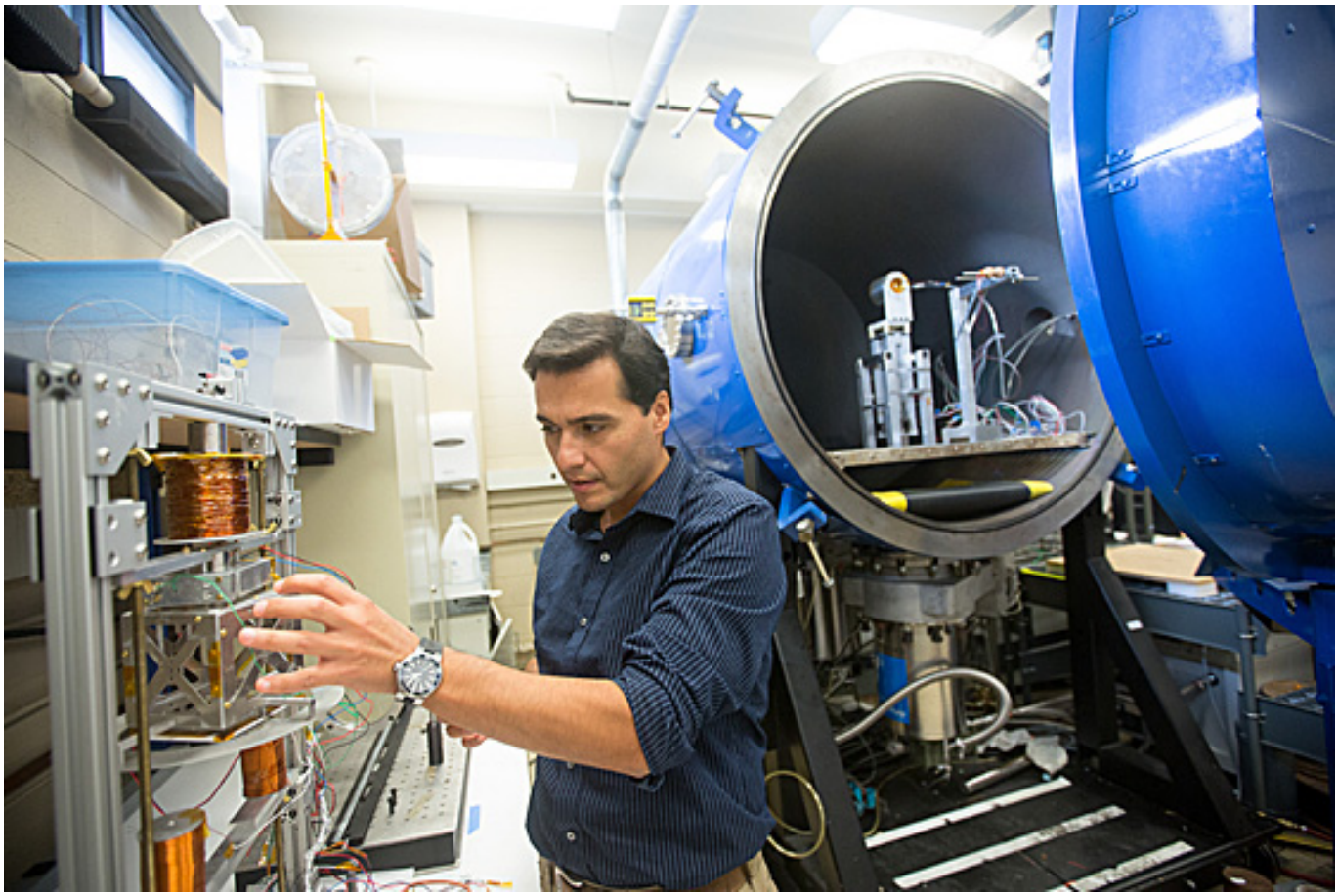
# Photos of the Day: Microthrusters Propel Small Satellites

