

NEWS & ANNOUNCEMENTS



J-WAFS awards 2024 fellowships

MIT PhD students Jonathan Bessette and Akash Ball have been awarded for their outstanding work on water treatment technologies.

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J-WAFS PI studies early plant stress detection

Michael Strano helped develop carbon nanotube sensors that offer farmers an early warning system to protect crops more effectively.

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D-Lab researcher discusses food waste

Libby McDonald says 25-30% of global food ends up as waste, but composting and efforts to improve waste management can help.

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J-PAL helps combat food insecurity

The King Climate Action Initiative at the Abdul Latif Jameel Poverty Action Lab is working on projects like increasing agricultural output through rainwater harvesting in Niger.

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MIT PhD candidate studies groundwater

Emma Bullock researches the effects of permafrost thaw on mercury levels in groundwater in the Arctic to help communities in the region and anyone who eats fish worldwide.

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MIT technology improves aquaculture hatcheries

With support from J-WAFS, MIT Sea Grant researchers developed an automated shellfish larvae identification and counting system.

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PUBLICATIONS

Innovative approach for chemiresistors

J-WAFS PIs Aristide Gumyusenge, Heather Kulik, Mircea Dincă, and others, build off of research on metal-organic frameworks (MOFs) for PFAS detection, by applying the MOF candidates for gas sensing.

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Capturing water from air with inexpensive salts

New research from the lab of J-WAFS director John Lienhard develops prediction models and provides insights and guidelines to support faster water capture for water and energy applications.

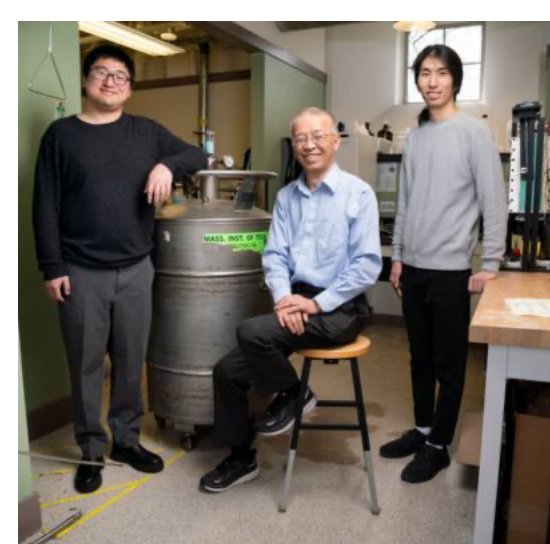
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IN-DEPTH LOOK

J-WAFS RESEARCHERS DISCOVER EVAPORATION PHENOMENON

Evaporation caused by light instead of heat could lead to improved desalination processes

J-WAFS PI Gang Chen, past J-WAFS Fellow James Zhang, and postdocs Guangxin Lv and Yaodong Tu, demonstrated that a "photomolecular effect" could affect calculations of climate change and may lead to improved desalination and drying processes. The groundbreaking research revealed a previously unrecognized effect whereby light, striking water's surface where air and water meet, can break water molecules away and float them into the air, causing evaporation in the absence of any source of heat.



of climate models," he adds.

The team recently published the research in a paper in PNAS. They believe the effect happens widely in nature—everywhere from clouds to fog to the surfaces of oceans, soils, and plants—and that it could also lead to new practical applications, including in energy and clean water production. "We're exploring all these different directions," Chen told MIT News. "And of course, it also affects the basic science, like the effects of clouds on climate, because clouds are the most uncertain aspect

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AWARDS & RECOGNITIONS



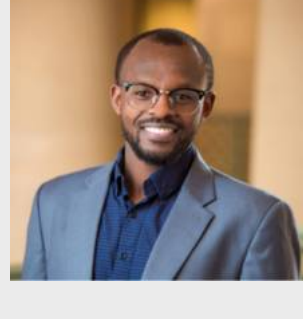
J-WAFS director releases free textbook online

John H. Lienhard V, director of J-WAFS, and his father John H. Lienhard IV, Professor Emeritus at the University of Houston, released the 6th edition of *A Heat Transfer Textbook*, with revised material, text, and figures, and the solutions to more than 520 problems. [MORE INFO](#)



J-WAFS associate director honored as "Committed to Caring"

Rohit Karnik is part of a group of MIT faculty members to receive a 2023-25 "Committed to Caring" award, a student-driven initiative that celebrates faculty who have served as exceptional mentors to graduate students. [MORE INFO](#)



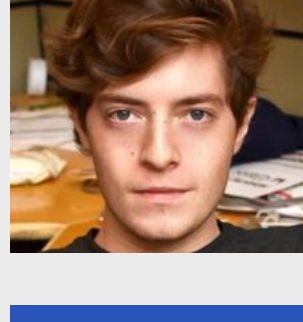
J-WAFS PI named Doherty Professor in Ocean Utilization

Aristide Gumyusenge was awarded by the MIT Sea Grant for his use of metals and other materials to create thin films for use in sensing devices to detect toxic chemicals called PFAS, which can be found in waterways worldwide. [MORE INFO](#)



