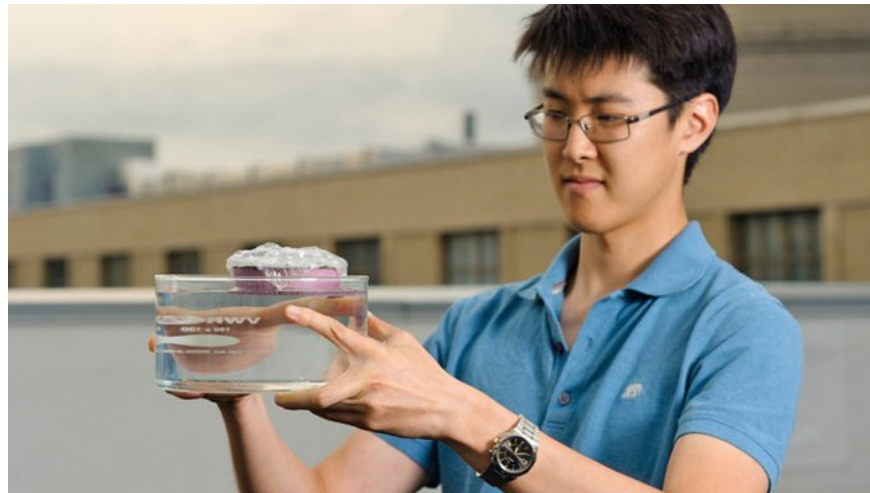


## Create sponge that can boil water

Boiling water is the easiest way to remove parasites, bacteria that help you get safe drinking water. When traveling, to boil water we often have to bring a kettle or a pretty kitchen.

**Boiling water** is the easiest way to remove parasites, bacteria that help you get safe drinking water. When traveling, to boil water we often have to bring a kettle or a pretty kitchen.

Now we can safely leave them at home without worrying about drinking water. Engineers at the Massachusetts Institute of Technology (MIT) have created a special device like a sponge that can **boil water through sunlight**. In the future, this will be a new way to boil water at low cost. All you need is **this special sponge, bubble bag and sunshine**.



George Ni - one of the two researchers created this product

The engineering team is composed of student George Ni and Gang Chen - the head of the School's Mechanical Department. This device is also known as a "*solar steam generator*".

In 2014, the team created a sponge-like material made of graphite and carbon. But to boil water, it needs to be exposed to solar light 10 times stronger than natural sunlight.

With the new device announced by the research team, it only needs to use the surrounding sunlight that can heat the water to 100 ° C.



Create a sponge that can boil water

**Black graphite** is very effective in absorbing sunlight but it also tends to release heat back into the environment. Therefore, Chen and his team used a **thin sheet of copper** coated with a **selective spectrophotometer** that could keep sunlight more efficient without losing heat. Because it is capable of absorbing radiation in the visible range of the electromagnetic spectrum without radiating in the infrared range.

After wrapping the material around an insulating floating sponge, the team integrated a bubble foam bag into the design to prevent heat from escaping through the process of air movement, also known as **convection** . Each time the steam is produced from the device, it will release from one or more small holes on the surface of the copper piece and the bubble bubble bag.

*" We have a small wick through the porous heat that is connected to the opening on the copper plate. This wick draws water to the hole. Because the water evaporates in this hole, it will cool the surrounding area, similar to the child. The person will perspire to cool the body, this cooling will draw heat from the surrounding copper plate, however, the copper plates will continue to lead the sun's heat to the hole so that the steam production is still normal . "*The research co-author George Ni said.



Bubble foam bags are one of the important materials in this product

When the steam enters the air, the air bags in the bubble bubble minimize the convection and reduce heat loss, then in turn increase the operating temperature of the system. George Ni likens the device to a heavy winter coat that holds the air even though in this case the bubble bag is used especially because of its transparency, allowing sunlight to enter the system.

Currently, thanks to the bubble foam bag, we don't need mirrors to focus sunlight anymore. Even this special device can heat water even in cold or overcast days. In addition, it can be used for **disinfection** or **seawater salinity** .

You finished reading the article "**Create sponge that can boil water**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.