

NEWS & ANNOUNCEMENTS



César Terrer receives J-WAFS Animal Ag Grant

The assistant professor will develop a global database to better understand greenhouse gas emissions from livestock grazing.

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Federal interagency working group visits MIT Sea Grant

Federal ocean and coastal mapping representatives learned about J-WAFS-funded projects addressing aquaculture challenges and the importance of workforce development, among other things.

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Engineers protect microbes that can be used in agriculture

A team of researchers from MIT and beyond are making beneficial microbes more resistant to extreme environmental conditions, using microorganisms found in probiotics and food and drug additives.

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J-WAFS PIs to help lead MIT climate project

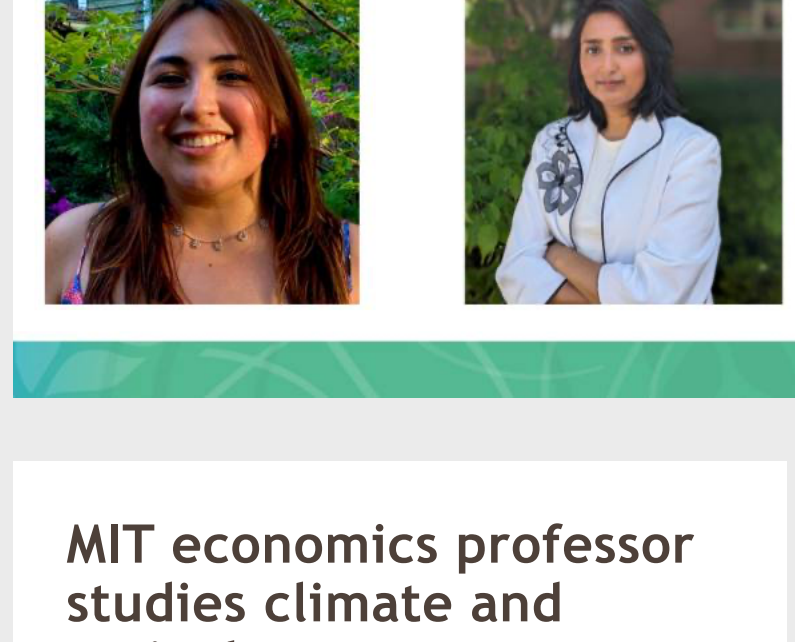
Andrew Babbin will co-lead a focal area involving protecting food and water systems; Christopher Knittel will work on climate policy approaches; Benedetto Marelli will seek out unconventional solutions; and other MIT PIs like Miho Mazereeuw will tackle food security, among other things.

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Nader Diab writes op-ed for AgTechNavigator

Community Jameel's head of programs, Diab says the Jameel Observatory is working with communities facing on-the-ground threats of hunger, "to devise solutions that can predict, prepare for, and overcome climate-related food security and malnutrition challenges in dryland areas."

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J-WAFS awards Travel Grants

Daniela Morales and Shubhi Goyal, master's students in the Department of Urban Studies and Planning, will attend Stockholm World Water Week in August.

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MIT economics professor studies climate and agriculture

Namrata Kala explores climate change effects on agriculture in Africa and India, and the impact of mechanization on farmers' incomes.

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MIT economics PhD student researches water and food

Aaron Berman studies the global fishing industry, groundwater irrigation in Texas, and the scallow fishing industry in New England.

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J-PAL plays a key role in supporting African farmers

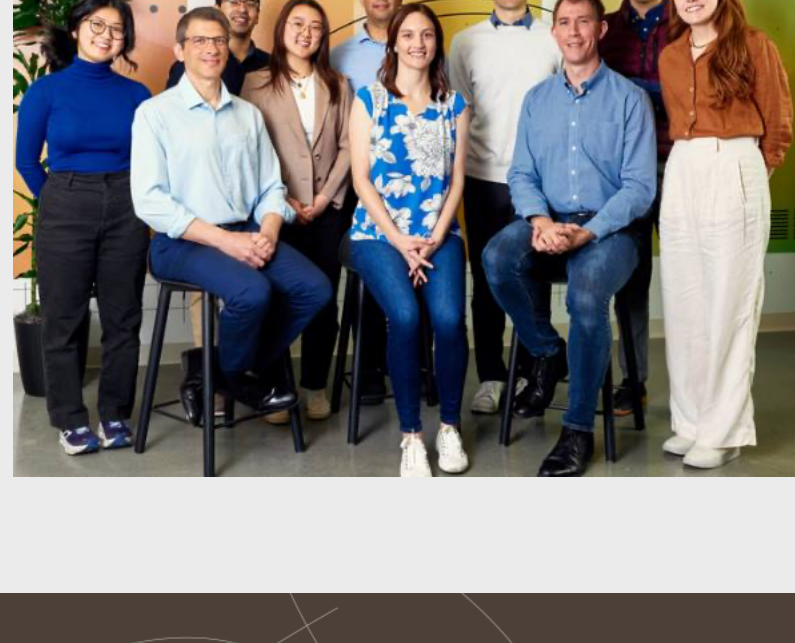
After joining the Paris Peace Forum Coalition to increase food security in Africa, the Abdul Latif Jameel Poverty Action Lab helped launch a policy platform to identify African agricultural development solutions.

