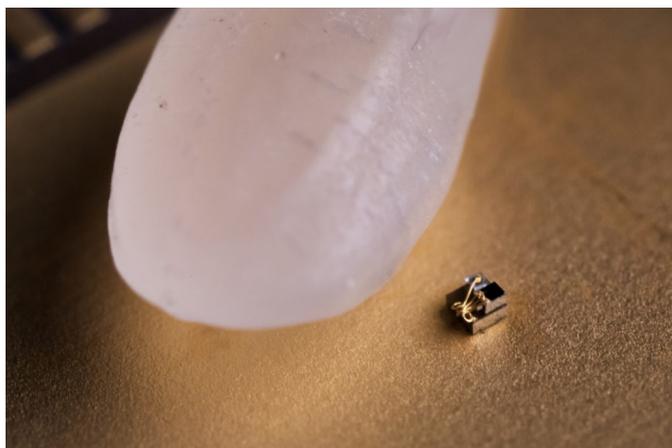


## Michigan Researchers Best IBM to Smallest Computer Claim

Written by Marco Attard  
27 June 2018

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Researchers at the University of Michigan set to beat IBM for the claim of smallest computer in the world by shrinking the Michigan Micro Mote (M3) further, leading to a computer measuring all of 0.3mm to a side.



The previous version of the M3 computer measured 2 x 2 x 4mm, while the [IBM claimant to the smallest computer throne](#)

is 1 x 1mm. However the race for the tiniest computer has led to a re-examination of what a "computer" actually is, since both the latest M3 and the tiny IBM machine lose all programming and data as soon as they lose power.

"We are not sure if they should be called computers or not," professor of electrical and computer engineering David Blaauw says. "It's more of a matter of opinion whether they have the minimum functionality required."

Building a tiny computer leads to some huge challenges. For instance, since it is too small for a conventional radio antenna, the M3 receives and sends data via visible light, with a base station providing light for power and programming while acting as a receiver. However, the light from the base station could affect the tiny circuits inside the M3, leading to the design of circuits that are both low power and not tolerant of light.

But what can a computer small enough to make a grain of rice look enormous do? The M3 is, technically, a precision thermometer able to measure temperatures in miniscule regions-- such as a cell cluster-- with an error of 0.1 degrees Celsius. Scientists believe tumours are more hot than regular cells, and something like the M3 is exactly what is required to test whether the theory is right or not.

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Further applications for the M3 can include anything from pressure sensing inside the eye for glaucoma diagnosis to oil reserve monitoring, surveillance and even the study of tiny snails.

Go [U-M Researchers Create World's Smallest "Computer"](#)