

## NIEHS hosts local middle school students

By Jacqueline de Marchena

Eighteen Lowes Grove Middle School students visited NIEHS Sept. 30, to begin learning about cell biology from Institute scientists. This class marked the debut of the newest [Citizen Schools](#) (<http://www.citizenschools.org/>) education outreach curriculum, "It's a Small World: Cells and DNA," developed through a collaboration between NIEHS trainee volunteers and the [Office of Science Education and Diversity \(OSED\)](#).

In this after-school program, students will learn how cells and DNA respond to environmental stressors. While NIEHS has collaborated with the Citizen Schools program at Lowes Grove Middle School in Durham, N.C., since 2012, with a program on respiratory health (see [story](#)), this semester's program is the first time the students have been invited on campus and introduces a new curriculum. The nine remaining weekly classes in this fall's program will be held at the school, led by postdocs, scientists, and other NIEHS volunteers.

### Linked Video

[Watch interviews and scenes from the debut NIEHS Citizen Schools program \(03:05\)](#)

### Impressionable students learn about NIEHS

Coming to this class was the first time many of these students had visited a research facility. "I think some students were puzzled that we study things here [at NIEHS], even though we are not traditional students in a classroom," said Huei-Chen Lao, the OSED K-12 Science Education and Outreach Coordinator leading the Citizen Schools outreach initiative.

Felicity Davis, Ph.D., an NIEHS visiting fellow who has participated in previous Citizen Schools outreach events, added, "It was good for the students to see where we work. Last time [in the spring semester program], we told the kids that we were scientists, all from diverse backgrounds, working together as a team, but I don't think it really hit home. Having the students come to NIEHS allows them to contextualize our workplace and helps them understand where we are coming from."

### An opportunity to further develop teaching skills

A group of trainees developed the cell biology curriculum, being taught at Lowes Grove, through the efforts of several brainstorming sessions. "I can tell this was a good experience for the postdocs. It was more than just a curriculum development. We all learned how to work together as a team," said Lao.

The course work incorporates a numerous hands-on activities, including making model cells, looking through microscopes, and observing a radiation cloud chamber developed by Bill Fitzgerald, NIEHS radiation safety officer. The outreach volunteers hope these activities will foster creativity and enthusiasm for the WOW! presentations, which will be led by students and conclude the 10-week course.

Lao said she is optimistic that the Citizen Schools outreach program will continue to attract talented and committed volunteers, and she is planning to facilitate the development of more science-based curricula. Coordinating more frequent field trips to the NIEHS campus, so that students can get more direct exposure to scientists, is also a priority.

(Jacqueline de Marchena, Ph.D., is an Intramural Research Training Award fellow in the NIEHS Developmental Neurobiology Group.)

### Volunteers for the fall Citizen School Apprenticeship

Floyd Adsit  
Sara Andres, Ph.D.  
Miranda Bernhardt, Ph.D.  
Terry Blankenship-Paris,  
D.V.M.  
Christopher Campos, Ph.D.  
Felicity Davis, Ph.D.  
Bill Fitzgerald  
David Goulding  
Sylvia Hewitt  
Jacqueline Locklear, D.V.M.  
Page Myers  
Palmyra Romeo  
Kirsten Verhein, Ph.D.  
Shannon Whirledge, Ph.D.  
Tanya Whiteside  
Kimberly Wiggins, Ph.D.  
Wipawee (Joy) Winuthayanon,  
Ph.D.  
Gary ZeRuth, Ph.D.



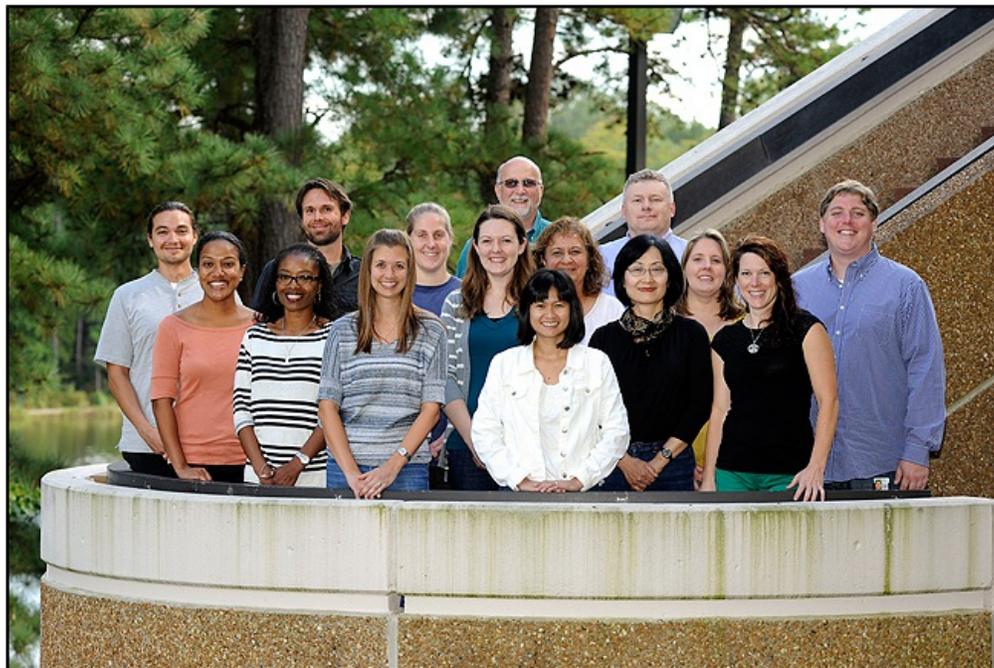
Locklear, left, and Whiteside help Lowes Grove Middle School students inoculate blood agar plates with bacteria from their thumbs, during an exercise on the importance of hand washing. Shown in the background are OSED Director Ericka Reid, Ph.D., center, and Lao, right. (Photo courtesy of Steve McCaw)



*NIEHS industrial hygienist Sharon Beard gave an animated health and safety lecture for visiting students. (Photo courtesy of Steve McCaw)*



*As part of Beard's exercise, students donned protective equipment for working in the lab. (Photo courtesy of Steve McCaw)*



*This year's Citizen Schools group includes, from left, Campos, Wiggins, Reid, ZeRuth, Verhein, Andres, Bernhardt, Fitzgerald, Winuthayanon, Locklear, Lao, Adsit, Whiteside, Whirlledge, and Goulding. Not shown are Blankenship-Paris, Davis, Hewitt, Myers, and Romeo. (Photo courtesy of Steve McCaw)*

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