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[New Clam-Like Robotic Anchor for Ships](#)

Nature inspired a way to keep ships in place

Ships have evolved a great deal throughout history: they are faster, sturdier and more reliable, but there is one thing that hasn't changed from the early ages of the ship concept, and that's the anchor, the rudimentary system that holds a ship in one place. But the very heavy metal piece which has been around for millennia may see its usefulness and its very existence coming to an end, with the emergence of the RoboClam, a tiny device inspired by nature that may soon take its place.

Experts from the Massachusetts Institute of Technology (MIT) have been able to use biomimetics (the science that adapts natural features for human use) in order to come out with a small item that would hold ships steady. The device, called RoboClam, is very light and no larger than a cigarette, and imitates the foot of a razor clam, *Ensis directus*, by rapidly digging itself in the seafloor or anchoring itself to almost anything. "It turns out that clams are actually very fast diggers," said Anette "Peko" Hosoi from the MIT, as quoted by [Discovery](#). The RoboClam's approach to anchoring is somewhat strange at first sight. It vibrates in order to loosen up the soil, then the two shells expand, securing the anchor into position. Subsequently, a foot embeds itself into the ground, pulling down the vehicle (or whatever item it needs to anchor) as the shells close again. So far, during tests, RoboClam bested the natural clam by pushing down with a 36 times greater force of approximately 36 kilograms (80 pounds), digging up to 4.6 meters (15 inches) deep. Scientists hope it will eventually get to dig twice farther than the clam, which can attain over 0.7 meters (28 inches) in about 70 seconds. RoboClam is more energy-efficient and at least ten times stronger than other vibrating anchors (and much more in comparison with regular anchors). It can even unburrow itself if needed. "If you can dig more directly into sandy soil and also control the direction of the digging, there are a number of applications, including exploration of natural resources," explains Wolfgang Lohsert, an expert in granular media at the University of Maryland. It can anchor almost anything, from small submersibles to giant off-shore oil platforms and maybe the technology could also be adapted for dry land situations.