Inside the AMS

Math in Moscow Scholarships Awarded

The AMS has made awards to five mathematics students to attend the Math in Moscow program in the spring of 2015. Following are the names of the undergraduate students and their institutions: ETHAN ACKELSBERG, Bard College at Simon's Rock; AARON CALDERON, University of Nebraska-Lincoln; JARED HILLIARD, University of North Texas; JEREMY MYERS, Virginia Commonwealth University; and AJAY RAGHAVENDRA, Embry-Riddle Aeronautical University. Each received a cash award of US$9,500.

Math in Moscow is a program of the Independent University of Moscow that offers foreign students (undergraduate or graduate students specializing in mathematics and/or computer science) the opportunity to spend a semester in Moscow studying mathematics. All instruction is given in English. The fifteen-week program is similar to the Research Experiences for Undergraduates programs that are held each summer across the United States.

The AMS awards several scholarships for US students to attend the Math in Moscow program. The scholarships are made possible through a grant from the National Science Foundation. For more information about Math in Moscow, consult `www.mccme.ru/mathinmoscow` and the article "Bringing Eastern European mathematical traditions to North American students," *Notices*, November 2003, pages 1250–1254.

—Elaine Kehoe

My Summer at *Wired* Magazine

Each year the AMS sponsors a fellow to participate in the Mass Media Fellowship program of the American Association for the Advancement of Science (AAAS). This program places science and mathematics graduate students in summer internships at media outlets. In this article the 2014 Fellow, Joshua Batson, describes his experiences during his fellowship at *Wired* magazine. For information about applying for the fellowship, see the "Mathematics Opportunities" section in this issue of the *Notices* or visit the website `www.ams.org/programs/ams-fellowships`. The application deadline is **January 15, 2015**.

On Sunday, June 8th, the day before I started work on the science desk at *Wired* magazine, a milestone in artificial intelligence was announced. A chatbot had apparently fooled judges into thinking it was a person, passing the famous Turing Test a conveniently precise sixty years after Alan Turing's death. As the first credulous headlines flashed across the Internet—"Turing Test breakthrough as super-computer becomes first to convince us it's human"—the science team at *Wired* started investigating. (*The Washington Post*, in contrast, had a foreign affairs correspondent push out a short brief citing only the press release.) We quickly answered three questions:

1. Was there actually a computing breakthrough? No. The bot was comically bad.

2. Should we cover the story anyway? Yes. Anything Turing is in our wheelhouse, and someone has to set the record straight.

3. Could we use this PR stunt as an occasion to talk about something interesting? Yes.

We settled on an immediate debunker for Monday morning, to be followed by a deeper look at benchmarks in artificial intelligence. I was assigned the latter story, and by 11 am on my first day at the office, I had sent out a dozen emails titled "URGENT: Journalist request on Turing Test." I was shocked as responses poured in minutes later in from researchers in robotics, computer vision, and cognitive science. Having grown used to the pace of academic communication, where an email might go weeks without reply, it was rather surprising to hear an eminent professor say "Call me back any time today if you need more, I know how deadlines work."

Deadlines are a fact of life, but they are not a feature of nature. The timescale of scientific progress tends to be orders of magnitude slower than the news cycle. This can make science reporting a strange activity. As veteran NPR correspondent Joe Palca says, "At the end of every year, there are dozens of stories in politics and economics where if you didn't cover them, you screwed up. In science, there might only be one or two." I would add that the one or two big science stories of the year are usually premature declarations of victory, if not outright frauds. Think of how the triumphant announcement of gravity waves last March was subsequently clouded by intimations of interstellar dust, or of how the *Nature* paper showing how to make stem cells using just an acid bath turned out to be full of fabricated data. A recent event or publication or controversy can provide a good hook for a story, but since most people know so little of the science which has already been worked out, a fresh take on an interesting topic can make it news.

The most popular piece I wrote this summer actually featured some very old geometry and a personal hero, Felix Klein. Here's how I tried to get the reader ready for some math:

> The doors to MIT are always unlocked. If you slip in at night and take a long walk down the fluorescent hallway called the Infinite Corridor, you will pass flatscreen monitors displaying friendly robots, gleaming lab equipment behind large plate glass, and advertisements for the bitcoin club. Turn off the main drag into an alcove in the building numbered 2, and you'll find something that seems out of place: a locked display case stuffed with strange forms made of plaster and string. Were they not dulled by age and covered with dust, they might pass for products of a modern fab lab or the nearby school of design. But those mysterious surfaces were made more than a century ago by mathematicians to answer a simple question: What does an equation look like?

