



Abdul Latif Jameel  
Water & Food Systems Lab

*Securing humankind's vital resources*



## NEWS & ANNOUNCEMENTS



### J-WAFS PIs lead Water Affordability Workshop

Researchers, community advocates, utilities, and federal officials discussed U.S. water equity & affordability.

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### J-WAFS spinout reduces smoke emissions from agri-waste

Kevin Kung co-founded Takachar with Vidyut Mohan to reduce smoke emissions from crop burning & incentivize farmers to sell agri-waste.

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### Fady Jameel says J-WAFS is advancing the food of the future

The deputy president and vice chairman of Abdul Latif Jameel highlights how J-WAFS technology and research transform food systems.

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### MIT D-Lab students test food preservation methods in Africa

Ava Dijkstra '25 and Christine Tang '25 researched evaporative cooling in

### Kripa Varanasi develops water purification system

The J-WAFS PI and his group developed a water purification system which could reduce power plant water loss by

Kenya with J-WAFS PI Eric Verploegen.

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20-30% per year.

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## J-WAFS spinout reveals new food safety tech

Xibus Systems, founded by Tim Swager, created a system to quickly detect disease-causing bacteria in food.

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## Recent research explores food trade and income earnings

Using Ecuador as a case study, J-WAFS PI Dave Donaldson & others found that exports of products like fruit & seafood increase inequality.

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## MIT spinout creates technology for livestock feed

Fyto was launched to automate the production of aquatic “superplants” that can be fed to livestock to help farmers reduce water usage.

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## J-WAFS PI helps advance agriculture industry

Benedetto Marelli and other MIT researchers discovered that silk can be used as a biodegradable substitute for the microplastics added to agricultural chemicals.

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## MIT researchers use beer yeast to remove lead from water

The study shows that yeast, an abundant waste product from breweries, can filter out even trace amounts of lead from water.

[READ MORE](#)

## MIT alum improves food challenges for farmers

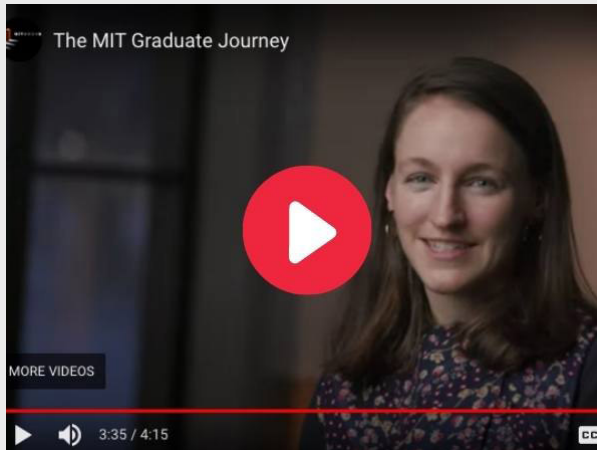
## J-WAFS PI featured in New York Times

CassVita, founded by Pelkins Ajanoh '18, uses biotechnology to extend the shelf life of the perishable root vegetable cassava.

[READ MORE](#)

New 3D printing technology from John Hart and his startup VulcanForms is creating water-cooling parts for computer processors and much more.

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## J-WAFS fellow reflects on MIT experience

Hilary Johnson & others from MechE, speak about exams, professors, and belonging as a graduate student.

[READ & WATCH](#)

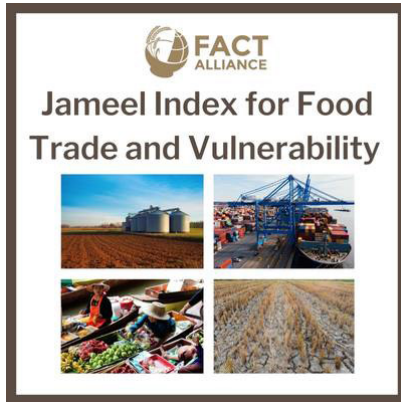
# IN-DEPTH LOOK

THE JAMEEL INDEX FOR FOOD TRADE AND VULNERABILITY

## A new research project, supported by Community Jameel, will study the implications of climate change on food security as they relate to trade

Global changes spurred by social and economic transitions, energy and environmental policy, regional geopolitics, conflict, and of course climate change, can impact food demand and supply. Despite the crucial need for more secure food systems, significant knowledge gaps exist when it comes to understanding how different climate scenarios may affect both agricultural productivity and global food supply chains and security.

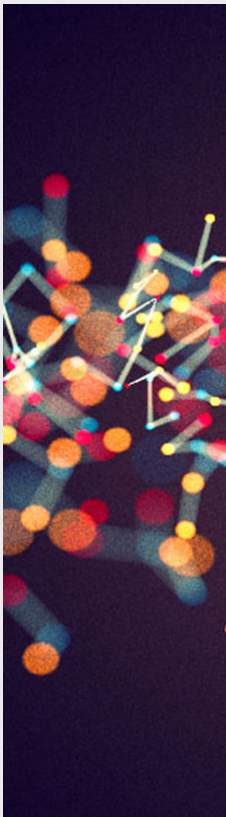
To better understand and analyze food security, a new three-year research project will develop a comprehensive index assessing countries' food security vulnerability, called the Jameel Index for Food Trade and Vulnerability. The index will measure countries' dependence on global food trade and imports and how regional-scale threats like climate change might affect the ability to trade food goods across diverse geographic regions.



The work will be a foundational project for the J-WAFS-led Food and Climate Systems Transformation (FACT) Alliance. Findings from the research will help guide policymakers over the next 25 years while the global population is expected to grow and the climate crisis is predicted to worsen.

