

The world's first terrain-crossing robot can move like a snake

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The new robot is called **Single Actuator Wave Robot (SAW)** , and was created by Dr. David Zarrouk, of the Department of Mechanical Engineering of the Israel Institute of Technology, and a group of students of the school. *"The robot was originally designed to be able to crawl inside the gut like an auto endoscope (to film intestinal and biopsies). I worked with this project for many years and just a few years ago, I think of a design that can produce continuous waveforms, "* Zarrouk said.

The center of this motion is a spiral shaped bar made of **3D printing technology** stretching over the body of the robot. When a single motor rotates this part, it will generate continuous wave motion and result in joints on the robot moving forward or backward when it comes into contact with the ground.



With SAW wave motion it can climb over obstacles or go through tunnels, moving on different surfaces (like sand, grass, or gravel). The body is attached to the top with wheels, used to navigate, not to support movement. The team even created a waterproof version of the robot capable of swimming 6cm / s.