at the Ohio WRC are excited

to see what the future holds for this innovative and revolutionary technology. Due to the affordable nature of the membrane constituents and the potential for it to efficiently remove

toxic metals and radionuclides via filtration, this technology could be of significant use in addressing water pollution issues, such as fracking wastewater.

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Find out more about Dr. Gouma's research by visiting her [website](#). If you'd like to find out more about other Ohio WRC research projects, visit: <https://wrc.osu.edu/past>.

## Opportunities

### Ohio Sea Grant Issues Request for Proposals for 2020-2022 Research Projects

Ohio Sea Grant is requesting pre-proposals for one- to two-year research projects on Great Lakes issues with particular significance to Ohio and Lake Erie. This year Ohio Sea Grant's main priorities for funding include: Crude oil and hazardous materials transport, Identification and treatment of pharmaceuticals and personal care products, Tourism and coastal economic development, Aquaculture improvements, Sensor technology development and infrastructure, Community hazard resilience, and Green infrastructure performance analysis, modeling and decision support tools. Visit [ohioseagrant.osu.edu/research/funding](http://ohioseagrant.osu.edu/research/funding) for proposal guidelines, required forms and to submit your documents. Pre-proposals must be submitted [online](#) by **5PM on Thursday, March 14, 2019**.

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### Water Management Association of Ohio (WMAO) Student Scholarship

This scholarship is an opportunity for undergraduate and graduate students in a water-related field. This \$1000 scholarship is available to applicants who meet the following eligibility criteria:

- Candidates must attend, or plan to attend, a public or nonprofit independent college or university in Ohio on a full time basis.
- Candidates must be pursuing one of the following water resource-related disciplines: Agricultural engineering, Aquatic Biology, Civil or Environmental Engineering, Education, Geology, Hydrogeology, Hydrology, Natural Resources, Water Policy, or Other Sciences.
- Candidates must be a resident of Ohio.
- Candidates must have a minimum 2.75 grade point average.

Please share this opportunity with all of your eligible students. **The deadline to apply has been moved to April 27th, 2019, 5:00PM.** [More information.](#)

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### Department of Energy - American Made Challenges: Waves to Water

The Water Power Technologies Office (WPTO) at the U.S. Department of Energy (DOE) will be launching a new prize, aligned with the recently announced Water Security Grand Challenge. The Waves to Water prize will provide up to \$2.5 million in cash prizes, engage a wide variety of competitors, and accelerate early stage technologies through a series of contests to demonstrate small, modular, cost-competitive desalination systems that use the power of ocean waves to provide potable drinking water to remote and coastal communities. The prize will advance the emerging community of problem solvers and technologists working to pair wave power technology with water systems, as well provide new technology options to solve water security challenges. [More information.](#)

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### River Network River Rally in Cleveland, Ohio - June 21 to June 24

River Network offers a limited number of scholarships for financial assistance to attend the River Rally. The application for 2019 scholarships is integrated into the conference registration process. Applicants must register for the River Rally and **submit a scholarship application by March 15th**, with a non-refundable \$20 deposit. Awards will be allocated

by the end of March, and applicants will have until April 30th to pay any balance that may remain on your registration, or cancel without penalty. [More information.](#)

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To find more resources offered by Ohio WRC, please visit: <https://wrc.osu.edu/resources>

## Upcoming Events

### Byrd Center Symposium on Climate Change Research - March 22

The Byrd Polar & Climate Research Center (BPCRC) will host its inaugural Byrd Center Symposium on Climate Change Research at Ohio State, on Friday, March 22. The symposium will take place at BPCRC in Scott Hall on West Campus. The goal of the Symposium is to gather all of the climate research at OSU under one roof for one day, in order to increase visibility of your research on campus, and to help you connect with other OSU climate researchers. [More information.](#)

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### 6th Annual Kent State Environmental Science & Design Research Symposium - March 21

The Environmental Science and Design Symposium is a multidisciplinary forum that promotes the exchange of ideas related to the resiliency of natural and built systems. This year's theme, "Complexity of Environmental Legacies", reflects the challenges of developing sustainable systems in landscapes transformed by decades of modification and contamination. Speakers from a wide range of disciplines (fashion, geology, geography, architecture, and ecology) will address topics related to urban, sustainability, restoration, and the integration of design with biological systems. [More information.](#)

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### 2019 Design-Build for Water/Wastewater Conference - April 10 to April 12

Put together thousands of water/wastewater design-build professionals and Owners with hundreds of exhibitors, plus top-notch experts, and you've got DBIA's Design-Build for Water/Wastewater Conference. As the nation's only design-build event for the water/wastewater sector, this is a truly unique opportunity to network, learn and collaborate with the best in the industry. [More information.](#)

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### The Ohio State CFAES Annual Research Conference - April 22

The 2019 CFAES Annual Research Conference will be held on Monday, April 22 at the Nationwide Ohio Farm Bureau and 4-H Center in Columbus, OH. Transportation will be provided from Wooster for those who are interested. The event is free and open to all CFAES faculty, staff, and students. We highly encourage those who are eligible to participate in the [poster competition](#). First, second, and third place winners in each competition will receive cash awards of \$500, \$300 and \$150, respectively. **Please register by April 8** if you plan to attend. [More information.](#)

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### 2019 Ohio Stormwater Conference - May 8 to May 10

The 2019 Conference is once again presented by the Tinker's Creek Watershed Partners and the Ohio Stormwater Association. The 2019 Conference is expected to be the biggest one yet with over 95 exhibitors and 90 speakers over seven tracks of concurrent sessions. The Ohio Stormwater Conference will provide up to 11 hours of continuing education credit as well as opportunities to earn more hours through the pre-conference tours. [More](#)

[information.](#)

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**Email:** [OhioWRC@osu.edu](mailto:OhioWRC@osu.edu)  
**Phone:** 614-292-2807  
**Website:** <https://wrc.osu.edu/>  
**Address:** 311 Hitchcock Hall  
2070 Neil Avenue  
Columbus, OH 43210



**THE OHIO STATE UNIVERSITY**

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