maq 10:25 AM

Can atmospheric water using a dehumidifier meet the goals of 50L/day at 2 cents? I think it requires electricity to operate.

Anonymous Attendee 10:29 AM

How can we deal with the contaminators in the fog?

Sidharth Raut 10:33 AM

For zeolites, do we need only a few zeolitic members like SAPO, MFI and so or do we need all zeolitic members?

Anonymous Attendee 10:39 AM

On slide 8/9 of Prof. Yu's presentation, we see that the Cl ions have a hygroscopic effect. How come that these ions don't get dissolved once the water penetrates the matrix and the material can be reused many times? The ionic bond of the Cl ions is the strongest of all bonds

Anonymous Attendee 10:40 AM

Does normal mode start after the express mode?

Anonymous Attendee 10:45 AM

Silica gel usually needs around 1 kWh for desorbing 1kg of water. By how much is the desorption energy reduced in IPN hydrogel composites compared to silica gel?

Anonymous Attendee 10:45 AM

We heard a lot of suggestions about enlarged devices. Is it practical to scale, and are these numbers taking scaling effects into account?

maq 10:46 AM

Prof. Peng Wang: How intricate is the process to produce the required carbon nano tubes on a large scale?

Anonymous Attendee 10:46 AM

It would be good to have a cost comparison of various technologies presented. Even though some may be at research stage, an estimate at larger / implementation stage would be helpful.

Mike Izenson 10:50 AM

How resistant to microbial growth are the water harvesting materials?

Youssef Wehbe 10:56 AM

Question for Prof. Peng from YOUSSEF WEHBE (Khalifa University): Are you accounting for variability in meteorological conditions in your design for a continuous AWH system in your hyper-arid environment?

Xiaoyu Wu 10:56 AM

Thank you for the presentations. I now know that there is plenty of water in the air. I am curious about the distribution of water in the air around the globe. Specifically, what is the water concentration in the air in desserts, and how does it compare with the water concentration in humid regions?

Xianming Dai 10:57 AM

Questions to Guihua Yu: Very interesting temperature-responsive material for water extraction. Where is the energy from for heating and cooling in your device? If we use a portable device, what would be a good source to get the energy?

Youssef Wehbe 10:58 AM

Question for Prof. Peng from YOUSSEF WEHBE (Khalifa University): Radiative fog is very common over the Arabian Peninsula especially around winter time with high near-surface relative humidity. How does your sorption-based design work in fog conditions?

Anonymous Attendee 10:58 AM

Would on-plot, decentralized assembly of simple AWH devices and systems be possible (to better match decentralized water demands)?

Raja 10:58 AM

Super Moisture-absorbent gel (SMAG) has the excellent water uptake capacity (6.7 kgw/kgm), shorter cycle time and lower thermal energy requirement for desorption.

What is the cost of the SMAG ($/kg)?

Is it feasible for mass production of the SMAG material for low cost water production application?

Anonymous Attendee 11:00 AM

When will the AWH technologies be ready for large-scale applications? Which countries and regions could be among the first phase to receive them, considering both needs and practicality?

Menghao Qin 11:01 AM

Salts will enhance the water vapor uptake of hydrogel. However, it will also make it difficult to regenerate. Is there any type of hydrogel that can quickly absorb a large amount of water vapor from the air without containing salts?

Anonymous Attendee 11:02 AM

Please address the issue of water contamination (from the material and from pathogens in the air or surroundings) by various sorbent-desorbent methods that make the water unsafe or need to be cleaned and filtered again. This adds another large burden.

Afra AlBlooshi 11:02 AM

What is the most important properties for sorbent?

Anonymous Attendee 11:06 AM

Can AWH schemes be transferred to harvesting/capturing other molecules, beyond water?

Pablo L 11:07 AM

How much water do you expect to collect with this method?

Rohit Vedhara 11:07 AM

What is the technology that Zero Mass Water uses?

Pablo L 11:07 AM

Could it become dangerous for biological processes if we extract too much water from air?

Thomas 11:09 AM

Re why PV may not be suitable: because PV requires a lot of space and you mentioned islands in the question.

Evyatar Shaulaky 11:10 AM

A question to Guihua Yu: If PPy can absorb atmospheric humidity (overcome the enthalpy of condensation), why will it transfer to the poly-NIPAM? According to my understanding, if you are absorbing atmospheric humidity, you can't release the water in lower energy consumption, then the enthalpy of condensation (thermodynamic limitation)?