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J-PAL policy insight examines clean water access and use

The brief notes that free or subsidized water safety interventions like spring protection, chlorine solution, and water filtration, can expand water access and usage in low- and middle-income countries.

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J-WAFS spinout cleans wastewater

Led by past J-WAFS researcher Brendan Smith, SiTration is working with metals and mining company Rio Tinto to handle mine tailings.

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PUBLICATIONS

J-WAFS researchers publish their system for water treatment

J-WAFS PI Patrick Doyle, J-WAFS fellow Devashish Gokhale, and others introduce a heterogeneous zwitterionic hydrogel-based Fenton catalyst that effectively degrades persistent organic pollutants, developed with J-WAFS funding.

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J-WAFS director's paper advances understanding of classical heat conduction

Professor John Lienhard and graduate student Kyle McKee show that heat conduction shape factors inside and outside planar objects are equal when the objects have a particular N-fold symmetry.

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J-WAFS researcher publishes system for fish identification

Robert Vincent, PhD, wrote a conference paper with a team from Northeastern University on systems for monitoring river herring, which are an essential part of freshwater and marine ecosystems and fisheries.

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Publication advances sustainable hydrogen fuel production

Groundbreaking research showing that hydrogen gas can be produced by combining aluminum pellets, filtered seawater, and coffee grounds was published by former J-WAFS fellow Peter Godart and MIT colleagues.

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IN-DEPTH LOOK

CHIEF EDITOR OF NATURE WATER VISITS MIT AND MEETS WITH J-WAFS DIRECTOR

Fabio Pulizzi spoke about water and society and presented the vision for *Nature Water*

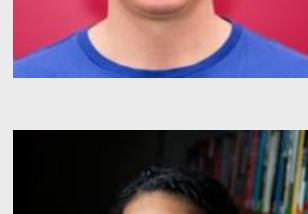
In June, Fabio Pulizzi, PhD, the chief editor of *Nature Water* visited MIT and toured the K. Lisa Yang Global Engineering and Research (GEAR) Center and the Rohsenow Kendall Heat Transfer Laboratory. He was guided by PhD student and J-WAFS fellow Jonathan Besette and research scientist Akshay Deshmukh, PhD, who is currently working on a J-WAFS project with J-WAFS director Professor John Lienhard. During the visit, Pulizzi explored many ongoing research projects related to desalination, purification processes, and heat transfer mechanisms in sustainable water management.



Following the lab tours, Pulizzi met with Professor Lienhard to discuss J-WAFS-funded projects and interdisciplinary collaboration addressing water issues. Pulizzi concluded his visit by presenting the scope and vision of *Nature Water*, including its editorial process and commitment to open science, followed by a Q&A session with the MIT community.

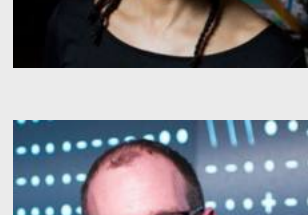
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AWARDS & RECOGNITIONS



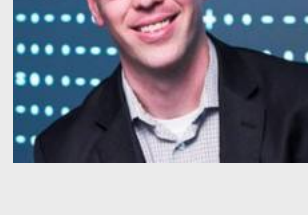
J-WAFS spinout awarded in an AgriTech challenge

Furthering technology developed with J-WAFS support, Eric Vliegmen's company CoolVeg is one of 11 grantees awarded a share of \$1.7M from The Efficiency for Access Research and Development Fund. CoolVeg builds evaporative cooling chambers for fruit and vegetable storage. [MORE INFO](#)



