

# Personality

[ ECCENTRIC'S CORNER ]

## Numerical Nomad

HE'S ON A QUEST TO SOLVE ANCIENT MATH QUANDARIES—BY WAY OF ARTS AND CRAFTS. BY MATTHEW HUTSON

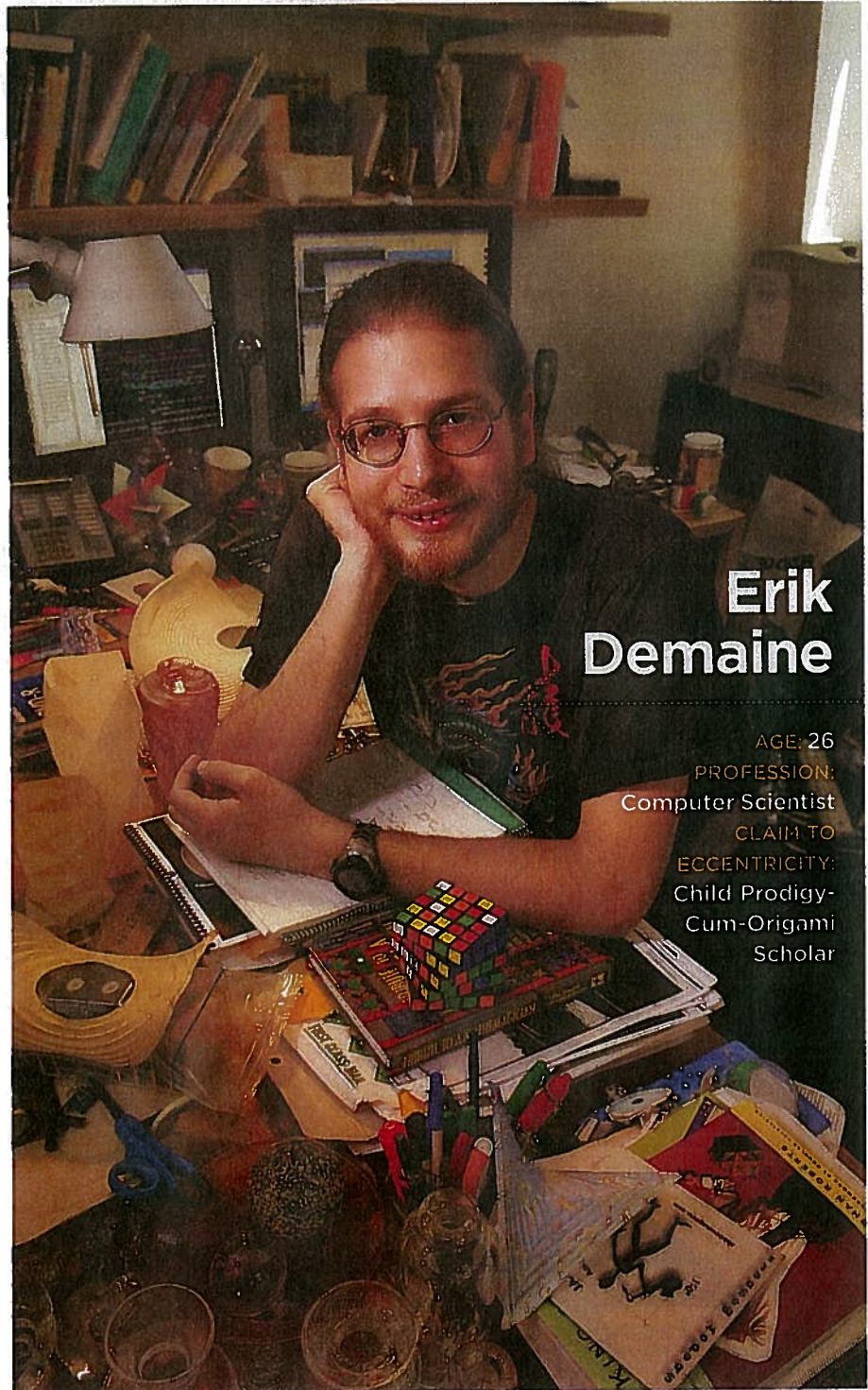
ERIK DEMAINE WAS homeschooled by his artist father, finished college at age 14, became the youngest professor ever hired by MIT at 20, and won a \$500,000 MacArthur genius grant at 22. So, is his head as big as his brain? No, he's having too much fun folding paper. (And juggling, and glassblowing, and doing magic and improvisational comedy.) Applying elegant algorithms and powerful computers to geometry puzzles, he takes his origami seriously—attacking mathematical problems he describes as beautiful, cool, and even sexy.

