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## Using Electricity to Enhance Flavor: Electric Chopsticks

Electricity can add spice, so to speak, to taste. That is the implication of this new research study about electrified chopsticks, an electrified soup bowl, and other electrified eating utensils:

“[Augmented Flavours: Modulation of Flavour Experiences Through Electric Taste Augmentation](#),” Nimesha Ranasinghe, David Tolley, Thi Ngoc Tram, Nguyen, Liangkun Yan, [Barry Chew](#) [pictured here], and Ellen Yi-Luen Do, *Food Research International*, epub 2018. The authors, at the National University of Singapore, Singapore, the University of Maine, and the University of Colorado Boulder, report:



Fig. 1. Prototypes of the two electric taste utensils - (A) pair of chopsticks and (B) soup bowl.



Barry Chew, co-inventor of electric chopsticks.

“[We] have created two utensils, a pair of chopsticks and a soup bowl, that apply controlled electrical pulses to the tip of the tongue during consumption in order to augment flavours through electrical stimulation. As such, in this paper we present a study that aimed to evaluate the impact of electric taste augmentation on two types of eating experiences: consuming mashed potato and miso soup. Based on this study, our findings demonstrate that 1) significant increases in perceived saltiness and sourness can be achieved when consuming unsalted mashed potato and 2) significantly higher ratings of sourness can be achieved when consuming diluted miso soup.”

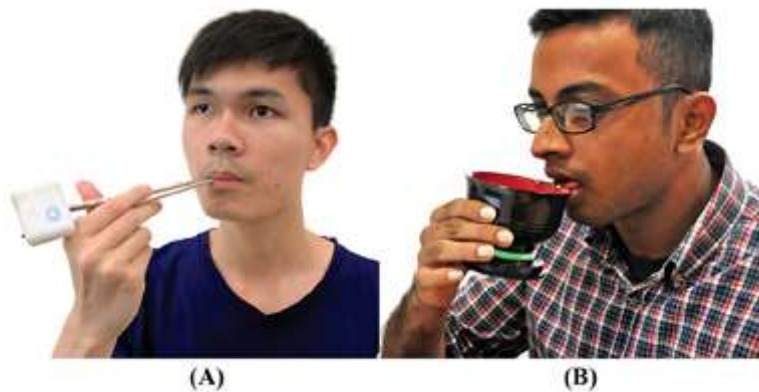


Fig. 3. Participants using the prototype systems within the experiment - (A) pair of chopsticks and (B) soup bowl.

The team at the University of Singapore provides [additional info](#), on their web site. They produced this promotional video, in which they reveal their invention of two additional electrified eating utensils: