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Meet Us In the FUTURES: A World for Water

February 3 @ 6:30 pm - 7:30 pm

“For every drop of water you waste, you must know that somewhere on earth someone is desperately looking for a drop of water!” — Mehmet Murat ildan, Contemporary Turkish playwright, novelist and thinker

When you reflect back on early grade school, you may remember learning about the earth's surface and how it's made up of mostly water. In fact, more than 70% of the Earth's surface is covered by water, with the [oceans](#) holding an incredible 96.5% of all water on the planet,

according to the [United States Geological Survey](#). Our grade school teachers weren't kidding, this is a lot of water! The detail this data doesn't reveal is while our planet's surface may be covered in water, there is a severe discrepancy in our ability as humans to access freshwater. The H₂O that we use to prepare some of our favorite meals, drink throughout the day or even bathe runs at only 3%. Take this mind-boggling deficiency a step further, according to the [World Wildlife Fund](#), and you discover that about two thirds of that 3% of freshwater is either sitting in frozen glaciers or inaccessible.

When the need for freshwater exceeds a region's available supply or water infrastructure capacities, that region is deemed as water-stressed. In fact, a [stunning 2021 data report by the United Nations Waters](#) claims that "2.3 billion people live in water stressed countries, of which 733 million live in high and critically water-stressed countries." This means that nearly one-third of the world's population is currently living in water-stressed regions with research showing this could increase to one-half by 2050.

On display in FUTURES, a new Water Harvester is one potential solution. It uses a new form of chemistry to pull water molecules from the air, creating pure drinkable water in even the driest climates. According to the World Economic Forum, it is one of the top 10 emerging technologies that will change the world.

What will the future hold for water in our world? Meet us at our launchpad for another trip into the future where we will explore a world without water stress through the lens of a scientist. What does that future world look like? What solutions and new discoveries have scientists uncovered to help us get there? How can we use the power of science to ensure that we all have equitable access to clean and drinkable water?

Meet Us in the Futures is a virtual talk series highlighting the ideas of those striving to achieve a better tomorrow from spaces that provoke their futuristic thinking the most.

With:



National Geographic Explorer [Dr. Asha de Vos](#) is a Sri Lankan marine biologist and educator in Marine and Environmental Biology. She holds substantial

degrees in Integrative Biosciences from the University of St. Andrews, University of Oxford and the University of Western Australia. She is the founder of her own non-profit, Oceanswell – Sri Lanka's first marine conservation research and education organization. Her efforts to bring attention to the Blue Whales and the threats they face have been showcased internationally by the BBC, the New York Times, CNN, WIRED UK, the New Scientist and TED. Asha uses innovative techniques that combine social science, ecology and technology to collect data on the interactions of tourist boats with whales, assess stake-holder opinions related to the existing industry and conservation goals and collect documentary footage for outreach. In 2020, she was named a HCL Technologies Global Goodwill Champion at the World Economic Forum's annual meeting in Davos.



University of California-Berkeley chemistry professor **Dr. Omar Yaghi** is listed by Thomson Reuters as one of the top 5 most impactful chemists worldwide. He was born to a refugee family and raised in a humble home in Jordan with no electricity or running water. Because Jordan is in a desert climate, access to water from the city where he lived was only allowed once every 2 weeks. Growing up under these conditions made Omar keenly aware of the hardship of water scarcity. At the age of 15 he moved to the United States on his own to study, eventually joining UC-Berkeley in 2012. He pioneered a new field of chemistry that he named Reticular Chemistry and discovered two classes of materials, metal-organic frameworks (MOFs) and covalent organic frameworks (COFs) that have ultra-high porosity, where one gram has the surface area of an entire football field. This makes them important in areas such as hydrogen storage, carbon capture, and more recently harvesting water from desert air. The rapid growth of reticular chemistry has given rise one of the biggest expansions of materials in human history and has led to a plethora of new applications.



Dr. Eugene Kapustin is the Chief Technology Officer for Water Harvesting Inc. (WaHa). He began his career in chemistry at Novosibirsk State University in Russia completing his Bachelor's degree in 2013 and his Ph.D. in 2016. In 2014 Dr. Kapustin moved to the United States to pursue his second Ph.D. in Prof. Yaghi's research program at UC Berkeley. There, he studied structures of novel aluminum-based metal-organic frameworks (MOFs) and their water adsorption capabilities. Upon his graduation in 2018, Dr. Kapustin joined WaHa, where his goal is to advance MOFs from his doctoral studies to market-ready solutions for urgent water scarcity issues.

RSVP

Livestreaming sponsored by Comcast NBCUniversal.

DETAILS

Date:
February 3

Time:
6:30 pm - 7:30 pm

Event Category:
[Virtual](#)

ORGANIZER

[Arts and Industries Building](#)

VENUE

[Smithsonian Arts + Industries Building](#)

900 Jefferson Dr SW
Washington, DC 20560
United States

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Futures that Work



Futures that Work hall at the Smithsonian Arts + Industries Building, Courtesy Albert Ting.

What will our “normal” look like in the years to come? Futures that Work focuses on possible solutions: ways of making a healthier, happier world. Should we slow down? Use our resources more efficiently? Focus on sustainability? Many strategies have vital parts to play in our collective next chapter.

Check these out

Like all precious resources, time is worth saving. The Virgin Hyperloop Pegasus aims to do just



What if you could pull water directly from the air around you? This solar-powered Waha Water Harvester can create enough drinking and cooking water for two to three adults.

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