Great Presenters

Lighting Up the Auditorium

Bonnie Bassler studies bacteria that live inside the gorgeous Hawaiian bobtail squid. The bacteria, by communicating with one another en masse, decide the proper time to light up like fireflies. The benefits are mutual: The bioluminescence helps camouflage the squid by eliminating its shadow on the ocean floor when moonlight bathes it from above, and the bacteria get nutrients from their host. It's a cool story, says Bassler, a molecular biologist at Princeton University: "My bacteria glow in the dark—no human being doesn't like that."

Studying this symbiosis, Bassler's lab has deciphered quorum sensing, a system of chemical communication between bacteria that she compares to individuals casting a vote and then making a group decision. She and her co-workers have shown that quorum sensing exists in all bacteria and controls myriad activities, from luminescence to toxin release.

The secret lives of bacteria makes for a compelling presentation, and Bassler does the topic justice. She says bacteria speak a lingua chemica with their own species, while also using a second Esperanto-like vocabulary that all bacteria use. If scientists figure out a way to muffle this chatter and in doing so hamper toxin release, she says, that could lead to new antibiotics. More profound still, quorum sensing informs us about human social interactions, like emotions rippling through a crowd. "How do you think we got those behaviors?" she asks, with mock incredulity that everyone doesn't know this. "It's because the bacteria invented them!"

Bassler, who looks like the late actress Gilda Radner with a splash of Lily Tomlin, loves an audience. "My job is to teach someone something they never knew, but it should not be like you're in a prisoner-of-war camp," she says. "I'm supposed to be teaching you but also entertaining you. You're giving me an hour of your time. It should be lively. We're on a hunt, it's a mystery, and it's amazing."

Bassler's Rules of Presentation

Stick to the big picture.
"We know this stuff in excruciating detail," she says. *"You want to drive a metal stake through your head listening to our lab meetings."*

On slides, use few words and make one point.
"People can read faster than I can talk," she says. *"If I put the words there, I'm irrelevant."*

Tell stories.
"These are detective stories with mini mysteries that all point to the same thing."

Don't strive to be the smartest person in the room.
"Sometimes people are like, 'Wow you don't sound scientific,'" she says. *"The data are on the slide."*

But the most important advice that Bassler has to offer has nothing at all to do with style: Prepare, prepare, prepare. "I've spent a gazillion hours to cull these nuggets from the morass," she says. **–J. C.**

such as a family science day and programs relating to international events and human rights.

Even societies with profitable meetings are doing what they can to make their meetings more accessible. The path is not always smooth, as Bob Braughler, virtual engagement manager at MRS, can attest.

The society's first major initiative was live streaming a 5-day symposium on energy and sustainability held during its November 2012 meeting in Boston. However, that decision ran afoul of scientists who balked at having their slides and words captured for posterity and made available to anyone. "We needed to go to each one of the presenters and request their permission," Braughler says, "but not everybody was willing to do that." The result was unsightly: a video with a 15-minute blank every time an author demurred.

The society's experience highlights the tension between wanting to open up a meeting to all while preserving the intellectual property rights attached to the content. Presenters were concerned about sharing information that might wind up in a journal article or become part of a patent application. "If my talk is going to be archived, then I can't transfer the copyright or file a patent," explains Husam Alshareef, a professor of materials science and engineering at King Abdullah University of Science and Technology in Jeddah, Saudi Arabia. "And MRS is petrified of being sued," says Alshareef, who is co-chair of the program committee for the society's 2014 fall meeting.

Until the society can work out those IP issues, it is proceeding with caution. For example, MRS has shifted its emphasis to what Braughler calls "video capture"—recording a session and then making the video available on demand, for free, to both attendees

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