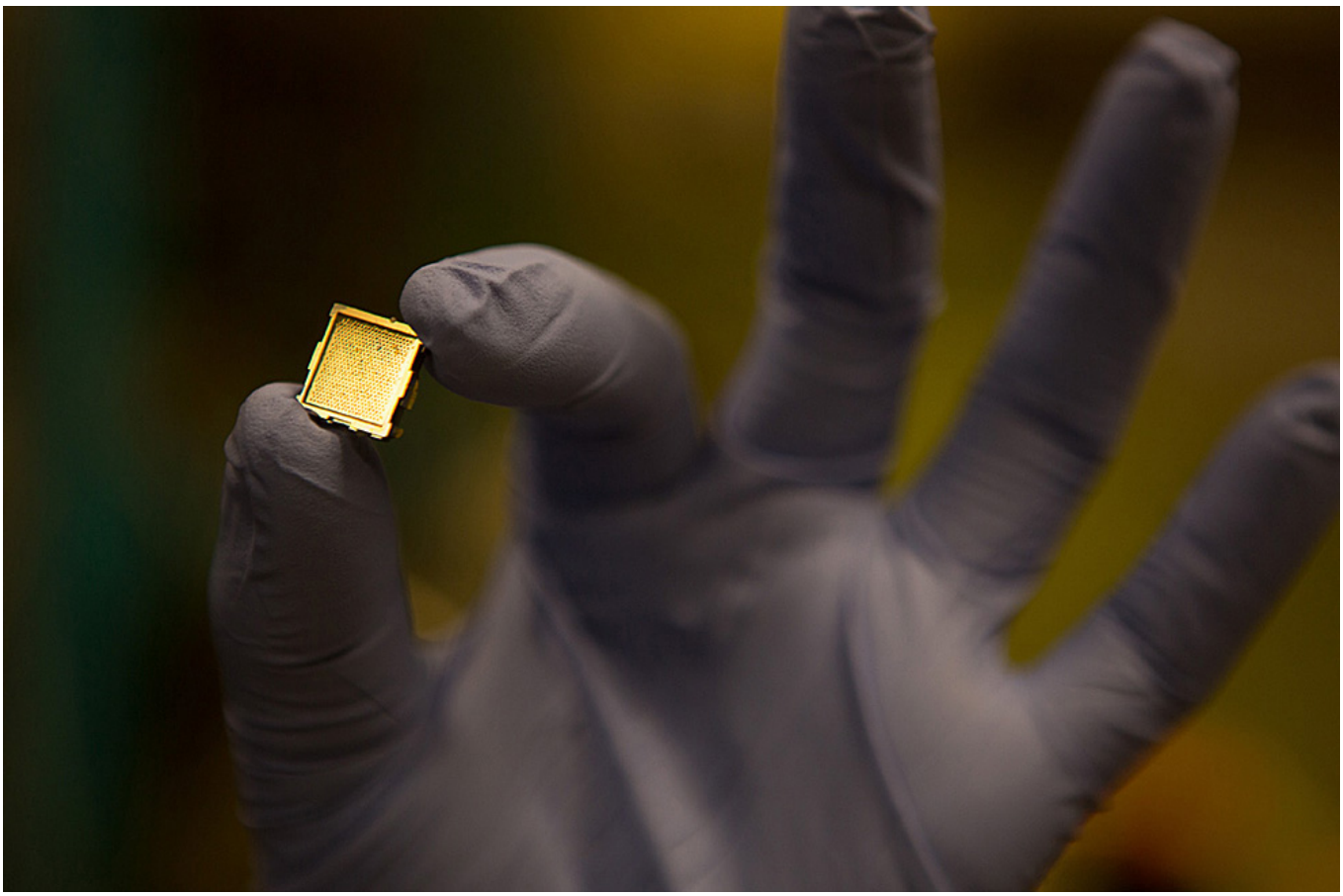
Jennifer Chu, MIT News Office



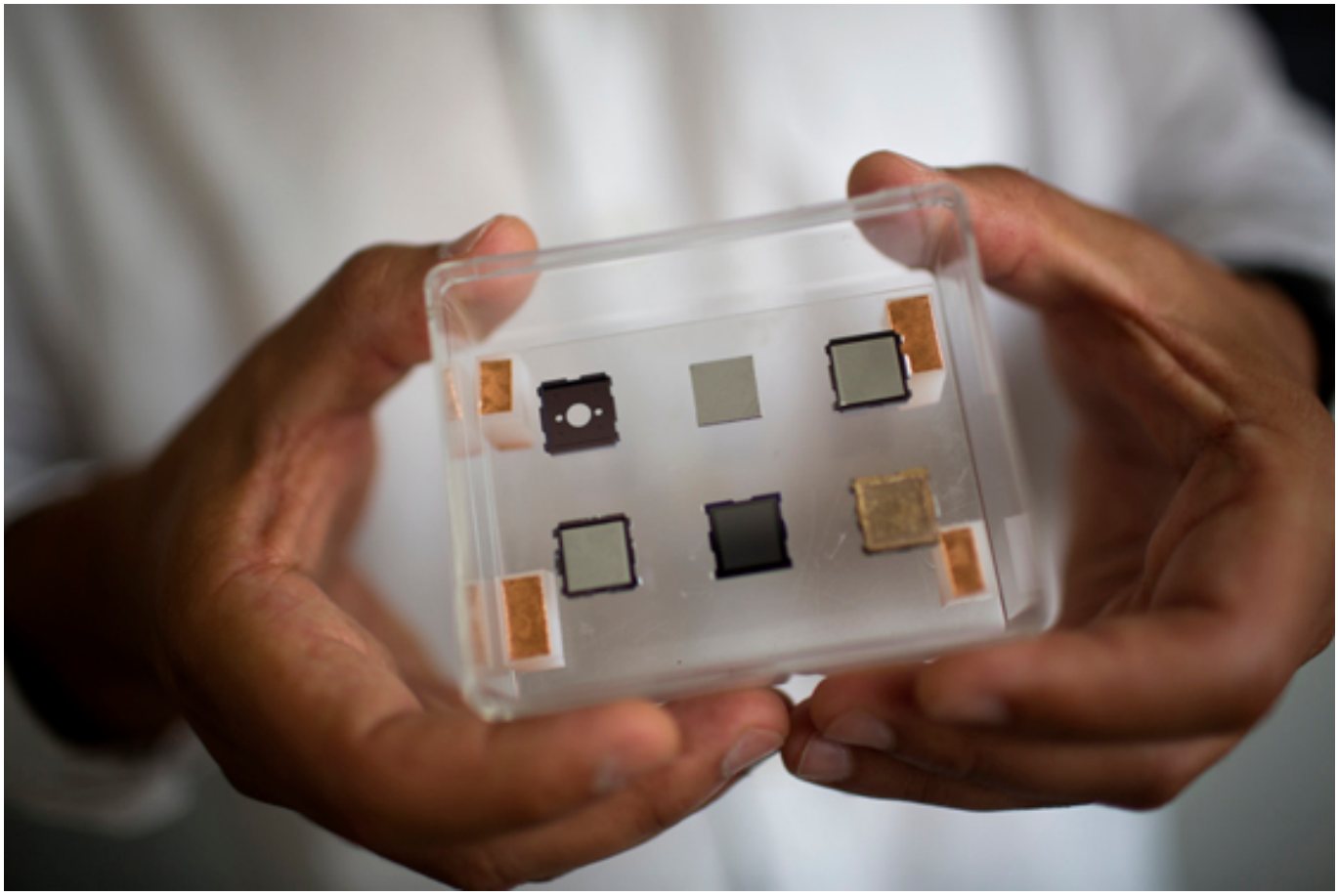
Paulo Lozano Photo: Bryce Vickmark

Lozano, an associate professor of aeronautics and astronautics at MIT [1], is designing tiny ion thrusters to cheaply and efficiently propel shoebox-sized satellites, known as “CubeSats,” through space. The thrusters, which can run on solar power, contain a small amount of liquid propellant that, when electrified, creates a stream of ions that are released from microscale nozzles as puffs of charged gas — generating a thrust that can propel a small satellite forward.

