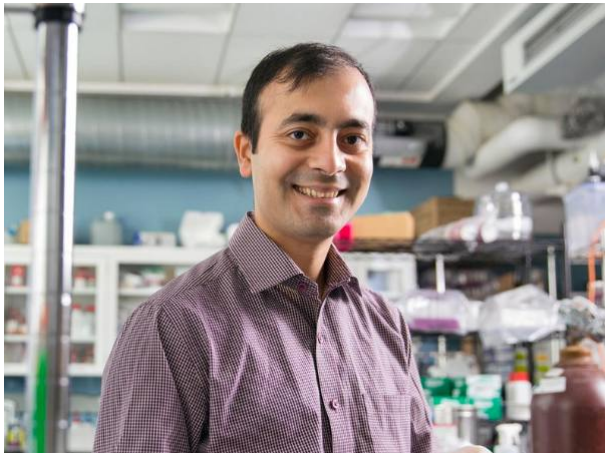


J-WAFS welcomes Rohit Karnik as associate director, plus the latest water and food research and news!



NEWS & ANNOUNCEMENTS



Rohit Karnik to serve as J-WAFS associate director

The mechanical engineering professor will help shape research agendas and priorities, among other things.

[READ MORE](#)

MIT spinout raises \$400 million to recycle water

Gradient treats 370 million liters of industrial wastewater daily using technology developed in the lab of J-WAFS' director John Lienhard.

[READ MORE](#)

J-WAFS PI experiments with new food aesthetics

Inspired by nature, Mathias Kolle harnesses optical functions in the hopes of generating edible colors for food without chemicals.

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J-WAFS PI harvests water from desert air

Evelyn Wang and her lab enhanced a hydrogel material to soak up a record amount of moisture from air, which could have drinking water applications in drought-prone regions.

MIT professor works to cut ag emissions

Desirée Plata tackles agricultural methane emissions by working with large dairy farms on innovative solutions to cut emissions by 45% by the year 2030.

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[READ MORE](#)

MIT publishes Climate Action Plan

Crafted by cross-departmental teams, the plan establishes 2030 goals for water, food, and waste on campus.

[READ MORE](#)

MCSC publishes 2022 Impact Report

The MIT Climate and Sustainability Consortium recaps projects, including creative solutions for agriculture.

[READ MORE](#)

MIT alum reduces beverage industry waste

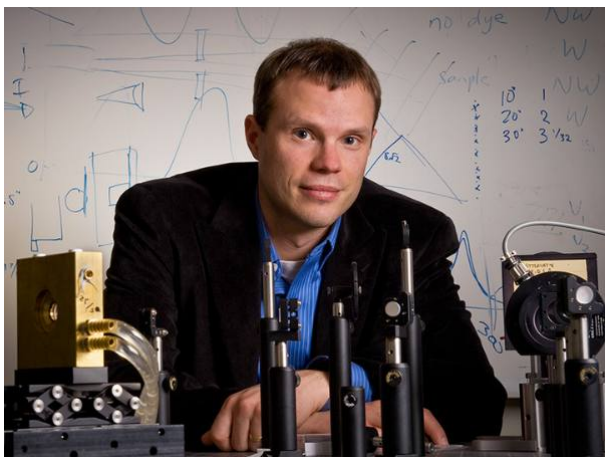
Manuela Zoninsein EMBA '20 is the founder & CEO of Kadeya, which uses closed-loop kiosks to reduce waste and costs in the beverage industry by eliminating single-use plastic containers.

[READ MORE](#)

MIT students develop palm oil replacement

David Heller '18, Harry McNamara PhD '19, and Shara Ticku started the company C16 Biosciences, which offers brands and consumers a palm oil alternative made from an oil-producing yeast.

[READ MORE](#)



J-WAFS PI advances food packaging sustainability

Bradley Olsen and his lab, including J-WAFS Fellow Kat Fransen, developed a dataset to determine if a polymer is biodegradable.

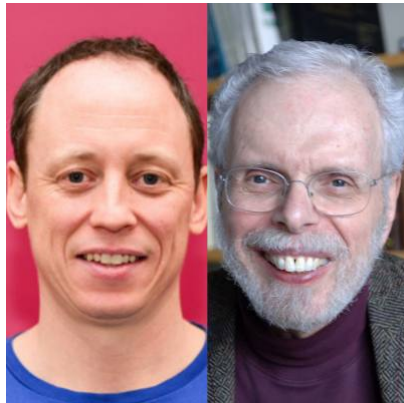
[READ MORE](#)

IN-DEPTH LOOK

J-WAFS RESEARCHERS ADDRESS FOOD INSECURITY

J-WAFS supports cold storage technology for smallholder farmers

Supported by multiple J-WAFS grants, Eric Verploegen of MIT D-Lab and Leon Glicksman of the Department of Mechanical Engineering and the School of Architecture and Planning, developed an evaporative cooling chamber for energy- and cost-effective cold storage of fruits and vegetables grown on smallholder farms in arid regions.



Evaporative cooling chambers (ECCs) provide stable storage with low temperature and high humidity, thereby reducing the rate of respiration, water loss, and spoilage in most fruits and vegetables. The team worked with farmers and local community members and organizations in both Kenya and India to gather information on needs and preferences. They then retrofitted shipping containers to act as ECCs that can be powered by either grid

electricity or built-in solar panels.

The researchers also produced detailed documentation of the chamber design, which is publicly available through a dedicated website with overview videos targeted at early adopters. MIT professor of mechanical engineering Dan Frey contributed as a co-principal investigator in the early stages of the project, and noted “these forced-air evaporative cooling chambers have great potential, and the open-source approach is an excellent choice for this project.”

