

# DISTINGUISHED LECTURER SERIES



## Emre Telatar

Professor  
École Polytechnique  
Fédérale de Lausanne  
(EPFL)  
Lausanne, Switzerland

## Reception

Thursday, Nov. 13  
4:30 pm  
1115 Computer Science  
Instructional Center

## Lecture

Thursday, Nov. 13  
5:00 pm  
1115 Computer Science  
Instructional Center

## Roundtable discussion

Friday, Nov. 14  
11:00 am  
1146 AV Williams Bldg.

## Host

Nuno Martins

Thursday, Nov. 13, 5:00 p.m.

## Polarization codes and the rate of channel polarization

### Abstract

Channel polarization is a recently discovered technique (by E. Arıkan) for constructing codes for data transmission over binary input channels. These codes are capable of achieving the 'symmetric capacity' of a channel and have low encoding and decoding complexity. This talk will describe the code construction process and show that the error probability of polarization codes decays essentially as  $\exp(-\sqrt{n})$  where  $n$  is the block length.

Joint work with Erdal Arıkan,  
Bilkent University, Ankara, Turkey.

### Biography

Emre Telatar received the B.S. degree in electrical engineering from the Middle East Technical University, Ankara, in 1986 and the S.M. and Ph.D. degrees in electrical engineering and computer science from the Massachusetts Institute of Technology, Cambridge, in 1988 and 1992 respectively. From 1992 to 1999 he was with the Mathematical Sciences Research Center, Bell Labs, Murray Hill, New Jersey. Since then, he has been a professor at the Ecole Polytechnique Fédérale, Lausanne, Switzerland. Dr. Telatar was the recipient of the 2001 Information Theory Society paper award.

## Questions?

Call ISR at 301-405-6615



The  
Institute for  
**Systems**  
Research

A. JAMES CLARK  
SCHOOL OF ENGINEERING