Primes and Twin Primes

My 45 Minutes in the Limelight: fame, shame, and redemption

Abstract. I will talk about my recent work with Pintz and Yildirim where we proved that there are infinitely many pairs of primes much closer together than the average spacing between consecutive primes. This is still a long way from proving the ultimate conjecture that there are infinitely many pairs of primes differing by 2 -- The Twin Prime Conjecture. However, conditionally we are able to nearly come to grips with twin primes, and perhaps a proof is no longer out of reach.

Usually mathematical research is a private activity generating no publicity, but this work was an exception. The initial work of Yildirim and me generated wide attention for a month before a mistake was discovered by Granville and Soundararajan. Our proof crashed and burned, which did however generate further publicity. A new proof unexpectedly emerged with Pintz's help, and this generated a third and smaller round of publicity. After the experience with Wiles and Fermat's Last Theorem in the '90s, the press takes this perhaps as the norm in mathematics, but personally   I would recommend avoiding this cycle if at all possible.

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7:00 – 8:00 PM
008 Kemeny

Everybody Welcome!
2008 Kemeny Undergraduate Lecture

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