[READ MORE](#)

AWARDS & RECOGNITIONS



Christopher Voigt named head of MIT's Dept of Biological Eng

An expert in synthetic biology, Voigt currently works on an MIT Climate Grand challenge project to eliminate carbon emissions from agriculture, and in the past has worked on a J-WAFS project to enhance the yield of cereal grains without the use of chemical fertilizer. [MORE INFO](#)



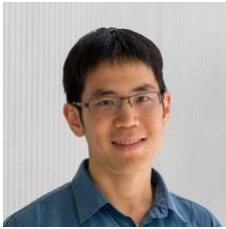
Erica James promoted to full professor

Erica James is now a full professor in the Department of Urban Studies and Planning at MIT's School of Architecture and Planning. Her J-WAFS project looks at how policy can be used to meet food security goals in developing countries. [MORE INFO](#)



Books from J-WAFS PIs make MIT's summer reading list

The summer 2023 recommended reading list from MIT includes books by J-WAFS researchers Daniel Frey, Amy Smith, Bish Sanyal, Daniel Sweeney, Gabriella Carolini, Larry Susskind, and Olivier de Weck. It also features other books on hybrid crops and interconnected food webs. [MORE INFO](#)



Kevin Kung speaks at MIT's PKG Center awards ceremony

Co-founder of J-WAFS spinout Takachar, Kung shared his experience reducing smoke emissions from agriculture. The Priscilla King Gray Public Service Center award winners include Ishara, an app that hopes to improve access to safe water and food in Ghana. [MORE INFO](#)



Scott Odell gives keynote address at USGS event

The J-WAFS-funded researcher spoke at the Florence Bascom Science Day at the United States Geological Survey and shared initial findings from his J-WAFS funded project with John Fernández on the effects of mining in water-stressed regions. [MORE INFO](#)



PhD student Wenzhe Jiao receives dissertation award

The Indiana University Distinguished PhD Dissertation Award was awarded to Wenzhe Jiao, who is currently working with J-WAFS PI Cesar Terrer to provide a high-resolution drought monitoring system for farmers. Jiao was also profiled by the Dept of Civil and Environmental Engineering. [MORE INFO](#)



Jon Bessette presents for European Desalination Society

2022 J-WAFS travel grantee Jon Bessette presented at the Environment, Clean Water, and Energy Conference in Cyprus. His research focuses on small-scale deployable desalination systems for use in humanitarian emergencies. [MORE INFO](#)



MIT postdoc working in food security spotlighted for CEE

The Department of Civil and Environmental Engineering interviewed postdoc Helena Vallicrosa, who works in the lab of J-WAFS PI Cesar Terrer. Vallicrosa is researching the impact of human activities on carbon sequestration, food security, and plant diversity and resilience. [MORE INFO](#)



Artist recognized for food security art in J-WAFS' office

Shani McLane's art is now displayed in the office J-WAFS shares with Environmental Solutions Initiative & the Office of Sustainability. Inspired by a trip to the Global Seed Vault, McLane created art to show the importance of protecting the food supply from climate change effects. [MORE INFO](#)



MIT Sea Grant names 2023 Dean A. Horn Awards winners

Winners of the undergrad marine research awards include mechanical engineering student Arianna Ilvonen, who worked on a robot that may one day be used to automatically feed various aquatic animals in an aquaculture setting. [MORE INFO](#)

FUNDING

AND OTHER OPPORTUNITIES

J-WAFS Travel Grants

Deadline: August 16, 2023

Open to: MIT grad students

MIT graduate students who are passionate water researchers can apply to be considered for funding to attend the UNC Water & Health Conference in October.

[MORE INFO](#)

MIT COP28 delegation

Deadline: July 31, 2023

Open to: MIT students & staff

Apply to be considered for a badge to attend the 28th session of the Conference of the Parties to the UN Framework Convention on Climate Change. [Faculty/staff apply here.](#)

[STUDENTS APPLY HERE](#)

HackMIT sponsorship opportunity

Deadline: August 4, 2023

Open to: Companies/Organizations

Sponsor this undergrad hackathon to drive impactful change by empowering passionate students to develop innovative solutions for environmental challenges.

[MORE INFO](#)

NE I-Corps Spark Program at MIT

Deadline: September 13, 2023

Open to: New Englanders w/ STEM tech

Free, three-week, online course that helps researchers identify potential customers for their technology, including those related to water and food systems.

[MORE INFO](#)

IN CASE YOU MISSED IT

J-WAFS' Greg Sixt presents at the UNFAO

Sixt participated in a consultation at the Food and Agriculture Organization of the UN in support of the Resilient & Inclusive Transformation Impact Initiative for agri-food system transformation.

[LEARN MORE](#)



J-WAFS PI hosts agronomy expert at MIT

Antoine Allanore hosted Edith Le Cadre, president of the European Society of Agronomy and a professor at L'Institut Agro, who spoke about nature-based solutions for food security.

[LEARN MORE](#)

J-WAFS PI gives opening remarks at ESI event

John Fernández spoke at an MIT Environmental Solutions Initiative event on mining & its negative effects on soil, ponds, & other elements of nature.

[WATCH NOW](#)



Jameel Observatory Head appears on CNN

Guyo Malicha Roba gave an interview on famine & drought in East Africa & the work of the Jameel Observatory for Food Security Early Action.

[WATCH NOW](#)

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

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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.

“I kind of liken it to a waterlogged softball...When a softball or baseball gets soaked, it gets waterlogged, and when you throw it, it wobbles funny.”

--James Famiglietti, an Arizona State University hydrologist who spoke to the Washington Post about the Earth's shifting tilt due to rampant removal of groundwater for drinking and irrigation, which has altered the distribution of water on the planet.

This newsletter will
be paused in August.
We'll see you in September!



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