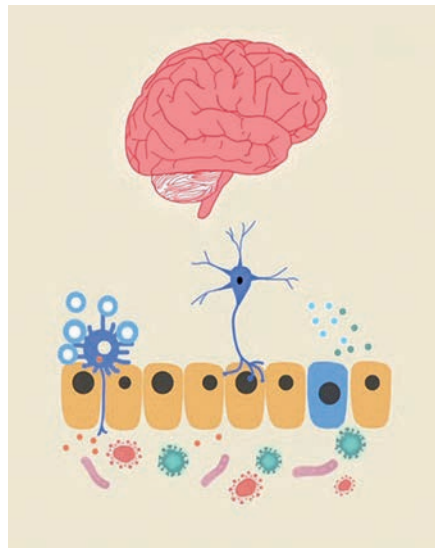


Minding the Microbiome

Postdoctoral scholar [Elaine Hsiao \(PhD '13\)](#) offered up two images side by side during her TEDxCaltech talk: one a bottle of hand sanitizer; the other a child kissing the snout of a large pig.

“I wanted people to consider what we do day to day that changes or disrupts our microbiome,” Hsiao says, “and how that might influence our health and predisposition to disease.”



A microbiome is a collection of microbial organisms that live in a particular environment—the human body, for example. During TEDxCaltech, Hsiao provided a brief overview of how a microbiome interacts with its environment and beyond, looking specifically at the mechanisms by which gut microbes can

affect the brain and at findings that have shown that changing the composition of the microbiome can alter complex behaviors such as anxiety and learning and memory, as well as disease.

As one example, Hsiao described a microbe-based treatment for autism-like symptoms in mice, a treatment she helped develop alongside Caltech biologists [Sarkis Mazmanian](#) and [Paul Patterson](#).

“What if we could—without a single invasive procedure—treat disorders like autism, depression, and multiple sclerosis?” Hsiao asked. “Microbe-based therapeutics might offer a way to . . . impart long-lasting effects without the need for a continuous treatment.” —*KF*