

WORLD WATER DAY 2022

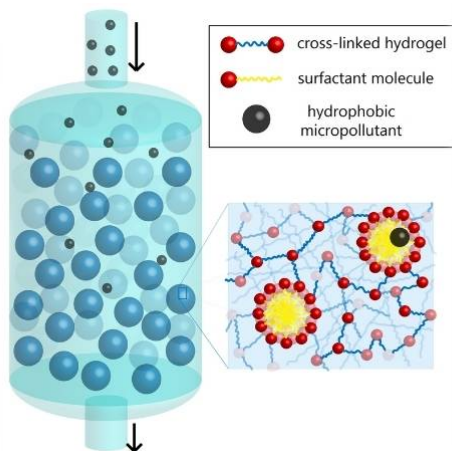
SPECIAL NEWSLETTER EDITION



Securing water for all

The pandemic, a growing population, & escalating humanitarian crises make the J-WAFS mission to support MIT research addressing water for human need more important than ever.

[LEARN MORE](#)



Read our latest MIT News story on water purification

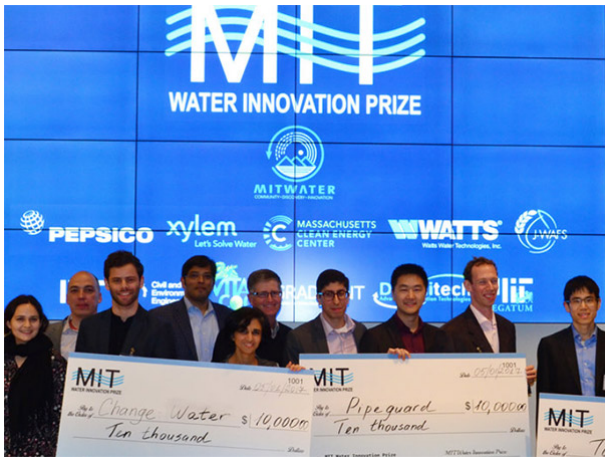
J-WAFS PI Patrick Doyle & team created a sustainable soap-based system to eliminate micropollutants in water.

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Attend the MIT Water Prize final event

On 4/25, the MIT Water Club, supported by J-WAFS, will host the 2022 Water Innovation Prize finalists as they pitch their startups to judges.

[RSVP](#)



Join us on Twitter!



Join our social media campaign

Follow all of the #WorldWaterDay action on the J-WAFS Twitter channel: [@jwafs_mit](https://twitter.com/jwafs_mit).

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WORLD WATER DAY BY THE NUMBERS

FACTS AND FIGURES REGARDING THE STATE OF WATER AND GROUNDWATER WORLDWIDE

2.3 billion people

live in water-stressed countries, of which 733 million live in high and critically water-stressed countries (UN-Water Integrated Monitoring Initiative).

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>52% of the American West

was classified as experiencing extreme or exceptional drought (U.S. Drought Monitor).

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A massive scale

of chemicals used in weaponry in the war in Ukraine is liable to contaminate

2.5 billion people

rely on groundwater as their one and only source of freshwater (Stockholm

groundwater there for years to come (Business Standard).

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International Water Institute).

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700 million

people could be displaced by intense water scarcity by 2030 (UNICEF).

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60% of public wells

sampled in the eastern U.S. had detectable PFAS chemicals (U.S. Geological Survey).

[READ MORE](#)

2022 THEME: GROUNDWATER

FOCUSING ON THE IMPORTANCE OF THIS PRECIOUS UNDERGROUND RESOURCE

J-WAFS experts weigh in on groundwater in new podcast

Specific to this year's World Water Day is the theme of groundwater. Groundwater is a hidden treasure that lies under our feet in aquifers, which are geological formations of rocks, sand, and gravel that can hold water. Groundwater is recharged mainly from rain and snow that seep into the earth.

Groundwater is sometimes the only safe and reliable drinking water supply, particularly in dry parts of the world. It can be brought to the surface through pumps and wells, and it is used for household and municipal supplies, irrigation and farming, and sanitation.

Past and current J-WAFS projects explore groundwater and how to keep it safe from threats like pollution, natural contamination, and climate change. In the section below we dive into a few of these projects, but first we hear from J-WAFS director, John H. Lienhard V and J-WAFS research manager for climate and food systems, Greg Sixt, in a recorded chat about groundwater significance, governance, & challenges. Both Lienhard and Sixt have studied groundwater and offer insight into how groundwater is currently being used, where it is found, and how it differs from surface water.

LISTEN NOW!



J-WAFS WATER-RELATED RESEARCH HIGHLIGHTS

FUNDED PROJECTS ON GROUNDWATER AND OTHER CRITICAL WATER ISSUES



Decreasing arsenic exposure in Bangladesh

Charles Harvey, Civil and Environmental Engineering

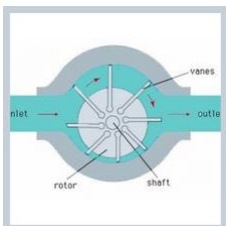
Harvey is trying to understand how to safely site wells to prevent arsenic poisoning from groundwater in Bangladesh. [MORE INFO](#)



Filtering arsenic from drinking water in South Asia

Julia Ortony, Materials Science and Engineering

Ortony manipulates molecules into nanofibers that can remove heavy metals from water. [MORE INFO](#)



Improving groundwater desalination devices

Amos Winter, Mechanical Engineering

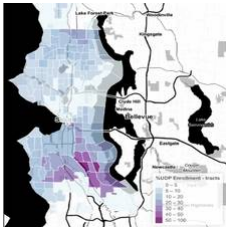
Winter is working to make reverse osmosis systems for brackish groundwater more affordable and sustainable. [MORE INFO](#)



Disinfecting drinking water inexpensively

Susan Murcott, D-Lab

Murcott is designing and developing a low-cost water disinfection unit for use in schools in India. [MORE INFO](#)



Enhancing water equity and access programs

Gabriella Y. Carolini and Larry Susskind, Urban Studies and Planning

The researchers are studying how to help those who are the most vulnerable to water inequities in urban America. [MORE INFO](#)

CLOSING QUOTE

ON THE TIMELINESS OF WATER-RELATED WORK



“Water is the most important thing, perhaps for the next decades to come, so it's very fulfilling to work on something that is so important to the whole world.”

-Patrick S. Doyle, MIT professor of Chemical Engineering and J-WAFS researcher

INTERESTED IN SUPPORTING J-WAFS?

When you make a gift, you are making an investment in both the future of J-WAFS and our Institute-wide work to improve the productivity, accessibility, and sustainability of the world's water and food systems.

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RENEE J. ROBINS
Executive Director, J-WAFS
rrobins@mit.edu or (617) 324-6726



J-WAFS is an Institute-wide effort that brings MIT's unique strengths to bear on the many challenges our food and water systems face.

Our program catalyzes MIT research, innovation, and technology for ensuring safe and resilient supplies of water and food while reducing environmental impact, to meet the local and global needs of a rapidly expanding and evolving population on a changing planet.



Abdul Latif Jameel Water and Food Systems Lab
Massachusetts Institute of Technology
77 Massachusetts Avenue, E38-325
Cambridge, MA 02139
E: jwafs@mit.edu
P: (617) 715-4222
W: jwafs.mit.edu

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