The piece was hardly timely, as these models of algebraic surfaces were almost a century old, but it was new material for the majority of the readers. The comments were surprisingly positive, like, "wow… THIS is an excellent reminder of what *Wired* used to be like. Wonderful article." (Significantly uglier were the comments on my piece on ocean vortices and climate change.) A few thousand people shared the piece on Facebook, and, as is typical for online content, social media brought traffic to the story for days after it left the *Wired* homepage. The *Daily Mail* soon published an almost identical story, featuring photographs of different mathematical models and fresh quotes from my sources. I expect this was Klein's first tabloid appearance.

Common wisdom states that most Americans fear and mistrust mathematics, but in fact there is an enormous hunger for mathematical ideas and stories. In 2013, one of the most popular articles on `Wired.com` was about Yitang Zhang and his theorem on bounded gaps between primes. The author, former mathematician Erica Klarreich, led with Zhang's rags-to-mathematical-riches story, brought in some basics on primes, and then invited the reader into the strange caverns of sieve theory. In 2010, Steven Strogatz wrote a fifteen-part series for *The New York Times* that repeatedly topped the list of most-emailed articles and attracted hundreds of appreciative comments. He began with the virtues of having counting numbers and ended with curvature and orders of infinity. If we meet the readers where they are, in the busy everyday world, and make a friendly invitation to go on a journey somewhere interesting, tens of thousands of them will walk with us.

Figuring out how to write an engaging introduction was nevertheless quite hard for me. Math papers tend to introduce a lot of characters quickly, then start describing their relationships. So when writing an article on new electronic displays, I naturally began with structure:

Whether you're on a laptop, a tablet, or a smartphone, you're probably reading this article on an LCD screen. The letters are black where tiny liquid crystals are twisted to block the constant white backlight. Unless you're on a Samsung Galaxy, where the white around the letters is emitted by glowing LEDs and the black letters are just the diodes that are off. Maybe you saved the text to your Kindle to read on a picnic. Then sunlight is bouncing to your eyes off its electronic paper. In any case, a bunch of electrodes just made some high-tech material contort itself to render these words.

My editor admonished me to make it easier for the reader to get interested, so I wrote this instead:

We are surrounded by imperfect screens. Our smartphones, laptops, televisions, watches, billboards, thermostats and even glasses all have screens with drawbacks: Some don't work in sunlight, others mercilessly drain your battery; some can't do rich color, and some can't display a true black; most can't be rolled up and tucked in your pocket. But something better may be on the way.

The narrative style isn't necessarily better than the analytic one, but it is more inviting for a casual reader. As my uncle likes to say, the striptease artist and the anatomist work with the same details, but they reveal them differently.

Writing for the public was difficult and rewarding, and I highly recommend trying it. Just like math is made by a few thousand people around the world, of which you are likely one, the popular understanding of math and science is generated by a relatively small and overworked group of people. Every week, a handful of writers and editors comb through hundreds of papers and press releases, call dozens of sources, and make the articles that get shared across the Internet. As I learned when researching a piece on the Higgs boson, even a single blog post can have outsize impact if it helps a reporter understand something and share it with the world. So write, blog, speak, or if you're feeling especially cheeky, tweet.

—Joshua Batson
`@thebasepoint`

Deaths of AMS Members

RICHARD C. BROWN, professor, University of Alabama, died on November 12, 2012. Born on January 5, 1939, he was a member of the Society for 41 years.

ADAM BURACZEWSKI, of Poland, died on January 2, 2012. Born on April 14, 1926, he was a member of the Society for 42 years.

HERBERT J. CURTIS, of Kirkwood, Missouri, died on October 16, 2007. Born on August 18, 1918, he was a member of the Society for 60 years.

PAUL DEDECKER, of Belgium, died on July 27, 2007. Born on June 15, 1921, he was a member of the Society for 49 years.

M. JEAN MCKEMIE, professor, Saint Edward's University, died on August 21, 2012. Born on May 15, 1954, he was a member of the Society for 32 years.

RICHARD SANTORO, of Chicago, Illinois, died on March 31, 2011. Born on November 7, 1952, he was a member of the Society for 3 years.

P. EMERY THOMAS, of Berkeley, California, died on June 13, 2005. Born on February 15, 1927, he was a member of the Society for 50 years.

DAYA-NAND VERMA, professor, Tata Institute of Fundamental Research, India, died on June 10, 2012. Born on June 25, 1933, he was a member of the Society for 48 years.