

**\* SPECIAL EDITION \***  
WORLD WATER DAY 2019



**“We can’t ensure the sustainability of global water systems without innovation.”**  
[#worldwaterday](#)

J-WAFS executive director Renee Robins on the awarding of [2018 J-WAFS Solutions grants](#)

**A FOCUS ON WATER**  
GLOBAL WATER CHALLENGES BY THE NUMBERS

**A World of Water Needs**

**15-30%:** Decline of average snowpack in the western United States since 1915. Snowpack supplies water for agriculture and for municipal and industrial use. ([Nature](#))



**12%:** Capacity of the Cantareira reservoirs during the 2015 Sao Paulo water crisis. These reservoirs supply water to over 9 million residents. ([TIME](#))

**63%:** Percentage of urban sewage in India that flows into rivers untreated. River contamination can cause a range of health and environmental problems. ([Times of India](#))

**31.5 million:** Cubic meters of brine produced daily by Saudi Arabian desalination plants. Disposal of the brine poses an environmental challenge. ([Bloomberg](#))

**76%:** Proportion of people in Sub-Saharan Africa without access to safely managed drinking water services. The UN [Sustainable Development Goal](#) (SDG) #6 is to ensure availability and sustainable management of water and sanitation for all. ([World Bank](#))

**J-WAFS' Commitment to Solving Water Challenges**

**27:** Number of J-WAFS research and commercialization grants to date for projects related to water challenges

**3:** Number of J-WAFS expert workshops addressing water challenges

**\$5.8M:** Total J-WAFS funding to date to the MIT community for water research and expert workshops

**5:** Number of fellowships funded since 2017 for graduate students conducting water research

**\$340k:** Total financial support for students and student clubs working on water challenges

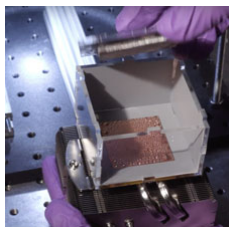
# MIT WATER RESEARCH & INNOVATION

SELECT HIGHLIGHTS FROM J-WAFS NEWS



## 21st Century Desalination to Improve Industrial Hydroponics 2017 Solutions Grant

Kishor Nayar, a student in John Lienhard's lab, developed a desalination method that can save farmers both water and fertilizer. [MORE INFO](#)



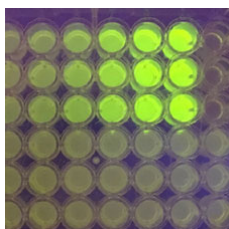
## Pulling Drinking Water Out of the Air 2017 Seed Grant

MIT researchers led by Profs. Wang and Dinca are developing a device that uses solar energy to transform vapor in the air into drinkable water. [MORE INFO](#)



## Tracking Invisible Contamination 2018 Seed Grant

Prof. Charlie Harvey is using groundwater data to improve management practices for watersheds in Bangladesh with high arsenic levels. [MORE INFO](#)



## Living Lights: Detecting Contaminants with Glowing Microbes Fellowship Funding

PhD student Tzu-Chieh Tang, 2017-2018 J-WAFS fellow, is developing living, engineered materials that can sense water contaminants. [MORE INFO](#)



## Every Last Drop: Cleaning Water with Electrochemistry 2016 Solutions Grant

MIT researchers developed an electrode configuration to remove trace pollutants, such as heavy metals and pharmaceuticals, from water. [MORE INFO](#)



## 2019 MIT Water Innovation Pitch Night Encourages Innovation Student Club Funding

The MIT Water Club hosts an annual, global pitch competition with awards up to \$35,000. The event helps students fund startups in water innovation. [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.

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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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