

## 2012 Kieval Lecture Series

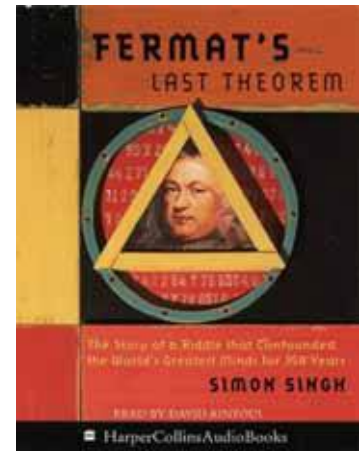
### Dr. Kenneth Ribet, UC Berkeley

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#### "Fermat's Last Theorem and the Modularity of Elliptic Curves"

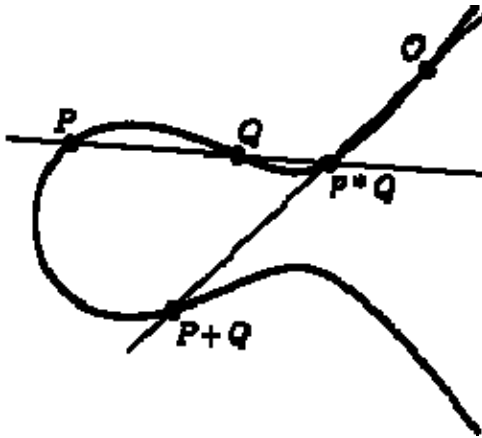
Friday June 1, 10:30 AM, Taylor 29/30

Fermat's Last Theorem is one of the most famous statements in mathematics. The announcement by Andrew Wiles in 1993 that he had proved the theorem made headlines all around the world and led to a NOVA documentary and a plethora of books at all levels. In my lecture, I will explain the statement of the theorem, narrate the story that led up to the announcement and introduce the mathematical objects that play central roles in the proof.



#### "Elliptic curves"

Friday, June 1, 4:00 PM, Science 118



I will talk about elliptic curves over finite fields and over more familiar fields like the field of rational numbers, the field of real numbers and the field of complex numbers. Although elliptic curves are somewhat hairy if one does calculations by hand, it is easy to explore the world of elliptic curves using sage, a free open source mathematics package that should be part of every mathematician's toolkit. (See <http://www.sagemath.org/>.) For most of the talk, I will be typing into my laptop and demonstrating some of the basic features of sage.

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Kenneth Ribet studied mathematics at Brown University and Harvard University. He received his PhD in 1973 from Harvard. After three years of teaching in Princeton and two years of research in Paris, Ribet joined the faculty at UC Berkeley in 1978. Ribet is best known for his theorem from the 1980s to the effect that Fermat's Last Theorem would follow logically from the modularity conjecture, a well known unproved conjecture about elliptic curves. Ribet is a member of the editorial boards of several book series and research journals. He was elected to the American Academy of Arts and Sciences in 1997 and the National Academy of Sciences in 2000. He was awarded the Fermat Prize in 1989 and received an honorary PhD from Brown University in 1998. Ribet was inducted as a Vigneron d'honneur by the Jurade de Saint Emilion in 1988.