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## AWARDS & RECOGNITIONS



J-WAFS director, John H. Lienhard, was awarded the 2021 Donald Q. Kern Award from the American Society of Mechanical Engineers and the American Institute of Chemical Engineers. [MORE INFO](#)

J-WAFS PIs Saurabh Amin, Dan Frey, Ariel Furst, and Larry Susskind were honored at MIT's 2022 Awards Convocation. [MORE INFO](#)

Mathias Kolle, a J-WAFS PI from MechE, recently received tenure at MIT. [MORE INFO](#)

J-WAFS PI Colette Heald received the Capers and Marion McDonald Award for Excellence in Mentoring and Advising. [MORE INFO](#)

J-WAFS PI Gang Chen received a 2022 Bose grant for ambitious ideas. [MORE INFO](#)

MIT students Jonathan Bessette, Chun Man Chow, Aditya Ghodgaonkar, and Gokul Sampath received 2022 J-WAFS Travel Grants for Water Conferences to attend Stockholm World Water Week. [MORE INFO](#)

Eric Verploegen and Daniel Sweeney received a 2022 J-WAFS Grant for Transforming Animal Agriculture to design an off-grid chicken brooder. [MORE INFO](#)

J-WAFS Fellow Danyal Rehman was named a 2022-23 Martin Fellow. [MORE INFO](#)

Josie Tracy began a six-month long co-op position as the communications and project assistant for J-WAFS. [MORE INFO](#)

## EVENTS

WATER AND FOOD



## Nucleate Summit 2022

**Monday-Tuesday, August 29-30, 2022, All day, In-person**

The inaugural summit will empower & educate the next generation of biotech leaders, including those innovating in food & agriculture. [MORE INFO](#)



## J-WAFS Water Quality Month Twitter Chat

**Wednesday, August 31, 10:00 - 11:00 a.m. ET, Online**

The Twitter chat will engage our audience on the importance of clean drinking water for all, and discuss research to solve global water quality issues. [MORE INFO](#)



## MIT Conference on Mining, Environment and Society

**Wed-Fri, September 7-9, 2022, 10:00 a.m. - 1:30 p.m. ET, Online**

The MIT Environmental Solutions Initiative event will feature Scott Odell, whose J-WAFS project explores glaciers, agriculture, and mining in Chile. [MORE INFO](#)



## MIT Sustainability Conference: Technologies and Industry

**Tuesday-Wednesday, September 20-21, 2022, In-person**

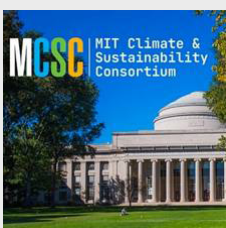
J-WAFS research will be featured at this Industrial Liaison Program conference exploring new sustainable advances in the corporate world. [MORE INFO](#)



## IDA 2022 World Congress

**Sunday-Thursday, October 9-13, 2022, All day, In-person**

J-WAFS director John Lienhard will begin his term on the 2022-24 International Desalination Association Board of Directors at this event for the desalination and water reuse industry. [MORE INFO](#)



## MCSC Annual Symposium

**Tuesday, October 18, 2022, 9:00 a.m. - 6:00 p.m. ET, In-person**

The MIT Climate & Sustainability Consortium will host panels of key academic and industry experts who'll discuss the topics of climate & sustainability. [MORE INFO](#)

# PUBLICATIONS

Gabriella Carolini's book

New research has

## explores water and sanitation

The J-WAFS PI studies challenges to international development and urban planning in infrastructure projects in Maputo, Mozambique.

[MORE INFO](#)

## applications in water treatment

Patrick Doyle, a J-WAFS PI, & his team published a paper on an immobilized micelle system that could be used for pollutant extraction from water.

[MORE INFO](#)

## J-WAFS research scientist responds to GERD paper

Kenneth Strzepek & others offer a rebuttal to a flawed paper on the consequences of the planned Grand Ethiopian Renaissance Dam project.

[MORE INFO](#)

## Assessing the impact of climate-related risks

Strzepek is also an author on a paper that examines models to improve the integration of climate-related risks into financial companies' decisions.

[MORE INFO](#)

# FUNDING

AND OTHER OPPORTUNITIES

## J-WAFS World Food Day Student Video Competition

**Deadline: September 27, 2022**

Open to: MIT students/postdocs/22 alum

Seeking short videos on agriculture and/or food systems-related research. Cash prizes will be given to winning videos!

[MORE INFO](#)

## MIT Social Good Venture Showcase

**Deadline: August 10, 2022**

Open to: Companies with MIT-affiliated founder or C-level executive

MIT Sloan will provide action-oriented support to startups working to achieve the UN's Sustainable Development Goals like zero hunger and clean water.

[MORE INFO](#)

[The Engine Blueprint](#)

[MIT Water Summit looking](#)

## Program

**Deadline: August 12, 2022**

Open to: Tech startups

If you have a company or a breakthrough, including those related to water & food, this program can help with commercialization.

[MORE INFO](#)

## for leadership

**Deadline: Ongoing**

Open to: MIT students

The MIT Water Club is looking for a co-director and team members to help plan and run their annual summit in November.

[MORE INFO](#)

## Activate Fellowship

**Deadline: October 31, 2022**

Open to: Scientists/engineers with a bachelor's & 4+ yrs experience. Those in PhD programs must finish by Sept 2023

This fellowship will help turn technology concepts into products, including those addressing challenges in industries like agriculture.

[MORE INFO](#)

## Techstyle For Social Good International Student Competition

**Deadline: August 31, 2022**

Open to: Current and recent students

Young innovators with ideas related to agrifood should consider applying for mentorship and funding.

[MORE INFO](#)

# 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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