



* SPECIAL EDITION *

CELEBRATING FOUR YEARS OF INNOVATION



J-WAFS: Securing Humankind's Vital Resources

MIT innovators are meeting global food & water challenges daily. Find out how.

[Watch Video](#)



"Ensuring access to food and water for all is one of the greatest challenges facing humanity."

MIT's President L. Rafael Reif on the [launch of J-WAFS](#) in 2014

IN-DEPTH LOOK

FROM SECURITY TO SYSTEMS

Abdul Latif Jameel Water & Food Systems Lab: A new name for the next chapter of our story

J-WAFS was founded in 2014 to leverage MIT's strengths to find solutions to the global-scale challenges that our water and food systems are facing which are exacerbated by climate change, urbanization, and population rise. It's been only four years, and we've already catalyzed research and commercialized technologies that are confronting these challenges head-on. In this special edition of our newsletter, you can find out more about some of these advancements.



Approaching large-scale, urgent water and food challenges necessitates a broad perspective. We are at an all-hands-on-deck moment in human history, and we need to apply all manner of approaches in order to find solutions that are globally-minded as well as regionally relevant. This is why J-WAFS works to advance knowledge and innovation *across all disciplines* to build resilient systems that deliver safe and adequate supplies of water and food across our changing world.

We've changed our name to more accurately reflect the breadth of our approach. Find out more about this move from "security" to "systems" and the systems-based approach that we've taken from the beginning.

[READ MORE](#)

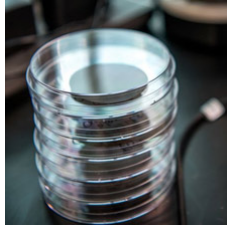
OUR IMPACT

SELECT HIGHLIGHTS & ACHIEVEMENTS



Advising Nations on Transnational Water-sharing 2014 Grand Ethiopian Renaissance Dam (GERD) Expert Workshop

The report from our interdisciplinary, non-partisan panel on the GERD dam has been shared with government officials of Egypt, Ethiopia, and Sudan. [MORE INFO](#)



Transforming Filtration for Industrial Food Processing 2015 J-WAFS Solutions Grant Project

J-WAFS Solutions startup [Via Separations](#) is improving filtration in the dairy industry with its advanced graphene membranes. [MORE INFO](#)



Informing Resilient Agricultural Policy Across Africa 2015 Seed Grant Project

Analyzing projections of 122 possible climate futures, this research quantifies the risks of declining maize production over sub-Saharan Africa. [MORE INFO](#)



Catalyzing Student Innovations into Successful Startups Annual Water and Food Student Innovation Prizes

The [Rabobank-MIT Food and Agribusiness Innovation Prize](#) and the [MIT Water Innovation Prize](#) have helped launch 17 startups since 2015. [MORE INFO](#)



Industry Partnership Addresses Water Infrastructure Needs 2016 Launch of J-WAFS/Xylem, Inc. Research Affiliate Relationship

J-WAFS' collaboration with the global water tech company [Xylem, inc](#) enables innovation and fuels student research and professionalization. [MORE INFO](#)

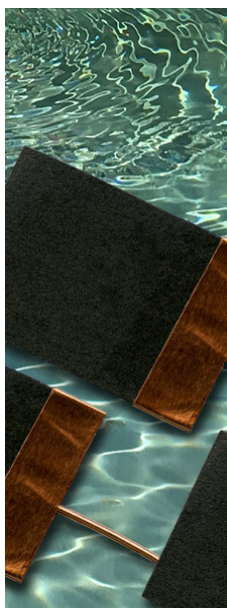


"No one ever forgets their first grant."

Karthish Manthiram

*Warren K. Lewis Career Development Professor
Department of Chemical Engineering, MIT*

J-WAFS grants have already had a transformative impact on faculty as well as students across the Institute, and the results of our investments in research are already bearing fruit. [MORE INFO](#)



J-WAFS Solutions: Making Water and Food Safety Tech Accessible Worldwide

Affordable water filter made of sap-conducting tree xylem

This wood-based filter provides an affordable, sustainable water filtration solution for low income communities. (Open-source) [MORE INFO](#)

Food safety sensing using smartphone technology

This food safety tool can rapidly detect dangerous bacteria in food and water; startup launching this fall. (Tech-transfer) [MORE INFO](#)

Electrochemical water filter efficiently removes micro-pollutants

This new filtration technique can remove pesticides, chemicals, and heavy metals at even tiny concentrations. (Tech-transfer) [MORE INFO](#)

Find other J-WAFS Solutions projects [here](#).

J-WAFS Impact Across the Institute

Supporting projects that go on to raise millions in follow-on funding

Data driven approach to managing global supply chains receives major funding from the Walmart Foundation [MORE INFO](#)

Promoting productive cross-campus and cross-institutional collaborations



J-WAFS seed grant enables an international collaboration necessary to advance engineering of nitrogen-fixing cereal grains [MORE INFO](#)

Engaging researchers across the Institute in water and food sector challenges

J-WAFS funds all five schools at MIT: Science; Engineering; Architecture and Urban Planning; Humanities, Arts, and Social Sciences; and the Sloan School of Management

To date, J-WAFS has:

- Distributed nearly **\$10M** to the MIT research community
- Received **130** proposals from **125** different MIT faculty representing **31** departments, labs, and centers
- Funded PIs from **19** departments spanning all five schools at MIT



"MIT was created to apply innovative research to the real world, including a distinguished legacy of solutions for critical needs in the water and food sectors. J-WAFS builds on this legacy to further the positive impact that MIT has on securing clean water and safe food for all people.

At a time when challenges to water and food security are increasing worldwide, the work of the J-WAFS research community as a whole couldn't be more urgent or timely. I look forward to growing our program to even more effectively channel MIT's strengths toward ensuring the resilience of our planet's water and food systems."

John H. Lienhard V

*Abdul Latif Jameel Professor of Water and Food
Director, Abdul Latif Jameel Water and Food Systems Lab*

[Read More](#)

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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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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