

# Mathematics Undergraduate Colloquium Spring 2006

## **Cryptography, Freedom, Democracy How Basic Science Affects Everyone**

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12:55pm Tuesday 17 January 2006

LCB 121

To most people, research in basic science seems irrelevant, and consequently, citizens, legislators, government funding agencies, and corporations are disinclined to support it.

Nevertheless, basic science can have deep impacts on our lives. This talk examines two developments in basic science in the Twentieth Century. The first of them, Albert Einstein's work in 1905, changed the field of physics, and the course of history. The second, the invention of public-key cryptography in 1975, has important consequences for privacy, freedom, and democracy.

Many of mankind's discoveries have potential for both good and bad. The talk concludes with a discussion of some recent uses of technology that pose the very serious risk of our complete loss of privacy, freedom, and democracy.