**Q: How did you react to the commotion surrounding MIT hiring you at age 20?**

**A:** It's fortunate for me that I got to learn so much so early because it's a lot easier to learn things when you're young. Other than that, age is sort of an arbitrary number. I like to think that a lot of people could do what I did. But the education system isn't set up for this.

**Q: Why did you move around so often as a kid?**

**A:** It was a joint decision between my dad and me to explore the world. My parents divorced early on, when I



Erik Demaine

AGE: 26  
PROFESSION:  
Computer Scientist  
CLAIM TO  
ECCENTRICITY:  
Child Prodigy-  
Cum-Origami  
Scholar



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was about 1 year old. In the beginning, we spent a couple weeks in different places along the East Coast, and then started making longer stops in places like Miami Beach. We were nomads. We kept experiencing different cultures and people, always trying to exploit what was around us.

For example, I originally got to play with computers because a next-door neighbor had a RadioShack Tandy with BASIC on it. My dad and I wrote a simple text adventure game on the computer that told a story about the neighbor's dog, Layla.

**Q: Do you feel you missed part of childhood, such as bonding with peers?**

**A:** Yes and no. One of the nice flexibilities in homeschool is you can define your peers to be whatever you want. My so-called peers could be kids of different ages; they could be adults who knew interesting things. I think it still influences the way I collaborate with people.

**Q: You've had an unusually high number of research collaborators: 196.**

**A:** It gives a social aspect to problem solving, which is fun. You can talk about math in almost any context. We can hike the Machu Picchu trail and solve mathematical problems at the same time. And the more people I work with, the more ideas and tricks I can pick up. There's always a danger of spreading yourself too thin, but that's better than getting stuck in one little niche.

**Q: And now your father is among your research partners.**

**A:** We have a really close relationship, particularly because of all the traveling we did. We have a zillion shared experiences. He did glassblowing, jewelry making, silversmithing, and whatnot for many years. I enticed him into mathematics when I started doing the computational origami thing. We still live together and work together on math and on art, and it's



Tetrahedra origami is more than a pretty shape.

pretty special. We have almost a different language for communicating with each other.

**Q: Which designation are you most proud of: MacArthur Fellow or Tetris Master?**

**A:** Well, they were both surprising! The MacArthur was a nice feeling because, other than getting a job at MIT, it was the first real validation that people really cared about the things I was doing. Sometimes I've been criticized for solving problems that aren't important in practice.

**Q: Do you care about how your research can be applied?**

**A:** What drives me is the beauty of a mathematical problem. One of the things we are working on now is this protein folding problem, which could help with diseases. That is nice as a side effect. The big draw is finding cool geometries.

**Q: Does your office reflect your creative mind?**

**A:** It's a mess. I have a ball that turns into a Frisbee, and a bunch of glass. There are pipes from Peru and take-apart packing puzzles. When people come into my office, it's fun to see how they interact with it. Some are completely oblivious to it. Some get totally distracted and then I just leave them alone to play with the puzzles.

**Q: Is there anything you are bad at?**

**A:** Windsurfing. And arithmetic. Once I discover I'm good at something, I tend to stop doing it.

**Q: What's 56 divided by 8?**

**A:** ...Seven? There's a saying that there are three kinds of mathematicians. The first kind who can count and those who can't.

**Q: Do you consider yourself eccentric?**

**A:** I guess I try to be. Something about being weird and different has always appealed to me.

I used to not eat chocolate at parties because it was too popular. I would read the Harry Potter books for a long time, for the same reason. Eventually I tried it and thought, "hey, this is actually fun."