Gina Kolata Receives JPBM Communications Award

Since she started her career as a reporter for *Science* magazine in the 1970s, Gina Kolata has become one of the nation's premier science journalists covering mathematics. Presently working at the *New York Times* primarily covering medicine, biology, and health, she still writes a fair number of stories on mathematics. She is widely respected in the mathematical community for her reporting on mathematics, and her work at the *Times* has resulted in three Pulitzer nominations.

At the Joint Mathematics Meetings in Orlando in January, Kolata received the Communications Award of the Joint Policy Board for Mathematics. "Gina Kolata has consistently given outstanding coverage to many of the most exciting breakthroughs in mathematics and computer science over the past twenty years," says Ronald L. Graham of AT&T Bell Laboratories. "She has a special gift for conveying the essence of a complicated concept in an engaging and understandable way and for portraying the human side of mathematics as well."

Established in 1987, the JPBM Communications Award recognizes individuals who bring accurate mathematical information to nonmathematical audiences on a sustained basis. As the sixth recipient of the award, Kolata joins an outstanding group of communicators about mathematics: James Gleick, author of *Chaos: Making a New Science*; playwright Hugh Whitemore, author of *Breaking the Code*, a play about Alan Turing; Ivars Peterson, editor at *Science News* and author of several books on mathematics; Joel Schneider, content director for *Square One TV*

of the Children's Television Workshop; and Martin Gardner, the prolific mathematics writer known for his "Mathematical Games" column in *Scientific American*.

Kolata did her undergraduate degree in molecular biology. After a stint in a Ph.D. program in that subject ("I hated the lab"), she switched to mathematics. She received a master's degree from the University of Maryland, writing a thesis under James Yorke, whom she calls a "great guy, very encouraging". By that time she had set her sights on becoming a writer. Having little writing experience, she decided to try getting a foot in the door by taking a position selecting reviewers for manuscripts for *Science*. Once there she wrote a few stories for the news section of *Science*, which the editors liked and published. Some of these early stories were on biology, and some were on mathematics. She reasoned that covering mathematics would set her apart from other writers—and it worked. "That's how I got started writing math stories, because nobody else was interested and I was," she recalls. "It gave me something different." One of her first contacts was Graham, whom she says, "was almost like a mentor in the beginning."

One of her first stories was about the P and NP problems, which have long fascinated her. This story was "a perfect one for a *Science* mag-

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azine audience, because it's relatively simple to state, and it's a great problem," she notes. "The idea of it is really intriguing philosophically, that there are some problems in computer science that are just computationally impossible. Or are there? Maybe there aren't." Her favorite mathematical stories for *Science* include the proof of the Bieberbach conjecture by Louis de Branges and the computer-aided proof of the 4-color theorem by Wolfgang Haken and Kenneth Appel. At the *Times* she wrote four articles on the proof of Fermat's Last Theorem, and three of them made the front page. She calls the proof "one of the greatest achievements of our lifetime."

Although it is often assumed that mathematics stories have to be tied to applications in order to appeal to a general audience, Kolata believes this can make the stories "uninteresting". "Math stories don't have to tell you how to build a better airplane," she says. "It's not a news-you-can-use type of thing. But there has to be a reason why somebody would want to read it." Often with mathematics the reason is that the story is just intellectually fascinating. As a result, mathematics stories have to "leap a higher hurdle" than stories about other fields of science. "We write stories all the time about minor advances in molecular biology that may someday, if everything works out and we're really lucky, lead to something that might lead to a drug against cancer," she points out. "If that was a math story, an advance that may someday, if we're really lucky, lead to a partial solution of a [longstanding problem], we wouldn't do it." Somehow the story has to link up to something in the reader's world. It doesn't even have to be a fear-inspiring topic like cancer; distant galaxies or quarks will do just fine. "But in mathematics, it's harder to tie it to something that people think they understand," she notes.

In addition, mathematics stories often face a problem with immediacy. Newspapers publish news, and a story that's old is apt to go unreported. Yet mathematical developments usually don't happen on a short time scale. "People in other fields are willing to say, 'This is really exciting, it needs more research, we have to check some stuff, but it's a great idea,'" Kolata says. "Mathematicians would rather say, 'Let's wait until it's circulated in the community and people have checked the proof and we can say it's right.' Maybe two years later they will say, 'Oh, yeah, it's a great idea.'" But by then the story has lost its steam. Even if a particular development didn't occur yesterday, there are ways to convey the idea that something has happened. "You have to have news," Kolata states.

In communicating with reporters, Kolata suggests, mathematicians need to convey why the ideas they work on are intellectually exciting to them. "You have to not trivialize your work, but you've got to ask yourself, What is the core of the idea here that's so incredibly exciting to me?" she says. And steer clear of technicalities. "It doesn't help to get more technical and start writing equations on the board, which is sort of a fallback for mathematicians often," she says. "You've got to speak English, and you've got to sometimes oversimplify, use analogies. ...You've got to try to use analogies that don't use numbers or equations, because [the reporters] are not going to use numbers or equations."

One of Kolata's pet peeves is stories about mathematics that make mathematicians look like hopeless eccentrics. She hates the "little jokey articles" that trivialize mathematics. "Some people think that any publicity is better than no publicity," she says. "I don't know if I agree with that. I think that if you have enough insulting publicity, the image that's created is that mathematicians cannot be spoken to, you might as well not bother interviewing them, they're eccentrics in a world of their own, and you would never want to talk to them." She urges people to write letters to the editor when they see such articles. "I would like to see mathematics treated with the respect it should have."

Kolata calls the JPBM award "an incredible honor". "There is no greater honor to me than getting an award from people who I write about that is unsolicited," she says. "I didn't apply for this, they just chose to honor me like this. So I was really thrilled, it meant a lot." Another person who is undoubtedly thrilled is Kolata's mother, Ruth Bari, a professor emerita of mathematics at George Washington University. Bari, who got her Ph.D. the year Kolata started college as a freshman, had a "second life" as a mathematician. Bari loves mathematics, says Kolata. "She loved teaching. ...She loved research; she loves the company of mathematicians." Bari influenced her daughter in mathematics by her own love of the subject. "It's hard to know somebody who so flourishes in the mathematics community and not be affected by it," Kolata says. "It shows the joy that mathematicians get from their work."

—Allyn Jackson