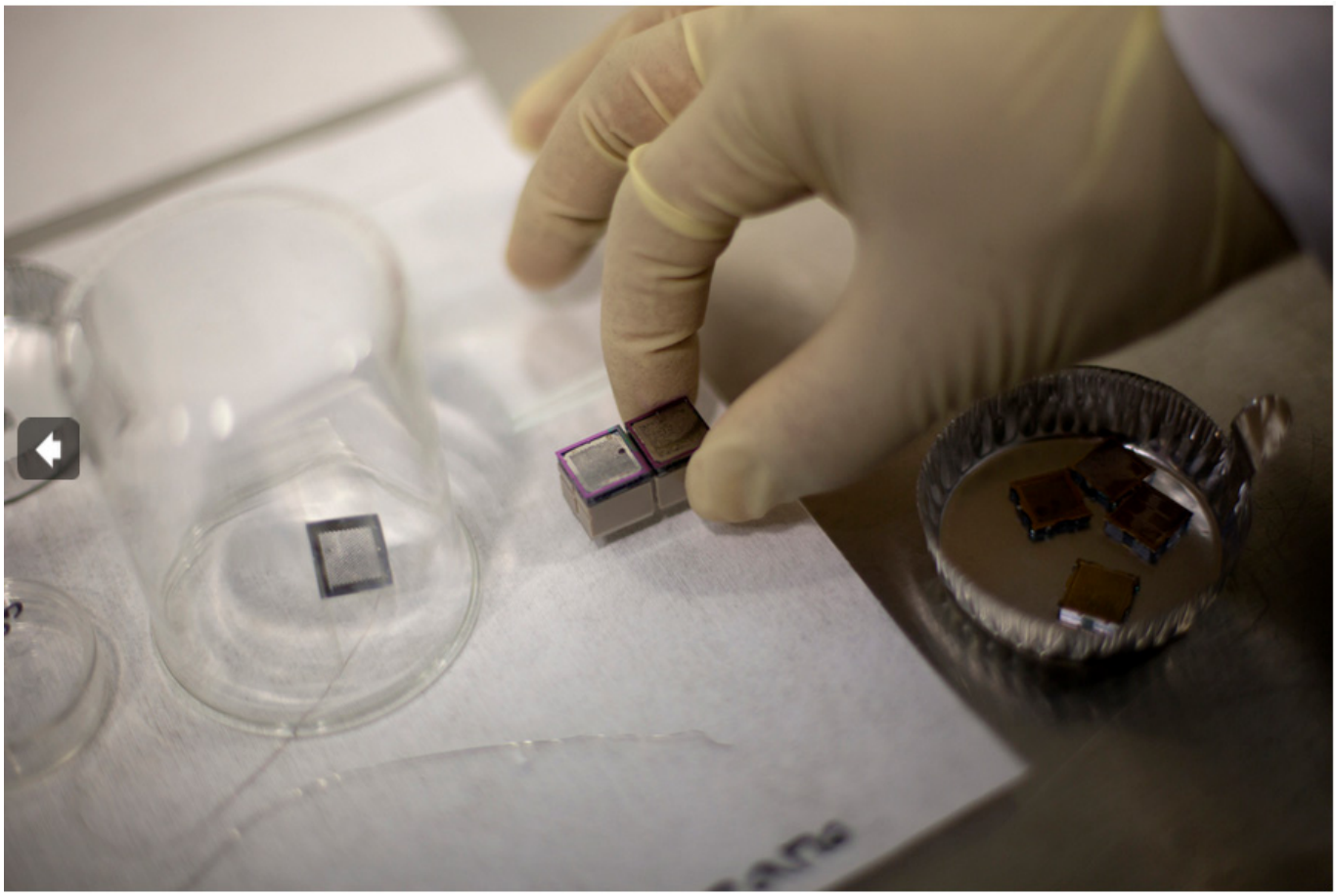
Click here to read the full article [2].



