

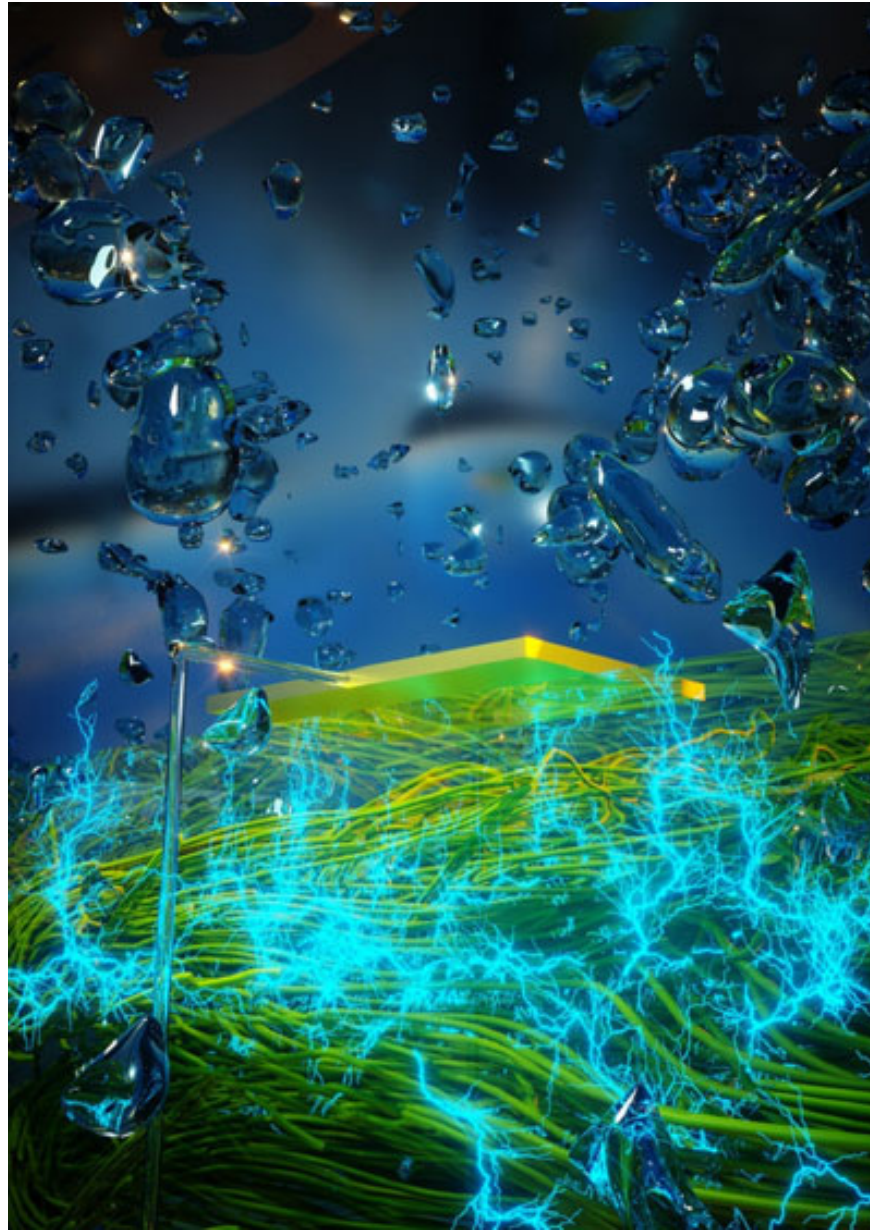
# Scientists generate electricity from the air by nanowires generated from bacteria

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The device that generates electricity from the air is called an 'Air-gen', which works when the water in the air around it reacts with tiny conductive filaments of microorganisms synthesized by bacteria.

Currently, scientists are still working on this technology but in the future it may become a clean source of electronics.



Electrical engineer Jun Yao wrote in the press release: 'We literally generate electricity from air. This is clean energy 24/7. The Air-gen device is currently the most amazing and impressive application of the protein nanowire '.

The bacterium that makes an important contribution to this technology is called Geobacter. It can produce microscopic protein fibers (about one-billionth of a meter) that can conduct electricity, called nanowires.

The scientists placed a layer of nanowires between the two electrodes made of gold with an area of  $25\text{mm}^2$ . The nanowire membrane will absorb moisture from the air and allow the device to generate a constant current between the two electrodes.

Research results show that Air-gen generates voltage of about 0.5 volts in 20 hours with the current density of about 17 micrograms per square centimeter. A small amount of power, but connecting multiple devices can generate enough power to charge small devices. The special thing is that this technology uses nothing but ambient humidity and no waste.

Researcher Lovley hopes that this new power generation technology will help people abandon renewable fuels, especially in the face of the Earth facing severe climate change. Currently, scientists are looking to increase the size of the electricity generation system in order to gain more energy.

This remarkable work has published a scientific report in Nature.

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