

## **Microbiologist Uses Viruses to Fight Bacteria**

Vincent Fischetti is the subject of *Scientific American's* August Q&A

By [The Editors](#) | August 7, 2012Share

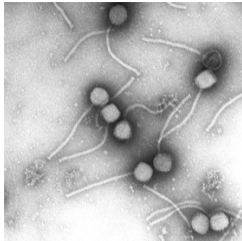


Image: Wikimedia Commons/PLoS One/Vincent Fischetti and Raymond Schuch, The Rockefeller University

After a decade of research, [ContraFect Corporation](#), a small biotech company based in Yonkers, N.Y., is preparing to test bacteriophages—viruses that infect and destroy bacteria—in people as a potential alternative to overused antibiotics for treating and preventing bacterial infections. The first trials for patient safety are expected to start by the end of the year and will provide valuable insight into whether this approach, first discovered about a century ago, can be effective.

*Scientific American* interviewed [Vincent Fischetti](#), a ContraFect microbiologist and a professor of bacteriology at the Rockefeller University, about his promising work in this area for its August issue.

In 2010 Fischetti and fellow Rockefeller microbiologist Raymond Schuch spoke with *Scientific American* about their phage research, in particular how viruses infecting anthrax and other *Bacillus* bacteria control their growth both in the soil and in earthworms. Fischetti and Schuch had discovered eight new viruses during their research, including two they isolated from the guts of earthworms found in anthrax-infested soil.

Curiously, when the researchers exposed a lab strain of anthracis to each of these phages separately, they found that, rather than bursting open and killing the bacteria, as lytic phages usually do, the viruses boosted the survival of their bacterial host. For the infected anthracis, the number of cells in test tube cultures of dirt and [water](#) remained constant for at least six months. In contrast, the population of phage-free anthracis dropped in half by 2.5 months and was nonexistent after six months.