

**TABLE TALK WITH MATHEMATICS INSTRUCTOR  
(AND OLYMPIC COACH) ZUMING FENG | By Melanie Sage**

If you were to dissect Zuming Feng's life as he would ask his students to dissect a challenging mathematical problem, you might find, as even his best students sometimes do, that initial assumptions can be misleading.

One might assume, for example, that Feng—who has been teaching math at Exeter since 1995 and who is considered one of the foremost secondary school math instructors in the country—must have been something of a savant from early on. Yet while he does admit to an adolescent interest in and aptitude for math, he explains, with characteristic succinctness, that as a student at Nankai High School (a boarding school in the Chinese city of Tianjin) in the early 1980s, he “had no clue what higher math was about.”

“I was just following the flow of the Chinese system,” says Feng, who went on to enter China's prestigious Beijing University at age 15. “You don't get too much choice in China. Basically, this was one of the subjects I did pretty well at, so I kept taking courses in it and suddenly, I realized I was a math major.”

*“The greatest honor a student you've worked with can give you,” says math instructor Zuming Feng, “is to develop something new and overtake you.”*

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While he might have appeared to be simply moving along with a strong current, Feng was already beginning to emerge as something of a mathematical juggernaut; so much so, that John Hopkins University admitted him to its graduate school of math when he was only 18, and before he'd completed his junior year of college. He left for America immediately.

At Hopkins, Feng breezed through his coursework and exams, only to hit a wall in his search for a thesis topic. “I was stuck for a while,” he admits. “I had difficulty finding my own problems to solve, which is why I knew I'd have trouble being a pure mathematician.” Feng eventually hit his stride, pursuing a thesis in algebraic number theory.

By 1994, Feng had completed his Ph.D. and decided his future didn't lie in research (“it just doesn't fit me,” he explains). Long interested in mathematical competitions, he hoped to find a job that would somehow pair classroom teaching with math coaching. That's when Exeter, or more specifically Exeter math instructor Rick Parris, came flashing across his radar. “At the time, Rick was chairing the American Invitational Math Exam,” explains Feng, “so I kept seeing his name, as well as Exeter's, attached to the contest. This exam is most often chaired by a college or university professor, so when I saw that it was being overseen by a high school teacher, I knew Exeter must be a good school.” Another good omen: one of Feng's Hopkins professors, Julian Stanley, mentioned that a former student of his, Joe Wolfson, was teaching at Exeter. (Feng and Wolfson would go on to become good friends as well as colleagues.)

*(continued on page 105)*

## Table Talk

*(continued from page 6)*

So in the spring of 1995, Feng mustered his courage and called Parris about a job. The latter still remembers their initial conversation. “Spring isn’t our hiring time,” recalls Parris, Exeter’s George Albert Wentworth Professor of Mathematics. “But as fate would have it, we needed someone to cover a course that term, and Zuming was willing to come up and teach on a part-time basis. That’s how he got his foot in the door.” By the fall of 1995, Feng had been appointed to the Exeter faculty as a full-time mathematics instructor.

In the 12 years since, via his dual passions for math teaching and coaching, Feng has helped change the face of mathematics at Exeter. “Because of him, our program is evolving,” says Joyce Kemp, chair of the math department and the John E. and Mary E. Smith Memorial Distinguished Professor in Mathematics. “He’s bringing in so many talented young students who make contributions in all areas of school life, kids who would otherwise be taking college math courses at home. And because the population of advanced math students at Exeter has grown, we’ve gotten better at teaching them.”

Rick Parris agrees: “He’s a magnet for talent, and the caliber of the student body is what this school is all about. The quality, especially the level of discussion, in our upper level math courses is better, because the students we are pulling in are better.”

The reputation Feng has built for himself and for Exeter has not only to do with what goes on in his Academy Building classroom, but also with the work he does as director of the summer program for the United States of America Mathematical Olympiad (USAMO), an intensive mathematical training camp geared to those students who will go on to participate in the International

Mathematical Olympiad (IMO) as members of the U.S. delegation, which Feng also coaches.

That’s how Sherry Gong ’07, now a first-year student at Harvard, heard of Exeter. As a seventh grader from Puerto Rico, Gong first met Feng at an IMO event in Scotland, and later attended Feng’s USAMO summer program in Lincoln, NE. Having already completed the math and physics tracks at her home high school, Gong came to Exeter as a new lower in fall 2004, “mostly for its math program,” she says—and with the wholehearted encouragement of Feng. By her senior year, Gong was co-captaining Exeter’s Math Team, an Academy club coached by Feng, and had tested her way up to a spot on the 2007 American delegation to the IMO, where she scored seventh, and then on to the 2007 China Girls Mathematical Olympiad, where she earned a gold medal.

Feng’s work also captured the attention of Keone Hon ’07 of Hawaii, Gong’s Math Team co-captain. “Mr. Feng is famous in the math competition world,” explains Hon, now a first-year student at MIT, “because of how well his math teams have performed in national and international competitions.” Hon admits he was “quite intimidated” during the early weeks of his first class with Feng. “He is a very disciplined thinker, and he expected the same of us in class,” Hon says. “In those first few weeks, he taught us never to assume that we were too good for a problem.” But Hon soon came to realize that Feng’s sometimes brusque demeanor and high expectations are powered by a very caring heart and a talent for teaching. “My initial awe grew into the utmost respect, because of his ability to explain mathematical concepts to anyone,” says Hon. “Moreover, as time went on, Mr. Feng became, I think, one of my closest friends.”

Despite his iconic status in the math world—and his other roles as coach of the girls JV soccer team and dorm head of McConnell Hall, where he lives with his software-engineer wife and their two young children—Feng remains remarkably grounded, and focused, as he says, on “making higher math, or pieces of it, more accessible to high school students.”

And what does he hope his own students will take away from their math experience at Exeter? “In the end, I hope they can sit down and face a challenging problem, and make very reasonable progress,” says Feng. “They don’t necessarily have to solve the problem, as long as they’ve tried hard in the right ways and haven’t given up. I also hope that they will have begun to write some of their own math problems. The greatest honor a student you’ve worked with can give you is to develop something new and overtake you.” ●

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