

J-WAFS PIs boost U.S. manufacturing, receive awards, and are spotlighted in the media!



Abdul Latif Jameel
Water & Food Systems Lab

Securing humankind's vital resources



NEWS & ANNOUNCEMENTS



J-WAFS researcher speaks to Feed Strategy Magazine

Ken Strzepek explains how climate change is responsible for many crises, including those associated with grain and animal feed supply chains.

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J-WAFS Research Affiliate helps solve water challenges

Water technology company Xylem collaborates with J-WAFS and other MIT programs to improve water treatment, pumping efficiency, and more.

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J-WAFS researchers develop technology to reduce pesticide use

Kripa Varanasi & Vishnu Jayaprakash launched AgZen, which uses technology from a J-WAFS project that allows pesticides to better adhere to plants.

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J-WAFS PI Amy Smith leads MIT's D-Lab for 20 years

D-Lab's innovations include an insulated box cooker & a low-cost water testing kit, the later of which

J-WAFS desalination project is a top MIT research story of 2022

Jongyoon Han, Junghyo Yoon, and team created a portable device that can remove particles and salts to generate

was created with the help of J-WAFS.

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drinking water.

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MIT researchers fortify foods with vitamin A

2022 J-WAFS fellow Linzixuan (Rhoda) Zhang works with Ana Jaklenec and Robert Langer on a similar micronutrient project that aligns with the goals of this one.

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J-PAL agricultural affiliate spotlighted

Robert Darko Osei says despite much investment, “agriculture is at the heart of poverty” as productivity of small-scale, sub-Saharan African farmers remains low.

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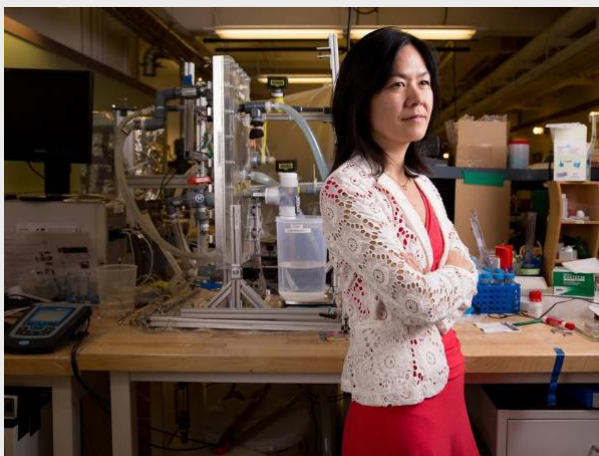
MIT’s Susy Jones works to create sustainable food systems on campus

As part of the Office of Sustainability, Jones says we must look at local farmers, climate change, & food justice to improve food systems.

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MIT D-Lab students present animal agriculture project

The project, which was funded in part by J-WAFS, created a better insulated chick brooder box for farmers in Cameroon.

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J-WAFS PI appointed director of DOE’s ARPA-E

Evelyn Wang, known for using heat transfer for efficient clean energy & water solutions, will lead the Advanced Research Projects Agency-Energy.

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IN CASE YOU MISSED IT

J-WAFS PI & MIT students travel to Kenya

Eric Verploegen and his students from the D-Lab finished a J-WAFS Solutions pilot of a cold storage chamber and also worked on another evaporative cooling project for vegetable storage with the Turkana Basin Institute.

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J-PAL research on reducing crop residue burning

A randomized controlled trial in Punjab, Indian was used to evaluate the effectiveness of conditional cash transfers in reducing crop residue burning.

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IN-DEPTH LOOK

J-WAFS RESEARCHERS WORK TO MAKE MANUFACTURING GREENER

From cleantech water solutions to reducing waste, MIT mechanical engineers are making industrial processes more sustainable

Mechanical engineers at MIT are playing a crucial role in expanding U.S. manufacturing, particularly by making industrial processes more sustainable. “Mechanical engineers can uniquely solve critical problems that require next-generation hardware technologies, and know how to bring their solutions to scale,” says J-WAFS PI John Hart, professor of mechanical engineering. Hart co-founded the company VulcanForms which uses 3D printing to create everything from water-cooling parts for computer processors to complex aerospace parts.

Gradiant is an MIT spinout working to reduce water usage in manufacturing. Anurag Bajpayee SM '08, PhD '12 and Prakash Govindan PhD '12, co-founded the company after researching desalination – Govindan was a PhD student of J-WAFS director, John Lienhard, and Bajpayee was a PhD student of J-WAFS PI Gang Chen. Govindan developed a technology called Carrier Gas Extraction (CGE), which relies on a proprietary algorithm that accounts for variability in the quality



Kripa Varanasi, J-WAFS PI and professor of mechanical engineering, also co-founded a company. His LiquiGlide reduces waste in manufacturing through a novel coating that enables liquids to “glide” on surfaces. In this way, every last drop of a product can be used, whether it’s toothpaste from a tube or drainage from large tanks at manufacturing plants.

and quantity in wastewater feed. The algorithm uses a nondimensional number that Govindan proposes be called the “Lienhard Number,” after his doctoral advisor.

