

MATHEMATICS

Fermat proof earns theorist Abel Prize

Andrew Wiles rewarded for cracking historic puzzle.

BY DAVIDE CASTELVECCHI

British number theorist Andrew Wiles has received the 2016 Abel Prize for his solution to Fermat's last theorem — a problem that stumped some of the world's greatest minds for three and a half centuries. The Norwegian Academy of Science and Letters announced the award — considered by some to be the 'Nobel of mathematics' — on 15 March.

Wiles, who is 62 and now at the University of Oxford, UK, will receive 6 million kroner (US\$700,000) for his 1994 proof of the theorem, which states that there cannot be any positive whole numbers x , y and z such that $x^n + y^n = z^n$, if n is greater than 2. The award came as a "total surprise", he told *Nature*.

That Wiles solved a problem considered too hard by so many — and yet a problem that

is relatively simple to state — has made him arguably "the most celebrated mathematician of the twentieth century", says Martin Bridson, director of Oxford's Mathematical Institute,

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him like a rock star," Bridson says. "They line up to have their photos taken with him."

Wiles's story has become a classic tale of tenacity and resilience. While a faculty member

which is housed in a building named after Wiles. Although his achievement is now two decades old, he continues to inspire young minds, something that is apparent when schoolchildren show up at his public lectures. "They treat

at Princeton University in New Jersey in the 1980s, he embarked on a solitary, seven-year quest to solve the problem, working in his attic without telling anyone except his wife. He went on to make the historic announcement of his achievement at a conference in his hometown of Cambridge, UK, in June 1993, only to hear from a colleague two months later that his proof contained a serious mistake.

With another frantic year of work — and the help of one of his former students, Richard Taylor, who is now at the Institute for Advanced Study in Princeton — he was able to patch up the proof. When the resulting two papers were published in 1995, they made up an entire issue of the *Annals of Mathematics*^{1,2}.

But after Wiles's original claim had already made front-page news around the world, the pressure on the shy mathematician to save his work almost incapacitated him. "Doing mathematics in that kind of overexposed way is certainly not my style, and I have no wish to repeat it," he said in a BBC documentary in 1996, still visibly shaken by the experience.

"Unfortunately, as human beings, we succeed by trial and error," he told *Nature* after hearing about his win. "It's the people who overcome the setbacks who succeed." ■

1. Wiles, A. *Ann. Math.* **141**, 443–551 (1995).

2. Taylor, R. & Wiles, A. *Ann. Math.* **141**, 553–572 (1995).