

J-WAFS Water & Food News

Welcome to the J-WAFS March newsletter. Below, you can find highlights from past J-WAFS events, information about J-WAFS sponsored research projects, and announcements of upcoming conferences, seminars, and workshops.



[J-WAFS / JLP Food & Water Conference](#)

April 27-28, 2016

Cosponsored by [MIT's Industry Liaison Program](#), this conference will highlight advances in technologies at the nexus of food, water, energy, and the environment, including sensor technologies for water and food safety, innovative water treatment and purification technologies, and bioengineering and other advanced technologies for agriculture and food processing. Panelists and keynote speakers will address the impacts of climate change and globalization on water and food systems, the role of collaboration and innovation in addressing risk and resilience issues for companies affected by food and water issues, and the role of multisector partnerships in providing opportunities for the development of new technologies and markets. The conference will also feature local and MIT-connected startups in the water and food sectors, along with research currently funded by J-WAFS, including J-WAFS Solutions projects.

[Click here to register.](#)

Conference Themes:

- Technology Development and Industry Collaboration in Water & Food Sectors
- Sensing Technologies for Food & Water Applications
- Risk Management and Resilience in an Era of Globalization and Climate Change
- Advances in Water Purification Technologies
- Advanced Technologies for Agriculture and Food Processing

[Click here to see full conference agenda.](#)

Keynote Speakers



Ralph Jerome
*Vice President of
Corporate Innovation
Mars, Incorporated*

Ralph Jerome has worked in an executive function for Mars, Incorporated for over a decade. He is a specialist in driving corporate innovation, and understands the need for agility in process and product innovation in order to respond to the increasing demands of our changing climate.



Kavita Prakash-Mani
*Executive Director
GrowAsia*

Kavita Prakash-Mani is on secondment from Syngenta to the World Economic Forum to design and deliver Grow Asia, a new public-private partnership in South-East Asia focused on sustainable agriculture development. While at Syngenta, Kavita developed the company's food security agenda and innovative business models.

Startup Exhibit

Over 20 startups, including...



Cambrian Innovation's EcoVolt technology is a system that uses electrically active microbes to create clean water and generate renewable methane gas from wastewater.



Desalitech offers commercial high-efficiency water purification and desalination using reverse osmosis.



LiquiGlide provides custom-designed, liquid-impregnated coatings for food packaging and other applications.

UPCOMING J-WAFS EVENTS



MIT J-WAFS Food and Water Conference

Addressing the Global Food & Water Challenge through Innovation and Collaboration

When: April 27-28, 2016
Where: Tang Center (E-51), MIT

Cosponsored by MIT's Industry Liaison Program and J-WAFS, this conference will highlight technology frontiers at the nexus of food, water, energy, and the environment. The conference will also feature MIT-connected startups in the water and food sectors, along with projects currently funded by the J-WAFS Solutions program.

For more information, [click here](#).



MIT Food and Agribusiness Innovation Prize

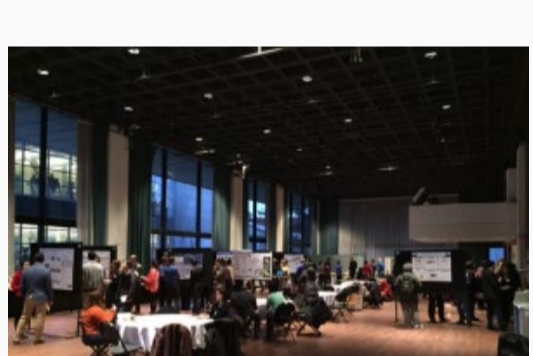
Finalist Presentations and Award Ceremony

When: 7-10pm, April 28, 2016
Where: Samberg Center (E52), MIT

This new prize is intended to be the premier food and agribusiness business plan competition for university and graduate students. It is sponsored by Rabobank and is supported by J-WAFS and the MIT Food and Agriculture Club. The two-stage competition will culminate with finalist teams presenting their business plans as they compete to win \$25,000 in total prize money.

For more information, [click here](#).

UPCOMING MIT FOOD & WATER EVENTS



MIT Water Night

When: March 11, 5-8pm
Where: MIT, Walker Memorial Building

MIT Water Night is an annual research showcase on water-related problems hosted by the MIT Water Club. Anyone from MIT, other local universities, or local industry is invited to attend, present, and network. Attendance is free.



