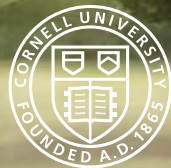


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FOOD AND PUBLIC HEALTH SPRING 2016

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Cornell University
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SWEET SCIENCE:

OUTREACH PROGRAM GETS GRAD STUDENTS IN CLASSROOMS

By Olivia Margit Hall

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—Erin Hammes





FALL INTO SCIENCE VOLUNTEERS TODD PAVEK, BETH NOE, MATT PENNINGTON, ELIZABETH MOORE, JESS BROWN, ERIN CHU, AND MELISSA MCDOWELL POSE FOR THE CAMERA (LEFT). MATT PENNINGTON (RIGHT) AND AMY VASQUEZ (BELOW) INTERACT WITH STUDENTS IN THE CLASSROOM.

Imagine biting into a slice of lemon—and instead of delivering a punch of pucker-inducing tartness, it tastes as sweet as lemonade.

For the past two years, Associate Professor of Neurobiology Dr. David Lin and a team of graduate student volunteers from the Biology and Biomedical Sciences (BBS) program have delighted local elementary and middle school students with this experience through the Fall Into Science K-12 outreach program, piquing their interest in the science behind it. “We’re trying to get to kids’ minds through their stomach,” says Lin.

As part of the Taste Lab experiment, the children learn about the anatomy of their tongue and taste receptors and their connection to the brain before trying foods with sweet, salty, sour, bitter, and umami flavors. The highlight is sucking on miracle berry tablets that turn tang to sweetness, as the fruit’s glycoprotein miraculin activates sweet receptors at low pH levels, as created by lemon juice.

“That really blows the students’ minds,” says Erin Hammes, a fourth-grade teacher at Cayuga Heights Elementary School in Ithaca. “They almost always throw the whole lemon slice in the mouth and grin. It’s a blast to watch them experience this and to have that level of energy and engagement in the classroom.”

Such enthusiasm is infectious. Since its inception, Fall Into Science has more than tripled its number of volunteer instructors to 24 and begun cooperations with at least two more elementary schools.

In April, Lin’s team will also bring additional workshops to Expand Your Horizons (EYH), an annual Cornell-based conference within the national EYH nonprofit network, aimed at sparking interest in STEM careers among middle and high school girls.

Building on the success of last year’s “Going Viral”—a module that shows participants how germs are spread and the role scientists, politicians, and health care providers play in stopping them—two new modules, “Home Cooked Chemistry” on the science of cooking and “Cell City Relay,” which has students play the parts of cell components, will make their debut.

Fall Into Science is funded by the Graduate School and grew out of Lin’s experience co-teaching a first-year graduate student course on careers in life sciences and grant-writing, where he learned that many students had been involved in outreach activities in college.

“It was pretty clear that this is something that they believed in very strongly, and I felt like they should be able to continue this in graduate school,” he says.

Today, volunteers include first-year as well as seasoned graduate students, who draw on their expertise in chemistry, biochemistry, molecular and cell biology, as well as biology and biomedical sciences to create the program’s broad range of outreach activities.

“Taking our own research projects and turning them into novel hands-on activities and mini lessons for K-12 groups has been fulfilling,” says BBS graduate student Ezen Choo, on whose work the Taste Lab is based. “And I think it’s

important, because it gives us a chance to practice communicating to the general public.”

In the classroom, in particular, the graduate students hope to serve as role models to inspire their young audience to consider a future in science.

Volunteer Melissa Toledo, also a student in the BBS program, points out that this age is a “prime time” for introducing children to science, crediting her own love for the field to early exposure at home and in middle school.

“They are open to learning and have few biases against science,” she explains. “I hope that they will see STEM fields as a life opportunity and more than just a cool erupting volcano.”

If the response from Erin Hammes’ fourth-grade class is any indication, their efforts to make science accessible are meeting with success.

“It’s a great program and the students love it,” Hammes says. “I hope to have Dave Lin and his volunteers come back year after year.”