Erica James' book highlights role of community in missions

The past J-WAFS PI wrote "Life at the Center: Haitians and Corporate Catholicism in Boston," which details the evolution of the Haitian Multi-Service Center in Dorchester, MA, from its beginning in 1978 as a haven for Haitian immigrants settling in Boston. [MORE INFO](#)



Past J-WAFS PI Zachary Smith receives tenure at MIT

As the Robert N. Noyce Career Development Professor in the Department of Chemical Engineering, Prof. Smith's research includes studying membrane-based separations for industrial and environmental applications, including water purification and desalination. [MORE INFO](#)



Brown will lead the Program in Science, Technology, and Society for the 2024-2025 academic year. Brown's J-WAFS project is evaluating the historical use of engineered organisms for bioremediation and testing the use of engineered soil bacteria to protect drinking water.

[MORE INFO](#)



Zhao receives Uncas and Helen Whitaker Chair Professorship

Xuanke Zhao, a past J-WAFS PI, will advance sustainable science and technology. Uncas Whitaker was the first woman elected to life membership on the MIT Corporation, where Uncas was also a member. [MORE INFO](#)



Susan Solomon's book offers hope about climate change

The past J-WAFS PI wrote "Solvable: How we Healed the Earth and How we can do it Again" to present steps for addressing today's environmental challenges. The book demonstrates that with a unified effort, environmental problems are solvable. [MORE INFO](#)



J-WAFS PI Mary Gehring named HHMI Investigator

Gehring has been awarded roughly \$11 million over 7 years from the Howard Hughes Medical Institute to support her groundbreaking research. Gehring studies epigenetics and seed biology, specifically the processes that regulate plant reproduction and seed development. [MORE INFO](#)



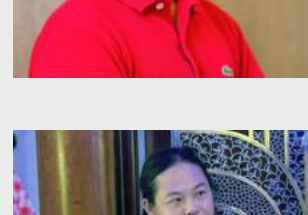
MITEI awards grants to several J-WAFS PIs

The MIT Energy Initiative Seed Fund Program awarded grants of \$150k to support innovative energy research projects. Among the grantees are three researchers who are also part of the J-WAFS community: John Lienhard, Yogesh Surendranath, and Ariel Furst. [MORE INFO](#)



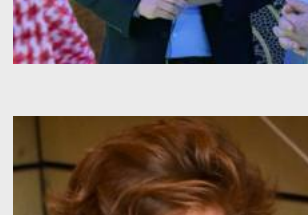
MIT film on water nominated for a New England Emmy Award

Created by the MIT Department of Mechanical Engineering, "No Drop to Spare" highlights the impactful work of J-WAFS PI Amos Winter and former J-WAFS supported student Georga Van de Zande, and their efforts to deploy affordable, smart irrigation technology for farmers. [MORE INFO](#)



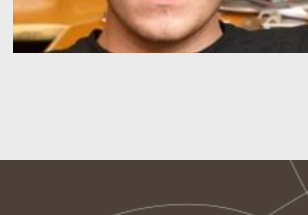
Devashish Gokhale featured in Popular Science

The former J-WAFS Fellow and a team of MIT researchers developed a method to purify water using recycled beer yeast encapsulated in hydrogel casings. The innovative approach allows the yeast to bind and absorb heavy metals like lead from water. [MORE INFO](#)



Harmony Desalting featured in museum exhibition

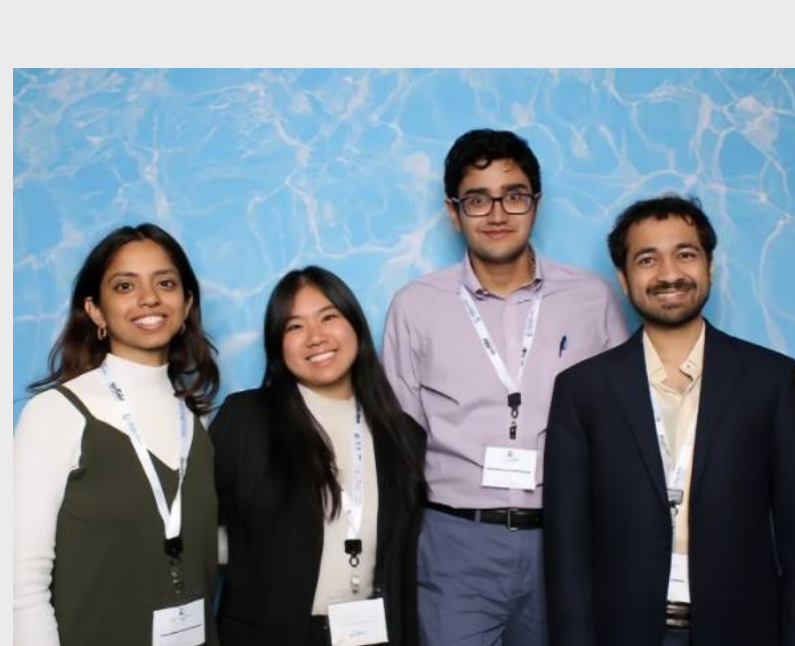
Quantum Wei and his company Harmony Desalting were featured at the Cade Museum for Creativity & Invention. Wei started working on batch reverse osmosis technology in the lab of J-WAFS director John Lienhard, and co-founded the company in 2020. [MORE INFO](#)



