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Sweet! Virtual Food Has Real Taste Now

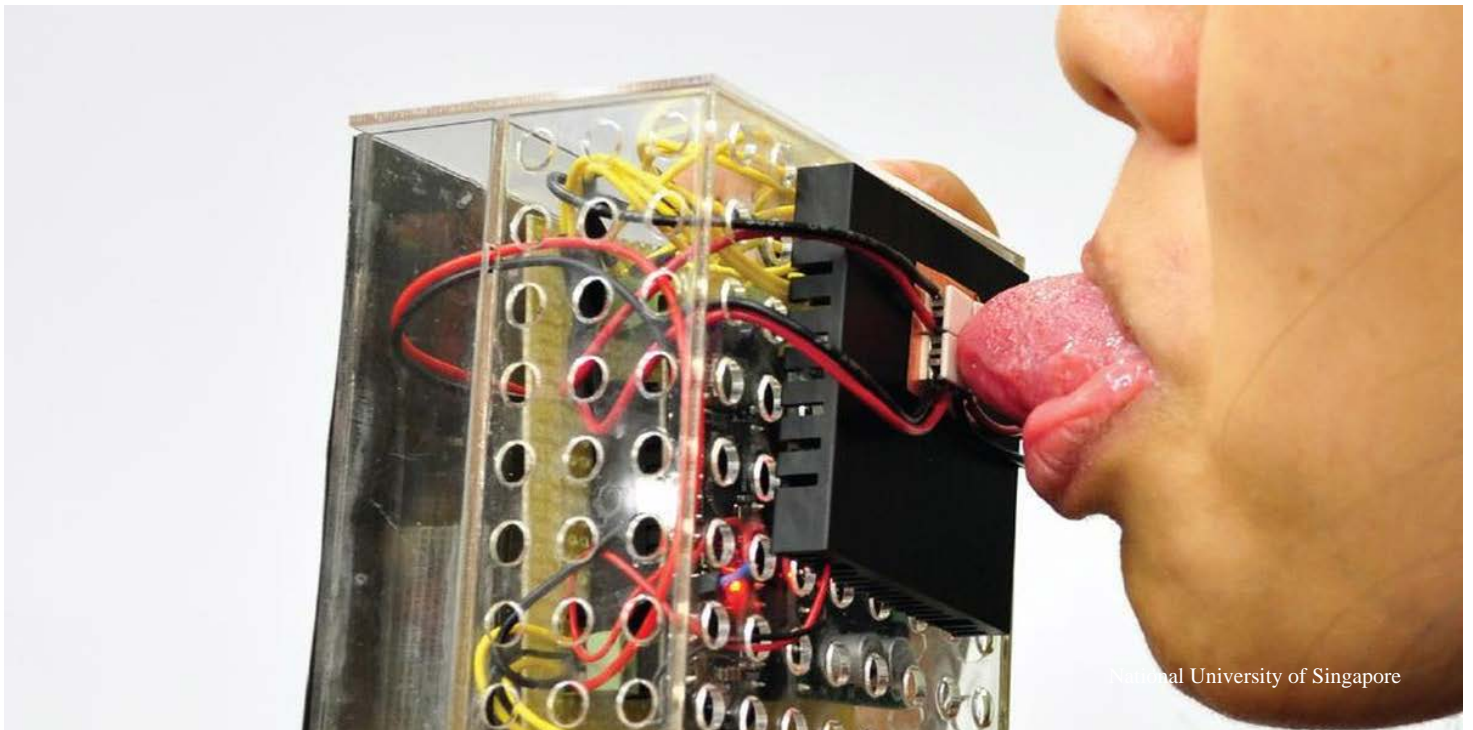
New virtual reality approaches makes the mouth feel like it's tasting and chewing something sugary.

BY *ALYSSA DANIGELIS*

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Sweet dreams are made of these devices. Virtual reality

technology has gotten closer to mimicking the actual taste and chewy feeling of eating candy.

Separate teams from the National University of Singapore and the University of Tokyo recently made wild strides in the dessert department.

Nimesha Ranasinghe, a research fellow at the National University of Singapore, has been working on virtual taste for a while now. Back in 2013, he and his team created [a taste simulator](#) containing a small electrode that produced salty, sweet, bitter and sour sensations. The following year he made [a special spoon](#) that could intensify flavors for the elderly.

That all sounds deliciously guilt-free, but Ranasing ran into limitations when trying to use electro-stimulation to produce a sweet taste, [New Scientist reported](#). So he and his colleague Ellen Yi-Luen Do took a different approach: thermal stimulation.

Their [latest device](#) resembles a tiny bomb with its boxy plastic exterior and colorful wires, but the only burst is one of sweetness on the tongue. The box contains a grid of thermoelectric solid-state devices known as Peltier elements that rapidly heat or cool the tongue in controlled ways. Sounds unbelievable, but the researchers wrote in their paper that manipulating temperature in this way caused half of the participants to perceive mild sweetness on the tip of their tongues.

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Ranasing and Yi-Luen Do demonstrated the tongue-catching technology at the annual [User Interface and Software Technology Symposium](#) in Tokyo. A different group led by Arinobu Nijima and Takefumi Ogawa from the University of Tokyo showed off complementary technology at UIST called

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the [Electric Food Texture System](#).

"There is no food in the mouth, but users feel as if they are chewing some food due to haptic feedback by electrical muscle stimulation," Nijima told [New Scientist](#). Adjusting the electrical pulse frequency changed the virtual food texture. Symposium attendees who tried the system while munching real cookies apparently felt like they were chewing gummy candies.

In terms of applications, the researchers want to make tasty virtual reality food that could help people struggling with dietary restrictions or who have lost the ability to taste flavors. When they're done with those worthwhile efforts, here's a toast to doing something about a round of virtual cocktails.

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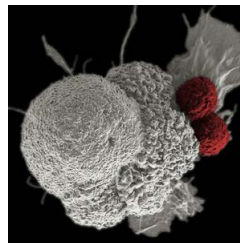
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