Student teams win at MIT's Water, Food, and Ag Prize night

Co-sponsored by J-WAFS, the event featured Crop Diagnostix, which received 1st place for their gene sequencing solution to help farmers understand crop health. Tarragon Systems took home 2nd place and the audience choice award for their algorithm to reduce food waste. [MORE INFO](#)



Past J-WAFS Fellow's company successfully closes seed round

Peter Godart is the CEO of Found Energy, which announced an oversubscribed Seed Round of \$12M. The company invented technology that extracts carbon-free energy from aluminum metal to accelerate decarbonization of heavy industries like the agricultural industry. [MORE INFO](#)



MIT spinout company awarded by Global Water Intelligence

Born from technology developed in John Lienhard's lab, Gradient won "Water Company of the Year" at the Global Water Awards, held in conjunction with the Global Water Summit 2024. Gradient helps the world's leading brands reduce, reclaim, and renew the water they use. [MORE INFO](#)

FUNDING

AND OTHER OPPORTUNITIES

Civil/wastewater engineer

Open to: Electrodialysis engineers

Deadline: Ongoing

J-WAFS spinout NONA Technologies is seeking a candidate to build a pilot scale ion concentration polarization system for brackish water, produced water, and wastewater treatment.

[MORE INFO](#)

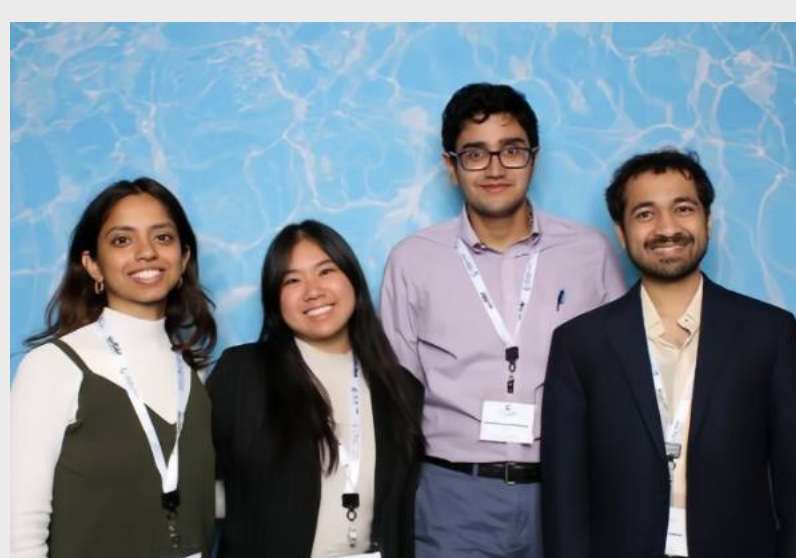
MCSC Scholars Program

Open to: MIT rising juniors & seniors

Deadline: Ongoing (as space allows)

MIT's Climate & Sustainability Consortium enables MIT undergraduates to have a unique, yearlong, interdisciplinary experience developing climate and sustainability research projects.

[MORE INFO](#)



J-WAFS Travel Grants for Water Conferences

MIT graduate students with research in water can apply for funding to attend the UNC Water & Health Conference in October. Apply by August 12, 2024.

[MORE INFO](#)

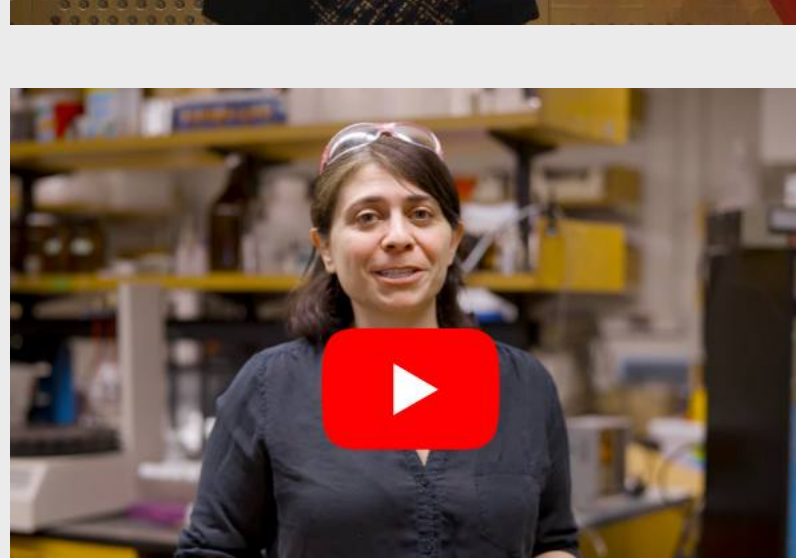
IN CASE YOU MISSED IT



J-WAFS PI Ariel Furst gives TEDxMIT talk

Furst explains how enzyme systems can degrade polyester materials in water, effectively breaking them down without generating toxic waste.

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Desiree Plata helps cut emissions at dairy farms

With a new powder catalyst, the MIT professor is working to set up systems to transform methane in the air at dairy farms into carbon dioxide.

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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.

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FOR MORE INFORMATION ABOUT SPONSORSHIP OPPORTUNITIES, CONTACT:

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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.



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