MIT Water Innovation Prize

Final Pitch and Awards Dinner

When: April 8, 2016
Where: MIT, Room 32-123

The MIT Water Innovation Prize is a solutions-to-market competition that awards ideas, products, and business models in the water sector. Innovation grants totaling \$30,000 will be awarded at the Final Pitch Night.

Innovation in Agriculture:

Systems Dynamics, Data Collection, and Mapping

When: March 11, 12:00-1:30 PM
Where: Moscow Conf. Room, E70-1244

Please join MIT's Innovation Initiative lab for Innovation Science and Policy for a lunch around innovation in agricultural systems. Discussion will follow short presentations on research, entrepreneurship, systems dynamics, technology and policy around agricultural innovation. Speakers include Dr. Chandra Madramootoo, J-WAFS 2016 Visiting Scholar, among others.

Please RSVP to: cfazio@mit.edu and laurahal@mit.edu

NETWORKING OPPORTUNITIES

Interested in establishing connections in the food & water sectors at MIT? J-WAFS maintains a [networking spreadsheet](#) designed to convene students, faculty, and industry for collaborative work on research, prize competitions, or other proposals.

FUNDING OPPORTUNITIES

J-WAFS Solutions Grant Request for Proposals

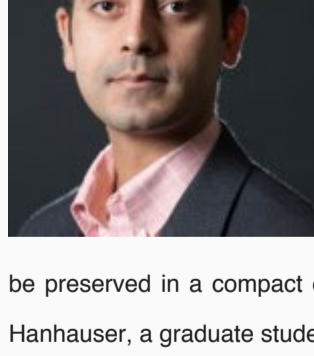
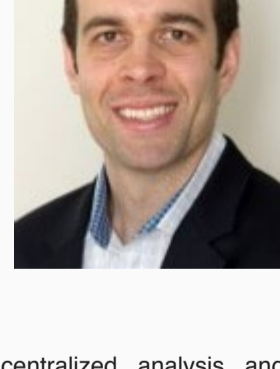
The J-WAFS Solutions Grant RFP has been issued to MIT PIs. Pre-proposals are due on March 18th, 2016, by 5:00 PM EDT.

J-WAFS FUNDED PROJECT HIGHLIGHTS

Enabling Distributed Water Quality Management by Dry Sample Preservation and Centralized Analysis

Comprised of three MIT PIs, Drs. Rohit Karnik and John Hart in the Department of Mechanical Engineering, and Dr. Chintan Vaishnav of the Sloan School of Management, this project broadly aims to address problems in water quality monitoring.

Following a field trip to India during MIT's Independent Activities Period, the project team discovered that, due to technical limitations, water supplies are only intermittently or incompletely monitored, leading to uncertainty about the quality of drinking water and consumption of unsafe water. They uncovered that these problems are multi-tiered, and exist at all levels of water quality monitoring. Drs. Karnik, Hart, and Vaishnav's project specifically addresses issues that arise when testing labs are unavailable, or, when available, inadequately equipped.



They are exploring a new approach in centralized analysis and decision making for water quality management. The idea is to explore a new paradigm in which a water sample is preserved with minimal processing and transformed into a format that is easy to ship. Using John Hart's (above) experience with manufacturing and nanotechnology, and Rohit Karnik's (left) experience with microfluidics and nanotechnology, the team has begun assessing existing technology and exploring techniques that will allow some of the chemical and biological information in water to be preserved in a compact or dry format that could be easily sent to labs with the right facilities. Emily Hanhauser, a graduate student in mechanical engineering with a biology background, is assisting them.

Meanwhile, Chintan Vaishnav (below) is working to understand how the current water quality monitoring infrastructure works, and how new information could facilitate key decision making with the help of a decision support tool. Dr. Vaishnav is working with Charlene Ren, a graduate student in the Technology and Policy Program, to design such a tool.

On the technical side, they have extensively surveyed materials that could enable sample preservation, planned experiments, and synthesized a hydrogel for arsenic sampling. On the policy side, the recent field visit has revealed that policy makers currently lack even simple tools for assessing the capacity for water quality monitoring. The project aims to ultimately improve the ability of local water quality agencies to comply with India's recently enacted Uniform Water Quality Monitoring Protocol.

