

# Cal Poly computer programmers take on the world

by Bob Anderson

*Eindhoven, the Netherlands. April 10, 1999.*

*An auditorium at the Eindhoven University of Technology. The intense five hours of the 23rd annual International Collegiate Programming contest are over. Mentally exhausted, the 186 competitors listen nervously as the top 10 finishing teams are announced.*

Ray Lee felt sure that he and his Cal Poly teammates had a chance.

For the first four hours of the non-stop programming blow-out, colored balloons had shown how many of the

But when Lee heard Harvard had placed eighth, his heart sank. When UC Berkeley was called for seventh, he figured, "We didn't make it at all."

Then the announcer read: "And beating Berkeley by eight minutes: Cal Poly, San Luis Obispo!"

Lee looked at Maldonado. She was standing up. He'd heard it right.

Mathews was already walking calmly down the aisle toward the stage. ("I knew we were going to be up there.")

Maldonado didn't hear the names of any of the rest of the winners. ("I was in a daze.")

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The Cal Poly team had just taken sixth place in the world, in a computer programming competition that began last year with almost 1,500 teams from universities on six continents.

And yes, physics major Lee and computer science students Maldonado and Mathews did beat Harvard and Berkeley, as well as every other U.S. team except one: Duke finished one place up, at fifth. The collegiate programming world's top four teams were from Canada, Germany, Russia, and Romania.

The Cal Poly trio credits its success to smooth teamwork, preparation, and the pre-contest help of volunteer coach Kathleen Luce, an operating systems analyst in the university's Information Technology Services division.

As they worked around a single computer, Lee read and digested the problems and talked them through with Mathews, who did all the coding at the keyboard. At the same time, Maldonado figured out tests to find the bugs in the solutions before the team submitted them to the judges.

Getting them right and fast meant calculating which problems could be solved the fastest, not wasting time on the puzzlers, weeding out the red herrings that sponsors IBM and the Association for Computing Machinery had deliberately thrown in.

The problems weren't actually *that* hard, Lee says. "For computer science students, they're all doable." (Interested readers can find them on the Web at [www.acm.org](http://www.acm.org).)

Racing against the clock to solve five in five hours with no glitches — that was the hard part.

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The team and coach enjoyed their few days in the Netherlands and their time in the spotlight. Then, the day after it was over, they took what seemed an interminable series of trains, planes, and automobiles via an uncertain number of cities to return home — minus the luggage that the airlines lost, of course.

Too bad the team wasn't able to program its way home. **CP**



*The team huddles. Seated is **Bob Mathews (PHYS '96)**, computer science grad student; standing (left to right) are computer science senior Vania Maldonado and physics senior Ray Lee.*

eight problems each three-person team had solved — if anyone had time to look. Cal Poly had four balloons up. Very good.

The Cal Poly team had submitted the correct answer on the first try for all four problems: The one about how many lots would be flooded in a certain subdivision if so much water came down the river. The one about the shortest distance between any two given compartments in a honeycomb. The one about . . . well, let's just say they were tough.

And all their programs had run within the allowed five seconds. No crashes. No slow programs. No penalty points. Very, very good.

At the four-hour mark, scores became secret. Teams didn't know how many problems others were solving as they came down to the wire.

Only a handful of teams had had five balloons after four hours, and the Cal Poly team knew they'd get at least one more. They did. And, again, right on the first try. *Exceedingly* good.

So Lee and teammates Vania Maldonado and Bob Mathews could still hope as the judges gave 10th place to National Taiwan University, then ninth to Russia's St. Petersburg State University.