

J-WAFS researchers aim to improve animal waste disposal on small farms, J-WAFS community members win awards, water- and food-related news, and more!



## NEWS & ANNOUNCEMENTS



### Many J-WAFS PIs on new climate solutions teams

The MIT Climate and Sustainability Consortium is supporting projects to create packaging inspired by fruit, seed coatings for improved crops, and more.

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### MIT awards teams for water & food innovations

Winners of the MIT IDEAS Social Innovation Challenge include an app that optimizes post-harvest value chains and a documentary about global water displacement.

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### MIT alum creates AgTech startup

Augustine Zvinavashe '16, PhD '21, founder of Ivu Biologics, created a microbial seed coating that aims to reduce pollution, build seed resilience, and increase crop yields.

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### J-WAFS PI works to decarbonize copper production

Antoine Allanore is creating a reactor to electrify copper production, which

### Timothy Swager designs recyclable catalysts for manufacturing

The J-WAFS researcher and his team created insoluble light-powered

would decrease emissions and increase productivity.

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catalysts that can be used over and over again.

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## MIT event showcases holistic approaches to the climate crisis

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The Living Climate Futures event included a presentation on urban farming, tours of urban farms, and a panel of Indigenous climate leaders.

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## MIT alumni-founded company helps dairy farmers

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Julia Somerdin and Anshuman Das created Labby, a startup that uses their optical milk scanner to easily measure cow health & milk quality.

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# AWARDS & RECOGNITIONS

## J-WAFS Solutions spinout wins MIT \$100K competition

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NoNa Desalination was launched to bring portable, solar-powered seawater purifying devices to market.

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## J-WAFS PI honored by Royal Society of Chemistry

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Xuanhe Zhao was awarded the 2022 Soft Matter Lectureship for significant contributions to the soft matter field.

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## J-WAFS fellow awarded for sustainability work

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Danyal Rehman received a Martin Family Society Fellowship for Sustainability for his research on resource recovery/water reclamation.

## Ariel Furst named CIFAR Azrieli Global Scholar

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The J-WAFS PI was recognized for her high-risk, high-reward ideas on how to improve human and environmental health.

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## Dan Frey receives MIT student-nominated award

The 2022 Teaching with Digital Technology Award was given to the J-WAFS PI & others at MIT for improving learning with digital technology.

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## J-WAFS PI Gabriella Carolini wins Ashby prize for innovative paper

Carolini's paper "Aid's urban footprint and its implications for local inequality and governance" examines the shortcomings of aid programming.

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# IN-DEPTH LOOK

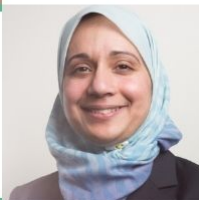
J-WAFS RESEARCHERS AIM TO IMPROVE ANIMAL WASTE DISPOSAL ON SMALL FARMS

## A J-WAFS-funded project applies systems thinking and analysis to create economically viable solutions for handling animal wastes

At first it might not seem obvious why two aerospace experts would work on a project to mitigate the effects of farm animal waste. But in actuality Olivier de Weck, the Apollo Program Professor of Astronautics and Engineering Systems, and Afreen Siddiqi, a research scientist in the Department of Aeronautics and Astronautics, are the perfect fit for this kind of project, as they study closed life-support systems like crew quarters on the International Space Station, where clean water, air, and a way to recycle wastes are needed.



Grant for Transforming Animal Agriculture Systems



With a 2021 J-WAFS Grant for Transforming Animal Agriculture Systems, de Weck and Siddiqi studied small farms in Brazil that line the Paraná River, which flows into the Itaipu Dam. Animal wastes that wash into the river seriously degrade water quality, affecting human health. With the empirical data that they collected, the team used quantitative systems analysis to create models to show the economic viability of

turning animal waste into valuable byproducts like solid fertilizer pellets and biomethane.

“The optimal solution will be dictated by geography, depending on the size of the farms, the average distances between them, and the quality of roads,” says de Weck.

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## IN CASE YOU MISSED IT



**Did you read about this year’s J-WAFS seed grant recipients?**

The new projects aim to remove harmful chemicals from water sources, develop drought monitoring systems for farmers, improve management of the shellfish industry, and more.

[READ IN MIT NEWS](#)



**In April, Benedetto Marelli was awarded the BioInnovation Institute & Science Prize for Innovation**

The J-WAFS PI was recognized for pioneering the use of biomaterials to boost food security.

[READ ON MIT'S CEE](#)

## FUNDING

AND OTHER OPPORTUNITIES

### J-WAFS Water and Food Grand Challenge

**Deadline: June 24, 2022**

Open to: MIT PIs

Statements of interest are requested for projects that seek to solve a significant problem in water and/or food.

### Senior Development Manager for J-PAL

**Deadline: Ongoing**

Open to: College grads w 5+ yrs exp

J-WAFS sister organization J-PAL is looking for someone to lead fundraising activities to sustain their poverty-alleviation mission.

[MORE INFO](#)

[MORE INFO](#)

## AND DON'T MISS:

EVENTS, HAPPENINGS, & SIGHTINGS

### J-WAFS PI to speak at MIT Startup Exchange Showcase

The June 22 event will bring together industry leaders and innovators in sustainability and will feature J-WAFS PI John E. Fernández as the faculty keynote speaker.

[REGISTER NOW](#)

### Catch J-WAFS PI Ariel Furst in a video about MIT women faculty

Furst was chosen as a finalist in the inaugural MIT Future Founders Initiative Prize Competition, which encourages female faculty to pursue entrepreneurship in biotech.

[WATCH NOW](#)

## Join us on Twitter!



### J-WAFS newsletter on hiatus in July

We will be taking a short break in July so look for our next newsletter in August. Until then, you can follow us on Twitter for any updates and news!

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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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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.

“Soaring food costs were threatening hunger in poor countries even before the war in Ukraine made the situation much worse. And heat waves from South Asia to Europe are already lowering this season’s farm yields in countries like India...We need new agricultural technologies built to local conditions and culture if we're to fight hunger. In other words, we need innovation. But we also need access, equity, diffusion.”

--Ngozi Okonjo-Iweala, Director-General of the World Trade Organization and MIT alumna, in an address to MIT class of 2022



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