

Scientists Invited to Join Teachers in Fight Against Scientific Illiteracy

As a tropical disease specialist, AAAS member Barbara Sina has traveled the world from Brazil to Kenya to the Netherlands. But few of her trips have proved more satisfying than the visits she's paid closer to home—to Margaret Brent Middle School in rural St. Mary's County, Maryland.

It was there that Sina got her first taste of teaching science to adolescents as a partner to 7th-grade teacher Tony Marcino.

Sina's chance to work with the budding scientists came when she read an article about the Bell Atlantic-AAAS Institute for Middle School Science and Technology Teachers. Each year, organizers choose 40 science and technology teachers from the mid-Atlantic states to attend a two-week, three-credit graduate course on communications and information technology in

Washington, D.C. This year's Institute runs from 22 July through 2 August.

The teachers get intensive hands-on training in a variety of subjects such as weather, fiber optics, remote sensing, robotics, video-disk technology, and computer science. Seasoned veterans of the program offer ways to incorporate the new knowledge into instructional materials for the classroom.

All that sounded intriguing enough, says Sina, but what really caught her eye was the program's interest in linking Institute participants with local scientists to act as partners once the teachers were back in class. Sina called and signed right up.

"I had a great time seeing the kids get excited about science," says Sina, who worked with Marcino in 1989-90. Sina is a researcher at Biomedical

Research Institute in Rockville, Maryland. "My previous experience was with college students, [who] often just wanted to know if 'it's going to be on the test.' The energy level at the middle school was so different."

Sina worked closely with Marcino to plan out her monthly science lessons. One experiment involved showing the class how to build an incubator out of a styrofoam box and a light bulb. They hooked up a temperature probe with a computer to monitor temperature.

With the incubator, the students grew bacteria and exposed them to varying levels of ultraviolet light. Sina says the students were fascinated to see first-hand the microscopic horror show of cells mutating due to high ultraviolet exposure.

Sina says she always came with lots of equipment and materials in hand, knowing how limited school budgets are. In a lesson on measuring volumes of

liquid, for example, she brought beakers, graduated cylinders, and pipettors.

"The students might never have had the chance to use equipment like this without Barbara's help," says Marcino.

Sina wasn't afraid to tackle the tough questions students raised as well. "They were very interested in humane treatment of animals," she says, "so I brought in some materials on the subject, and we got into some nitty-gritty discussions on the ethical and moral issues."

The middle school and Sina's lab were more than an hour apart, and the commute wasn't always easy, she says. But she managed to plan her professional work around classroom visits. The challenges, she says, were well worth the effort.

"The kids would ask great questions," she says. "And I always had to work hard to explain things clearly. They didn't accept jargon."

As far as Marcino is concerned, Sina's presence in the classroom was just as important as the experiments they cooked up together. "She gave the kids a chance to relate to a real scientist," he says.

Betty Calinger, AAAS project leader for the Institute, says she is looking for scientists interested in becoming classroom partners with this year's crop of Institute graduates (see box for teachers' names and locations).

To learn more about being a scientist-partner with the Institute or to find out how to get involved with your local school, contact Calinger at 202-326-6629, or write her at AAAS, Directorate for Education and Human Resources, 1333 H St., NW, Washington, DC 20005. ♦

—EILEEN KUGLER

1991 Bell Atlantic-AAAS Institute Teachers

MARYLAND

Pamela K. Fountain, Tilden Intermediate, Rockville; Claudia C. Lewis, Westminster High, Westminster; Barbara Loughlin, Dundalk Middle, Baltimore; Jacqueline Nedab-Olds, MacArthur Middle, Fort Meade; Donald E. Patti, Redland Middle, Rockville; Ronald Sperlbaum, Gwynn Park Middle, Brandywine; Ernestine Walker Terrell, Eugene Burroughs Middle, Accokeek.

NEW JERSEY

Susan H. Covington, Burnet Street School, Newark; Andela J. Dzickowski, Robert R. Lazer Middle, Montville; Margaret Holmquest, Wood Road School, Belle Mead; Michael McGlue, Dwight Morrow High, Englewood.

PENNSYLVANIA

Paul Barry, Elverson Middle, Philadelphia; Susan S. Fineman, East Hills Elementary, Pittsburgh; Barbara J. Goodman, West Pennsylvania School for the Deaf, Pittsburgh; Marilyn Krupnick, Roberto Clemente Middle, Philadelphia; Sandra D. Lewis, Ada H. H. Lewis Middle, Philadelphia; Edith I. Mauthe, St. Thomas More School, Allentown; Gary Popiolkowski, Chartiers-Houston Junior/Senior High, Houston; Scott H. Stein, Springside School, Philadelphia; Mario Zinga, Woolslair Gifted Center, Pittsburgh.

VIRGINIA

William I. Banks, Albert H. Middle, Richmond; Gary P. Delano, John J. Wright Middle, Spotsylvania; Cheryl L. deLusignan, Western Branch High, Chesapeake; Vickey Darcel Drew, Buckroe School, Hampton; B. E. McElwee, Jr., Binford Model Middle, Richmond; Jane Montagna, Rosemont Middle, Norfolk; Lori Papa, Francis C. Hammond Middle, Alexandria; Ann Shaffner, Poe Intermediate, Annandale; Worda James Simpson, Deer Park Pathways, Newport News; Susan Walton, Peasley Middle, Gloucester; Bernetta Marie Williams, Thomas C. Boushall, Richmond.

WEST VIRGINIA

Susy S. Calvert, Maxwell Hill Gifted Center, Beckley; Kathryn H. Hiltz, John Adams Junior High, Charleston; Roberta Long, Point Harmony Elementary, Charleston; Rick Pyles, Sisterville Junior/Senior High, Sisterville; Pamela B. Smith, West Virginia Dept. of Education, Charleston.

WASHINGTON, D.C.

Genesta R. Guirty, Davis Elementary; Rosa J. Hodge, M.L. King, Jr., Elementary; Robert R. Mathieu, Mary Church Terrell Elementary; Kevin DeWayne Riddick, Garnet-Patterson Jr. High.

Scientists Invited to Join Teachers in Fight Against Scientific Illiteracy

EILEEN KUGLER

Science **253** (5018), 454.

DOI: 10.1126/science.253.5018.454

ARTICLE TOOLS

<http://science.sciencemag.org/content/253/5018/454.1.citation>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

1991 by the American Association for the Advancement of Science