



# Illinois Center for Wireless Systems

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## ICWS Seminar Series



### ON SPACE-TIME CODES ARISING FROM ALGEBRAS

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Nan Yang University, Singapore

Friday, October 7, 2011  
141 Coordinated Science Lab/4:00 p.m.

**Abstract:** Space-time codes are a tool used in wireless communication to achieve high data rate and reliability. We review basic design criteria for space-time codes and the construction of codes via representations of division algebras. In particular, we show a way to construct families of fully diverse space-time codes using results from number theory and the theory of quadratic forms.

**Biography:** Nadya Markin received her Ph.D. in Mathematics (number theory) in 2006 at the University of Illinois at Urbana-Champaign. Subsequently she did postdoctoral research in coding and cryptography at the Claude Shannon Institute/University College Dublin. She is currently a research fellow at NTU under the supervision of Frederique Oggier. Her main research interests are in space-time coding and algebraic number theory.