

The solution to a 200-year-old encryption

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(PhysOrg.com) -- The mathematician who deciphered the final, encrypted page of a letter sent to President Thomas Jefferson in 1801 will visit the University of Oregon to tell how he did it.

The encrypted page -- a mystery to Jefferson and everyone else -- was solved in 2007 by Smithline, then 36, an expert in code-breaking. He detailed his solution in the *American Scientist*.

The letter was written by Jefferson's colleague in the American Philosophical Society, Robert Patterson, a math professor at the University of Pennsylvania. The ciphered page was devoid of capital letters or spaces and scrambled in a way that left no readable segments.

Preceding pages had described the nature of the code but not the specific key required to unlock this message. The code was unlike any normally used at the time. Patterson predicted it would never be broken.

"This is a fascinating topic for historians as well as puzzle enthusiasts," says UO computer scientist Eugene Luks, who met Smithline in California, where Smithline described his solution to a group of cryptanalysts. "Jefferson, an expert cryptographer himself, was enthusiastic about the code. He recommended that it be used in diplomatic correspondence, but others did not appreciate his warnings about the weakness of the codes they were already using."

The solution involved both linguistic intuition and a [computer algorithm](#) to find the digital key. While the required 100,000 calculations would be easy on today's computers, Smithline's method could have been done over time in Patterson's day. In his talk, Smithline will tell how he was pulled into the mystery, how he broke the code and what was written on the page.

Lawren Smithline of the Center for Communications Research in Princeton, N.J., will speak at 4 p.m., Tuesday, Jan. 26, in Room 100 of Willamette Hall, 1371 E. 13th Ave. Admission is free. The talk is part of the Distinguished Lecture Series of the UO's department of computer and [information science](#) and co-sponsored by the math department.

Provided by University of Oregon

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