Peter Godart interviewed on the "Built For Earth" show

The former J-WAFS Fellow discussed how aluminum can help in the fight against climate change. Godart is the founder and CEO of Found Energy, which innovated a process for releasing energy from aluminum, providing a solution for heating in agriculture and other heavy industries. [MORE INFO](#)

FUNDING AND OTHER OPPORTUNITIES

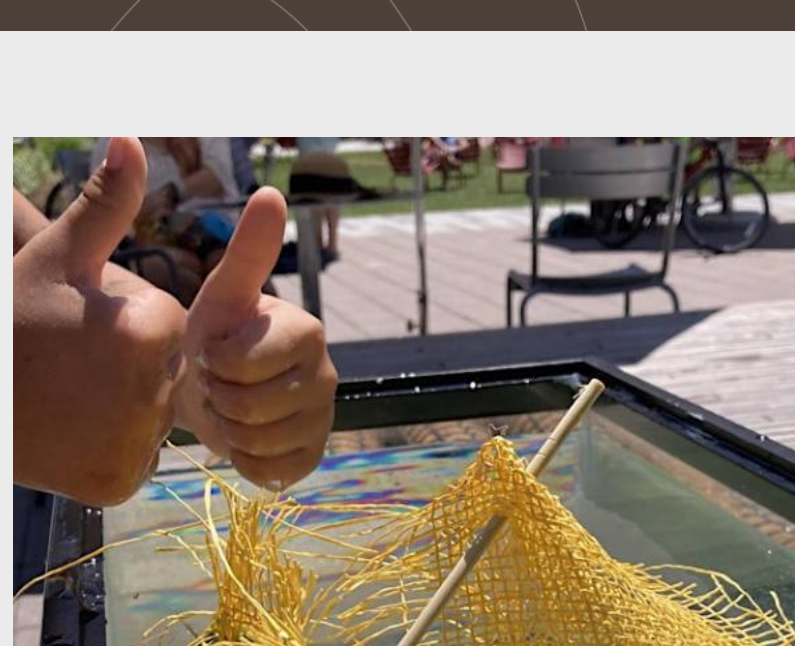


J-WAFS Travel Grants for Water Conferences

MIT grad students interested in water careers: Apply for funding to attend the UNC Water & Health Conference by August 12.

[APPLY NOW!](#)

EVENTS



Floating wetlands event for kids

On Aug. 3 at 11 am, the Charles River Conservancy & MIT Sea Grant will hold activities in MIT's Open Space on wetlands, which maintain waterways!

[MORE INFO](#)



MIT Global Summit on Mine Tailings Innovations

J-WAFS community members will speak at this event on Sept. 19-20, to address mining waste, which pollutes water.

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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.

[DONATE ONLINE](#)

FOR MORE INFORMATION ABOUT SPONSORSHIP OPPORTUNITIES, CONTACT:

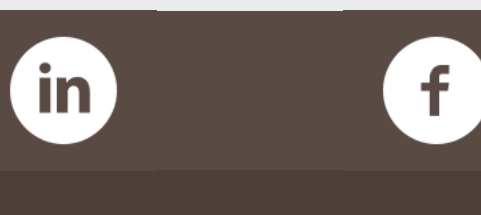
RENEE J. ROBINS
 Executive Director, J-WAFS
rrobins@mit.edu or (617) 324-6726



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.

This newsletter marks our summer 2024 edition. We'll see you again in September!



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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