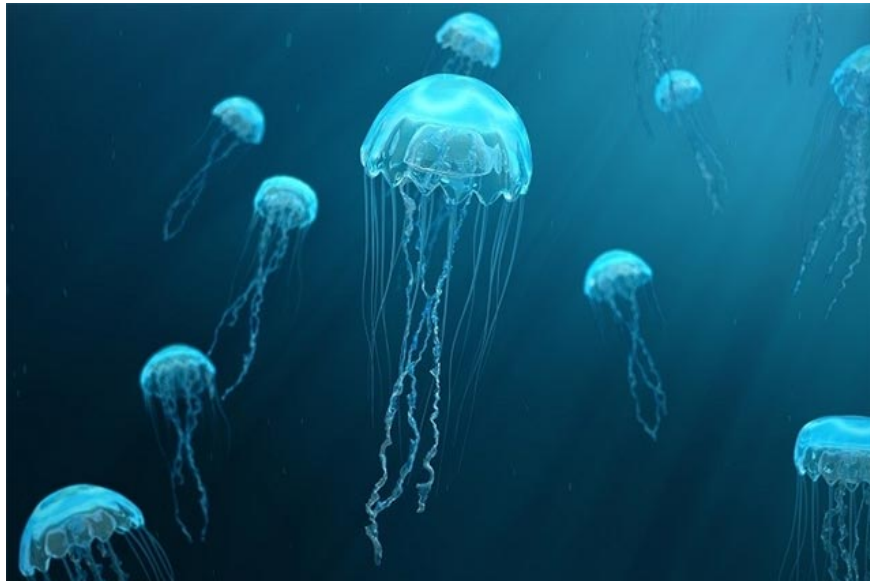


Discover the mystery of the ocean with jellyfish with electronics

Seven years ago, engineers from the California Institute of Technology and Stanford University, USA, came together to realize the idea of creating a bionic jelly that could be used as biological machines to help people uncover unknown mysteries about the ocean.

They have now gained initial success with the successful creation of a device that works quite similar to a pacemaker, which could help these jellyfish operate more efficiently.



'The microelectronic device we attach to the jellyfish is capable of controlling contractions in the muscles the animal uses to swim. The mechanism is relatively simple, the device sends an electrical pulse to trigger muscle contractions before the animal performs a swim and so we can control the frequency of muscle contractions. ', said Professor John Dabiri, who led the research.

Like a pacemaker, this device measures just 0.8 inches and will shoot small electrical impulses. When attached to the bodies of jellyfish, the device can control their movement speed. Jellyfish themselves have possessed a more efficient form of movement than any other animal in the ocean.

Usually jellyfish swim at a speed of about 2cm per second, but when fitted with electrical impulse transmitters, they can swim at 3 times the speed - albeit using only twice as much energy as usual. Jellyfish don't have pain receptors or the central nervous system, meaning the device that produces electrical impulses won't make them uncomfortable.

Jellyfish are the true 'phuot' of the ocean. This animal appeared more than 500 million years ago, they can go to any ocean, from the equator to the poles and from the water to the sea floor. This feature will be of great help to scientists' mission to explore the ocean.

However, connecting the scattered jellyfish explorers on the plates of the oceans to the lab to collect the information they discover will not be that simple. There are still many challenges ahead for scientists.

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