

Stabb's Science: from Insects and Owls to Bioluminescent Bacteria and Squids

Eric Stabb's parents, both chemistry teachers, encouraged his scientific interests from a very early age. When he became fascinated with insects at age 8, his father made him a butterfly net and mounting board, and supplied him with glass slides, pins, and, soon, his own "knockout" jar plus a supply of carbon tetrachloride. "They wouldn't let us use that stuff in college, and I had a bottle at age 10," Stabb says. Soon those early insect-oriented interests shifted, and he developed a special liking for owls. He was so analytically minded as a youngster that he collected owl pellets, "looking for jawbones to see what they had eaten," he admits. "I'm sure I sometimes left them out, but I don't remember my mom ever complaining."

Instead, his parents happily supplied him with scientific kits, materials, and other support without being asked, he recalls. It was as if "all my early grants were funded, except most of the time I didn't even apply for them," he says. "It was like having a program manager who anticipated what you might want—and got it for you."

Stabb, 37, now follows the conventional grant application process along with his teaching duties in his professional role of assistant professor in the department of microbiology at the University of Georgia, Athens (UGA). His introduction to microbiology came pretty much by accident. After he applied for a summer internship to do field biology in Alaska during his sophomore year at the University of Wisconsin (UW), Madison, "they sent post-

cards telling applicants when to be on hand for a phone interview," he says. But the postcard arrived too late for him to hold such an interview, scuttling his chances to spend a summer doing field studies in Alaska.

In this case, zoology's loss was microbiology's gain. Stabb had submitted what he calls a "fall-back" application to a program sponsored by the National Science Foundation to support undergraduate research. He was accepted into this program, run by ASM-Carski Distinguished Teaching Award recipient Ken Todar, and worked with Tim Donohue studying photosynthetic bacteria. "I had no idea what microbiology was all about," Stabb recalls. "I got hooked by what you could do experimentally with bacteria, especially genetically." Once hooked, he signed up to do more research, another course, and became "thoroughly sold on prokaryotes."

Stabb and his older brother, who holds a doctorate in applied physics and co-owns an engineering consulting company, both earned nearly straight A's in their high-school science courses, but each with one exception. "He got a B in physics, and I got one in biology," Stabb says. "There is probably some deeper significance to that, but I'm not sure what."

Stabb, who received both his B.S. and Ph.D. from the University of Wisconsin, is now studying interactions between bacteria and their hosts, specifically the light organ symbiosis between the bacterium *Vibrio fischeri* and the Hawaiian squid *Euprymna scolopes*.

E. scolopes hatchlings lack symbionts but soon obtain *V. fischeri* from their surroundings. Once inoculated, an individual squid carries *V. fischeri* cells in epithelium-lined crypts of a specialized organ. Light produced by those bacterial cells helps the squid elude predators, while the host squid provides *V. fischeri* with nutrients.

"I think it's cool," Stabb says, referring to that symbiosis. "I'm fascinated by bioluminescence and by the biology of the symbiosis." It also has a "gee whiz" appeal for students, he adds. "This is something students can get fired up about, and it's something they can learn experimental biology with. I don't know if my research will have other practical benefits down the road—maybe, maybe not. But I surely hope that some good scientists will get a start here."

Stabb, who grew up in Janesville, Wis., near the Rock River, is an avid runner. He competed in high school and college, and still trains for regular track sessions with a group of running buddies. He and his wife Janice Flory, who is a project coordinator for the Georgia Coastal Research Council, live in a neighborhood near the UGA campus. "We both like to garden, mostly flowers and ornamentals," he says. "As transplants from the north, we appreciate the longer growing season here."

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