Editorial & Letters

EDITORIAL

A Celebration of Life in the Trenches

Your research director, or herr professor, or laboratory head is being congratulated for his stunning talk at a conference in Maui or Tuscany or Aspen. He talked about your work, using the slides you rushed to provide on 10 hours notice. Meanwhile, you're back in your windowless basement laboratory at 2 a.m. with a cold drizzle outside, waiting for your gel to finish running before you call it a day.

While this scene is a bit exaggerated, it highlights the fact that much of the process of science is driven by graduate students. Their long hours, careful observations, and insightful hypotheses contribute to both the everyday advances and the spectacular discoveries of many scientific disciplines, yet their efforts often receive only passing acknowledgment. The contribution made by some of these students is now being recognized by the Amersham Pharmacia Biotech and *Science* Prize for Young Scientists.

The prize recognizes ground-breaking research by a graduate student who was awarded a Ph.D. during the previous calendar year. The field is molecular biology, broadly interpreted: past winners have represented molecular genetics, structural biology, developmental biology, biochemistry, neurobiology, and immunology. Their experimental systems have included bacteria, trypanosomes, worms, flies, mammals, ...and simply macromolecules.

Awards are given in four geographical areas: North America, Europe, Japan, and all other countries. The winners receive a cash prize along with a trip to Stockholm in December. There they receive their award and help celebrate with a few more senior scientists receiving an even better known prize from the King of Sweden. Given the quality of the Young Scientist prizewinners, they may be back.

In this way, Amersham Pharmacia Biotech and *Science* have helped to make life in the trenches a bit more rewarding for those studying molecular biology. Those of us on the selection committee analyze the cold, hard facts of the applications: the student's essay describing thesis work, the quality of the resulting publications, and a one-page letter from the thesis adviser. Only later, having chosen the winners, are we reminded that science, like most human activities, is performed by a cast of characters. Among the winners from previous years are a mother of two whose work as a nurse provided her with the motivation for her research career; a young man who performed his Ph.D. research 3000 miles from his university, at a site not coincidentally close to where his girlfriend lived; and a woman who moved her Ph.D. project to three countries as she turned up new questions whose solution demanded new approaches. If there is such a thing as a "typical graduate student," he or she is a mean around which there is a very large standard deviation.

Yet there is a common denominator. All of these young scientists see themselves as explorers of realms biological. Early astronomers mapped the heavens and early navigators charted the oceans; with equal anticipation, these young molecular biologists are exploring uncharted waters within the cell. They hope that their findings will lead to medical benefits, but that is not the main thing that keeps them in the lab such long hours. The process of contributing to scientific understanding is all the reward they expected or needed. It is this spirit that is honored by the Young Scientist Prize in Molecular Biology. One wonders why there aren't more such prizes for other fields of research.

Thomas R. Cech

The author is a deputy editor of Science *and chair of the selection committee for the Amersham Pharmacia Biotech and* Science *Prize for Young Scientists.*

Previous Grand Prize winners include: Christine Jacobs, Ph.D., University of Liège, Belgium, for her paper "Life in the Balance: Cell Walls and Antibiotic Resistance" (1997); Scott D. Seiwert, Ph.D., Yale University, for his paper "RNA Editing Hints of a Remarkable Diversity in Gene Expression Pathways" (1996); and Michael O. Hengartner, Ph.D., Massachusetts Institute of Technology, for his paper "Life and Death Decisions: ced-9 and Programmed Cell Death in *Caenorhabditis elegans*" (1995).

For information about the Amersham Pharmacia Biotech and Science Prize for Young Scientists, contact *Science*, 1200 New York Avenue, NW, Washington, DC 20005, USA; fax: 202-289-7562; internet address: www.aaas.org/science/prize.htm

LETTERS

Around the world

Readers from several countries commented on the Special News Report of 6 March, "Science in Southeast Asia." Most of the letters expressed concern about how science programs will "help address the area's real problems" and bring "economic and environmental sustainability." A Malaysian student in the United States worries about how he can help his country. Other letters discuss Russian physics centers, computer "wizards," a reconstruction of Kennewick Man, calculus reform, and participants in a study of Lake Baikal in Russia.

ASEAN Science

The Special News Report "Science in Southeast Asia" (6 Mar., p. 1465) presents a valuable, comprehensive review of an important part of the world joining the international scientific community.

However, I should like to comment on sending promising students overseas for training (J. Mervis and D. Normile, 6 Mar., p. 1468). This is only useful if returning students receive the opportunity to use their overseas experience in their home country, which often cannot be realized. Better is a sandwich-model of training with alternating stays overseas and in the home country, concluding with a final examination in the home country. With Ph.D. degrees, this is no problem if publications in international journals are regarded as a decisive requirement for such a degree. An advantage of this system is that students can already introduce experience and techniques learned overseas in their home country during their training period and can also transfer these to their undergraduate students and even to guest students from their host country. Also, the teaching staff of their home university has to make itself familiar with the studies performed by such students elsewhere for the evaluation of their examinations.

We have a valuable experience with this system. Two students from Bandung (Indonesia) have worked in our department for four periods of 3 months per year (the maximum allowed stay with a tourist visa) subsi-