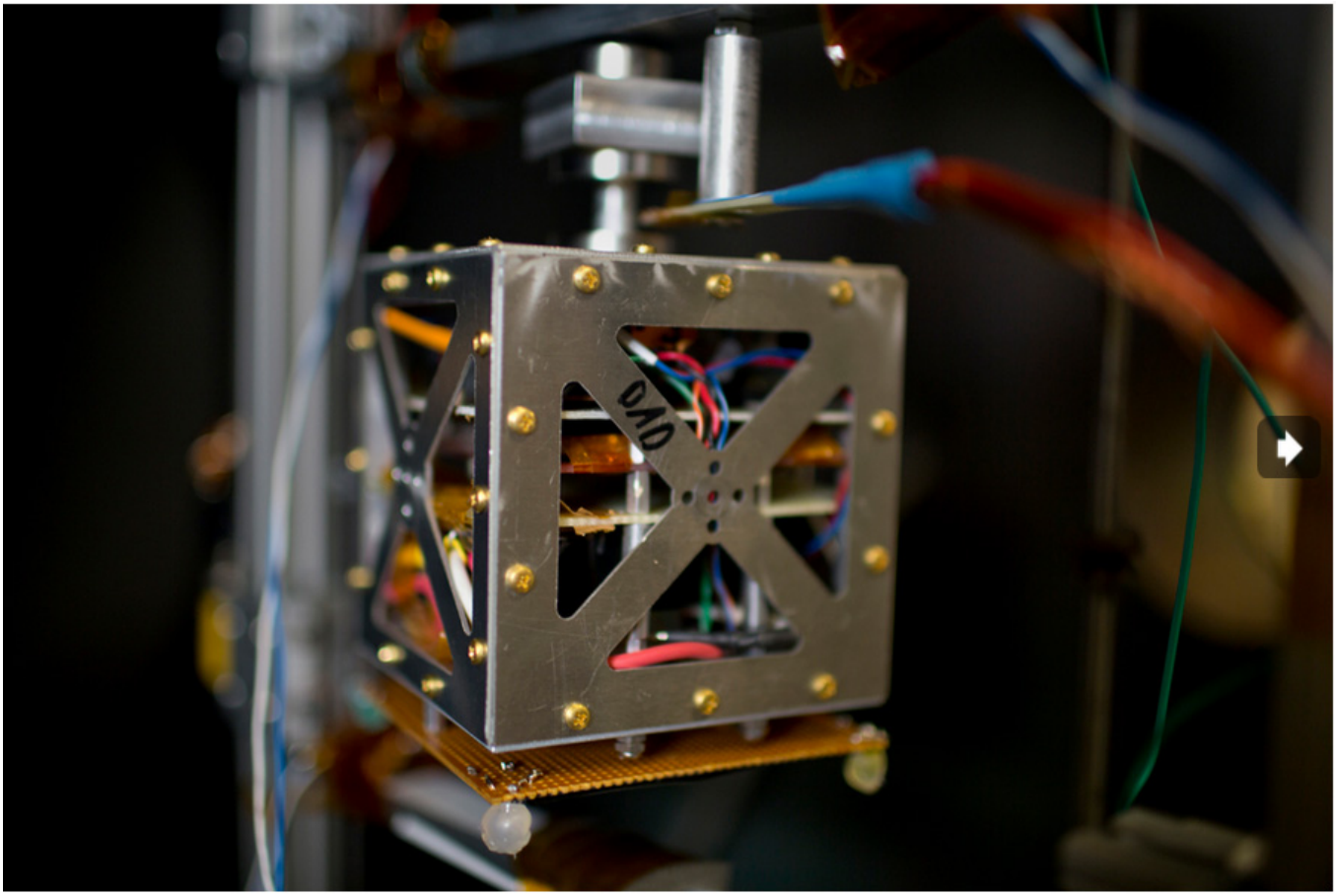
Lozano holds a prototype of a microthruster, developed to propel small satellites in space. Photo: Bryce Vickmark



Mini ion thrusters are manufactured using micro-manufacturing techniques. This image shows an example of the different parts comprising a thruster. The finalized device is at the bottom right, measuring 1 cm by 1 cm and 2 mm in thickness.
Photo: M. Scott Brauer



A pair of mini ion thrusters, including their propellant tanks, is prepared for tests.
Photo: M. Scott Brauer



A magnetically levitated small satellite inside a vacuum chamber simulates space-like conditions to test the performance of mini ion thrusters in the laboratory. Photo: M. Scott Brauer

For more information visit www.mit.edu [1]

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