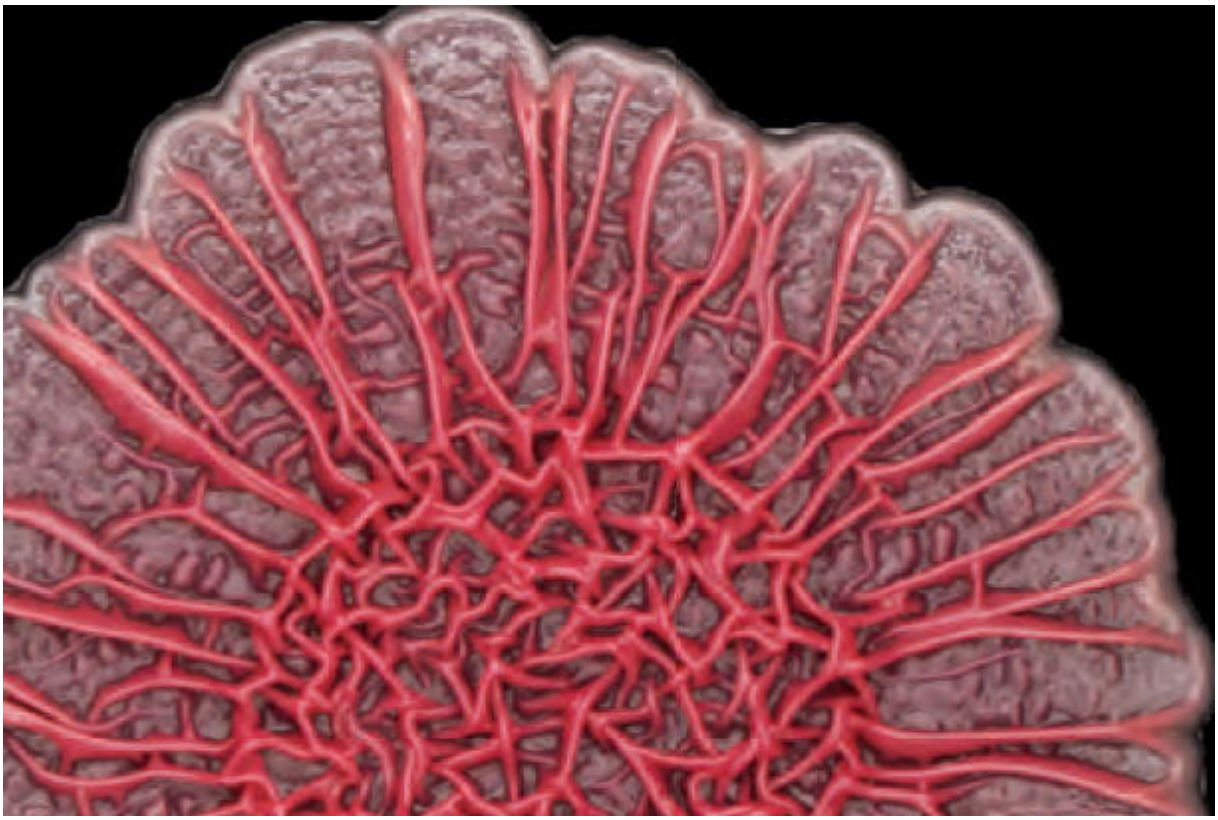
Science & Technology

Psst, Bacteria: We Can Hear You!

By
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|
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Columbia researchers have learned to monitor communications between bacterial cells, shown here in ribbon-like colonies. Photo: Hassan Sakhtah

Using a novel combination of biology and electronics, Columbia researchers led by engineer Kenneth Shepard have developed a new way to monitor how bacterial cells communicate with one another. The breakthrough, published in the February issue of *Nature Communications*, replaces microscopes with electronic circuits similar to those found in computers and smartphones. These circuits, when placed beneath a film covered in bacterial cells, can detect the electrochemical signals the cells transmit to their neighbors.

The Columbia researchers say their technique could yield insights about how to disrupt the growth of bacterial colonies. “Usually, when you think about bacteria, you think about them as single cells, but they often come together in very intricate communities called biofilms,” says Lars Dietrich, an associate professor of biological sciences who is one of the paper’s authors. “These biofilms are difficult to destroy and can lead to antibiotic-resistant infections. That’s a huge problem we want to fight.”

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