Dr. Chander S. Sharma 11:10 AM

Thanks for the great talks. This question is to the entire panel. What is your opinion on practical feasibility of water harvesting through surface wettability modification (without using absorbents)?

Seunghyun Hong 11:10 AM

Many types of water harvesting technologies were introduced in the presented results. However, such nanomaterial-based harvesting technologies should be able to secure long-term operation for practical viability. What other strategies for long-term operation could be introduced?

Anonymous Attendee 11:10 AM

Is there use of AWH on planets other than Earth being investigated?

Anonymous Attendee 11:11 AM

I would like to ask a question, what do you think are the main characters a material for AWH should possess?

Anonymous Attendee 11:11 AM

It is very convincing that hydrogel based materials with hygroscopic salts are a great low cost solution for AWH, but there has yet to be hybrid hydrogel that seems effective <30 RH, which often overlaps with the locations with the most severe water scarcity. Will hydrogel hybrids ever get there, or do we need to focus on reducing costs for MOFs that are better for low RH conditions?

Anonymous Attendee 11:12 AM

A Question for Jean: what is the widely used water sanitation technology used in those developing countries?

Anonymous Attendee 11:12 AM

How do we bridge the gap between the public and academic sector to get AWH devices out into the field?

Zhenying Wang 11:14 AM

This is Zhenying Wang at Kyushu University. How about the potential of liquid desiccant (hygroscopic aqueous solution) in water harvesting? Compared to solid adsorbents, the liquid desiccant is more flexible and should have more potentials in simultaneous water harvesting and regeneration.

Willman, Eric {PEP} 11:14 AM

What is the theoretical minimum energy limit for AWH given all of the options we heard to today per m3 of water harvested? 100 Kwh? 50 kWh? 10 kwh?

Sainath Reddy 11:14 AM

what is the quality of water, if water does not have any disavowed minerals it is also not good for drinking ..!

Xiaoyu Wu 11:15 AM

I have another question: What are the engineering solutions to prevent these nanomaterials leaking into the captured water? Thanks!

Alexey Polyakov 11:15 AM

We have brand new dew point air cooling technology. It can dramatically improve all existing AWH devices. With whom from speakers could we talk on cooperation?

Raushan Kumar 11:15 AM

what is the best passive way to harvest water from dew?

David Warsinger 11:16 AM

A question for the panelists: What are the cost figures today for each of the leading water vapor harvesting technologies (e.g. in $/L), and where do you see each of the most compelling technologies going in the next 10 years?

zhaoqi 11:16 AM

Mr. Yu, what do you think is the connection between solar vapor generation（SVG）and AWH?

zhaoqi 11:19 AM

hydrogel for solar water purification and hydrogel for AWH

Anonymous Attendee 11:21 AM

How many kg of sorbents are needed for Prof RZ Wang's 50l/day device and how much does is cost per liter of water?

Anonymous Attendee 11:21 AM

We have 20X less energy consumption for dew point air cooling. Who is interested in synergy with existing AWH technology?

Hyunchul Park 11:25 AM

Which one is more promising between MOFs and salt hydrogel composite as a future AWH sorbent?

Anonymous Attendee 11:25 AM

In terms of material, device design, and system integration for AWH, which aspect is more suitable and encouraged to pursue as a PhD topic? Engineering innovation or scientific depth, which one is more valuable?

Anonymous Attendee 11:28 AM

will this technology help conserve/ reduce the evaporation rate of water in the dam? Currently Egypt and Ethiopia are fighting over a dam that is newly built in Ethiopia, for which both of them have a common water source, Nile river.

Alexey Polyakov 11:31 AM

We transfer heat absorption for heat desorption through the M-Cycle which significantly increase efficiency for producing water from air.

Anonymous Attendee

fyi - web browser viewers cannot see or participate in polls. please relay the results verbally.

Qiangshun Guan

hi, thanks for the inspiring presentation. I have a question from Prof. Yu's PPT. After absorbing water from air and releasing the water from the hydrophilic polymer, note that in the PPT it's showed that the structure of the polymer is collapsed. So, I want to know that if the designed material is reusable for multiple cycles of water extraction. And after how many cycles, the efficiency will get deteriorated?