

# SEA's Second Wave

TWELVE MORE SCHOOLS JOIN HHMI'S SCIENCE EDUCATION ALLIANCE.

LIKE MANY COLLEGES AND UNIVERSITIES, CALVIN COLLEGE is constantly searching for ways to provide more students with the exciting experience of real scientific discovery. "We have younger and younger students inquiring about research experiences," says Randall DeJong, a biology professor at the small Christian school in Grand Rapids, Michigan.

That's why DeJong was thrilled when Calvin was one of 12 colleges and universities chosen to participate in the National Genomics Research Initiative, a year-long course that involves students in scientific discovery on a national scale. The course, now entering its second year, is a program of HHMI's Science Education Alliance (SEA).

The course allows students to make real discoveries in a classroom setting by doing research on bacterial viruses, called phages. In their first term, the students identify and grow colonies of phages from local soil samples. Phages are so diverse that each student's discovery is likely a new life form, which the students get to name. They spend the rest of the semester characterizing the phage and purifying its DNA, which is then sent off for sequencing. In the

second term, students use bioinformatics tools to analyze their phage's DNA and identify the genes encoded there.

After just one semester, faculty from the first 12 participating schools say they could never go back to teaching science the way they used to. "The students don't know what the outcome will be, they don't know whether the experiments will work—and indeed, the first time most did not. The students really have to work things out. And that was fantastic," says Kit Pogliano, a biology professor at the University of California, San Diego.

The class itself has been a quick success, with higher student retention in the SEA classes and, in some cases, higher grades for SEA students in their introductory biology courses. But that's not the best part for the participating faculty. "It is pretty exciting to be part of a group of institutions that is trying to improve science education," DeJong says. "We want to be part of that discussion." ■ —ANDREA WIDENER

FOR MORE INFORMATION: Visit [www.hhmi.org/news/20090108sea.html](http://www.hhmi.org/news/20090108sea.html) for a list of the 12 new institutions.

## Gilliam Fellows Program Expands

STEVEN TUYISHIME SOUGHT OUT SCIENCE as a refuge during his difficult transition from Africa to America. Angelica Riestra discovered in high school that research could help her largely Latino community in San Diego. Now these two and seven other inspiring students are pursuing biomedical science Ph.D.s with the help of the Gilliam Fellowships for Advanced Study. This year, the applicants were so impressive that HHMI expanded the number of awards from five to nine. "These students are just outstanding," says Peter Bruns, vice president for grants and special programs. "We expect them to become real leaders in their fields." Now in its fifth year, the Gilliam fellows program aims to diversify science research and academia. Each fellow receives \$44,000 in support annually for up to five years.

FOR MORE INFORMATION: To learn more about the 2009 Gilliam fellows, visit [www.hhmi.org/news/gilliam20090212.html](http://www.hhmi.org/news/gilliam20090212.html).



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