

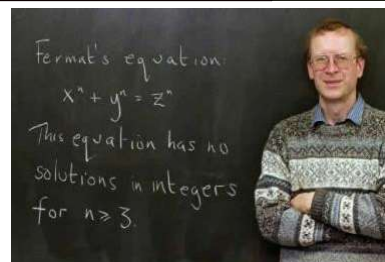
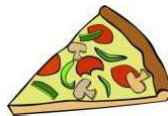
UNDERGRADUATE MATH SEMINAR: Movie Time!

The student seminar series will resume with the showing of a film

DATE: THURSDAY, February 6

Time & 12:30 – Refreshments in Bailey 204

Location: 12:50 – 1:45 Seminar in Bailey 207



Andrew Wiles

In this seminar, there will be a screening of a NOVA documentary:

Title: The Proof

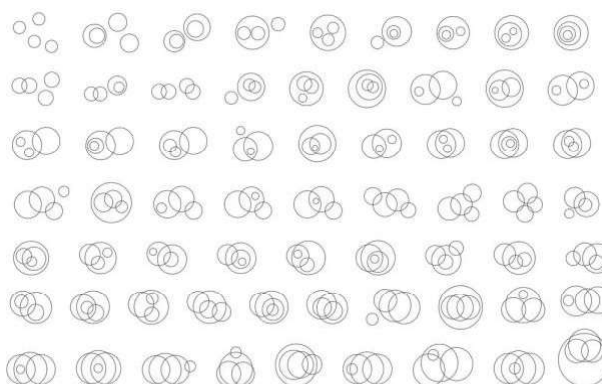
Abstract: This documentary produced by Nova uses the search for a proof of Fermat's famous theorem to provide a better understanding of the quest for knowledge. It is this quest that apparently motivates mathematicians to attempt to solve what many feel is the unsolvable. For those of you unfamiliar with Fermat's Last Theorem, it states that for all natural numbers n greater than 2, $x^n + y^n = z^n$ has no solutions for natural numbers x , y , and z . Over 300 years ago, Fermat stated that he had a proof of this result, but the margin of the paper was too small to include it. Because this problem had an obvious link with the Pythagorean Theorem (and because Fermat stated that he had a proof) mathematicians felt the argument would be found immediately. But for centuries people struggled to uncover the proof, and it was not until the mid 1990s that Andrew Wiles of Princeton University finally succeeded. For further information on the documentary, see <https://www.pbs.org/wgbh/nova/proof/>

The JMM Stays in the News

As reported in the [January 20, 2025](#) issue of this newsletter, the Joint Mathematics Meetings (JMM) was held in Seattle from January 8 through January 11. The JMM is the world's largest meeting of mathematicians; at this most recent JMM, there were 5444 registered participants (including five from Union) and 3272 talks! And, it was covered by The New York Times!

The [NYT article](#), published January 28, 2025, gives a day-by-day account of highlights of the conference, including the following from Day 2: "On Thursday, Jon Wild, a music theorist at McGill University in Montreal who does math on the side, was invited to a session on applied mathematics to discuss his investigations into "counting arrangements of circles" in the plane. Given certain constraints, there is one way to draw one circle, three ways to draw two circles, 14 ways to draw three, 173 ways for four, and 16,951 ways to draw five. (The enumeration of six circles is yet to be computed.) Dr. Wild was surprised to learn that this research was relevant to 3-D printing: that is, to how multiple printer heads could each trace circular arcs while avoiding collisions. "I was tickled," Dr. Wild said.

In line with the theme of this year's JMM, "Mathematics in the Age of AI," the second night had a plenary talk by Yann LeCun, the chief AI scientist at Meta. In his lecture, "Mathematical Obstacles on the Way to Human-Level AI," Dr. LeCun remarked "The current state of machine learning is that it sucks. ... Never mind humans, never mind trying to reproduce mathematicians or scientists; we can't even reproduce what a cat can do!"



From the NYT: Jon Wild's circles on a plane applied to 3-D printing.

For more interesting tidbits from the JMM, you are encouraged to read the [NYT article](#).