The University of Colorado at Boulder

Department of Mathematics Presents the

Fourth Annual Fall Convocation Lecture

Professor Pedro Berrizbeitia

Simon Bolivar University, Caracas

From Perfect Numbers to Modern Primality Tests

Thursday, September 27, 2012

5:00 pm

MATH 100

(Pizza and refreshments to follow in MATH 175)

We briefly describe the ideas and results which have led to find very large prime numbers and to find efficient ways of distinguishing prime numbers from composite numbers. Our story begins with ancient Greeks and perfect numbers, it includes the ideas and contributions of Fermat in the 17th century, Euler in the 18th, Lucas in the 19th, the huge amount of progress in the area of primality tests during the 20th century, and the celebrated result of Agrawal, Kayal, and Saxena, which in 2002 surprised the international scientific community with the discovery of the first general polynomial time primality test. We also describe the so called practical version of AKS, in which we played a part.

Pedro Berrizbeitia is a Full Professor of Mathematics at University Simon Bolivar in Caracas, Venezuela. He is an expert in number theory mainly known for his contributions to Primality Testing. He obtained his Ph. D. at MIT in 1986. He has held visiting positions at Ohio State University, at Universidad Autonoma de Madrid and has been an Ulam Visiting Professor at CU Boulder on several occasions. He was awarded the "Premio Lorenzo Mendoza Fleury" in 2005, the most recognized scientific award in Venezuela. He has been a correspondent member of the "Academy of Physical, Mathematical and Natural Sciences of Venezuela" since 2006, and a Coordinator for Venezuela of the "Iberoamerican Number Theory Network" since 2008.