Another J-WAFS PI Jeffrey Grossman co-founded Via Separations to help manufacturers separate chemical compounds. The company spun out of a [2015 J-WAFS Solutions grant](#) that developed a membrane that is resistant to fouling that can be used as a low-cost energy-efficient filter.

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EVENTS

WATER AND FOOD



Independent Activities Period (IAP) Food Series (MIT ONLY)

Weds, Jan 18, 25, & Feb 1, 2023, 2 - 4 p.m. ET, Online & In-person

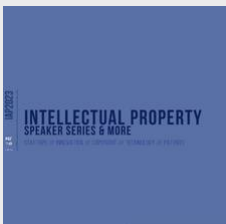
Join this series to learn how the MIT community can create a more just and sustainable food system in the age of climate change. [MORE INFO](#)



2023 IAP TLO Golden Speaker Series (MIT ONLY)

Wed and Fri, January 18 & 20, 2023, various times, In-person

The MIT Technology Licensing Office hosts MIT researchers with patents who'll discuss their journey & what they have learned along the way. [MORE INFO](#)



2023 IAP Intellectual Property Speaker Series (MIT ONLY)

Throughout January, 2023, Online

MIT Technology Licensing Office & MIT Libraries host seminars on patents, technology transfer, copyright, public domain, and more! [MORE INFO](#)

Critical Perspectives on Sustainable Design MAS.S73, IAP 2023

3 Credits, listeners accepted
1/10/23 - 1/26/23
Tu/Th 1pm - 5pm
E15-359

IAP: Critical Perspectives on Sustainable Design (MIT ONLY)

Tuesdays and Thursdays during IAP 2023, In-person

Explore questions like “Is oat milk more environmentally friendly than almond milk?” and delve into the nature of the climate crisis & how to mitigate its impact.

[MORE INFO](#)

sustainability connect 2023

February 14 | Samberg Conference Center

MIT Sustainability Connect (MIT ONLY)

Tuesday, February 14, 2023, 9:00 a.m. - 2:30 p.m. ET, In-person

MIT's Office of Sustainability hosts this event to celebrate the successes the MIT community has made to create a sustainable campus. [MORE INFO](#)



J-WAFS Grand Ethiopian Renaissance Dam (GERD) Lecture (MIT, HARVARD, AND TUFTS COMMUNITIES ONLY)

Wednesday, February 15, 2023, 4:00 - 5:00 p.m. ET, In-person

J-WAFS visiting scholar Dale Whittington will give a 3rd and final lecture on the Nile basin & the Grand Ethiopian Renaissance Dam (GERD). [MORE INFO](#)

FUNDING

AND OTHER OPPORTUNITIES

J-WAFS Fellowships

Open to: 2nd or 3rd year MIT PhD students

Deadline: March 1, 2023

MIT faculty are invited to nominate outstanding PhD students with water and/or food-related research.

[MORE INFO](#)

J-WAFS Solutions Grant

Open to: MIT PIs

Deadline: February 22, 2023

Grants of up to \$150K for one year for water and food technologies that are ready to move from the lab to the commercial world.

[MORE INFO](#)

MIT Energy Initiative Seed Fund

Open to: MIT PIs

Deadline: January 13, 2023

PIs with innovative research related to energy & the environment, including

MIT Climate & Energy Prize

Open to: U.S. & European uni students

Deadline: January 13, 2023

\$100K+ in prize money will be awarded to student-led climate startups in the

those related to water or food, apply to be considered for up to \$150K in funding.

MORE INFO

fields of food and land use, ocean conservation, climate management, and more.

MORE INFO

MIT Sandbox Innovation Fund Program

Open to: MIT students

Deadline: January 16, 2023

MIT students with ideas for successful startups, including those in the water and food space, should apply for funding and mentorship.

MORE INFO

MIT IDEAS Social Innovation Challenge

Open to: Teams led by MIT students

Deadline: January 18, 2023

Projects must have a service focus, solving an underserved societal or environmental challenge, including those in water and food.

MORE INFO

Research Scholarship Opportunity

Open to: PhD or master's students

Deadline: January 22, 2023

The J-WAFS-led FACT Alliance and some of its members, are searching for a student to help develop a participatory food systems map for transforming food and water systems.

MORE INFO

MIT Water Club participation

Open to: MIT students

Deadline: Ongoing

Stay in the loop about Water Club events and activities by filling out this interest form, or get involved further with MIT Water Club, by reaching out to waterclub-officers@mit.edu.

MORE INFO

AND CONGRATS TO:

J-WAFS spinout Nona

The company, which makes portable

MIT spinout Gradiant

The cleantech water company won the

desalination devices, has been named a finalist in the first ever LG Electronics Life's Good Award.

[LEARN MORE](#)

International Desalination Association (IDA)'s Most Innovative Company award!

[LEARN MORE](#)

J-WAFS Fellow Devashish Gokhale

Gokhale won the Raj V. Tahlil (1981) Fellowship Fund Award for his research related to the environment.

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J-WAFS PI Bish Sanyal

Sanyal won the 2022 Association of Collegiate Schools of Planning's Distinguished Educator Award.

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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:

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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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