

**SEMINAR DATE:** Wednesday, October 21, 2009

**TITLE:** On the Decoding of Convolutional Codes Over the Erasure Channel

**SPEAKER:** Virtu Tomas, University of Alicante (Spain)

**TIME:** Reception/Refreshments: 3:30 PM

Lecture: 4:00 PM

**LOCATION:** CMRR Auditorium

**ABSTRACT:**

The loss of transmitted packets over an erasure channel, such as the Internet, can generate delay of the received information due to retransmission, and this can have adverse effects in real-time applications. Error forward correction is a technique used to avoid this delay. Until now mainly block codes have been used for this purpose and convolutional codes have been much less studied. In this talk we study in detail the use of convolutional codes over this channel and we show that the complexity of decoding is polynomial. We see how MDP convolutional codes can deal with situations that are not possible for a MDS block and we introduce a new concept: reverse-MDP convolutional codes. Due to their properties we propose the new kind codes as a very good candidate to improve the decoding process and we give a particular construction.

**BIO:**

Virtu Tomas was born in Spain. She received her B.A. in Mathematics in 2006 from the University of Alicante, where she is now a PhD student supervised by Prof. Joan-Josep Climent in the Department of Statistics. Currently she is a visiting student of Prof. Joachim Rosenthal at the Zürich University. She is on a two-month visit with Prof. Roxana Smarandache at San Diego State University.