IEEE WCNC 2013 - International Workshop on
New Advances in Physical Layer Network Coding:
Bridging the Gap Between Theory and Practice

Session I: 9am – 10:30am, 7 April 2013

Title: Advances in Complex Field Network Coding (CFNC) for Non-orthogonal Multi-access Relay Channels

Keynote Speaker: Professor Pingzhi FAN (Southwest Jiaotong University)

Precoding Design for Denoise-and-Forward Network Coding in MIMO Two-Way Relay Systems

Zhongyuan Zhao, Bin Han, Xinqian Xie, Wenbo Wang,Mugen Peng, (Beijing University of Posts and Telecommunications, Beijing, China)

Kernel-Based Error Rate Estimation for M-ary Modulation

Peng Wang, (Changshu Institute of Technology), Wee Ser, (Nanyang Technological University), Feng Qian,(Changshu Institute of Technology)

Superposition Coding for Wireless Butterfly Network with Partial Network Side-Information

Tomas Uricar,(Czech Technical University in Prague), Jan Sykora, (Czech Technical University in Prague), Bin Qian, (Hong Kong University of Science and Technology), Wai Ho Mow, (Hong Kong University of Science and Technology)

Turbo DPSK in Bi-directional Relaying

Xiaofu Wu, (Nanjing University of Posts and Telecommunications), Weijun Zeng, (PLA University of Science and Technology), Zhen Yang, (Nanjing University of Posts & Telecommunications)

Session II: 11am – 12:30am, 7 April 2013

Distributed Space Time Coding for Wireless Two-way Relaying

Keynote Speaker: Professor B. Sundar Rajan (Indian Institute of Science, Bangalore)

Outage Achievable Rate Analysis for the Non Orthogonal Multiple Access Multiple Relay Channel

Abdulaziz Mohamad, (SUPELEC), Raphael Visoz, (Orange Labs), Antoine O. Berthet, (Supélec)

Practical Physical Layer Network Coding in Multi-Sources Relay Channels via the Compute-and-Forward

Asma Mejri, (Telecom-ParisTech), Ghaya Rekaya-Ben Othman, (TELECOM ParisTech)

Optimal Tomlinson-Harashima Precoding for Physical Layer Network Coding

Armin Schmidt, (University of Erlangen-Nuernberg), Robert Schober, (University of British Columbia), Wolfgang Gerstacker, (University of Erlangen-Nuernberg)

Keynote speakers:

Professor Pingzhi Fan is Vice-President of Southwest Jiaotong University, China, in charge of academic affairs. He is also a visiting professor of Leeds University, UK. Dr Fan has received a number of awards including the UK ORS Award in 1992 and National Science Foundation of China for Outstanding Young Scientist in 1988. He has served as general chair and technical program chair of more than ten international academic conferences, as well as guest editor-in-chief, editorial board member and editor of six international academic journals in Japan, USA and China, and currently serves as the IET Asia Pacific Region Board member. He is a

fellow of IET and fellow of CIE. Dr Fan is the inventor of 25 patents and the author of over 350 research papers and eight books. He has also led a number of research projects.

Professor B. Sundar Rajan received the B.Sc. degree in mathematics from Madras University, India, the B.Tech degree in electronics from Madras Institute of Technology and the M.Tech and Ph.D. degrees in electrical engineering from the Indian Institute of Technology, Kanpur, India; Was a faculty member with the Department of Electrical Engineering at the Indian Institute of Technology in Delhi from 1990 to 1997 and joined IISc in 1998, where currently is a Professor. During 2004-05, he was with Beceem Communications Pvt. Ltd., as Distinguished Memeber of Research Staff, on leave from IISc.

Presently an Editor of the IEEE WIRELESS COMMUNICATIONS LETTERS, and an Associate Editor of Coding Theory for the IEEE TRANSACTIONS ON INFORMATION THEORY (from December 2012); Was an Associate Editor of the IEEE TRANSACTIONS ON INFORMATION THEORY (2008-2011) and an Editor of the IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS (2007-2011).

A Fellow of the Indian National Science Academy (INSA), Fellow of Indian National Academy of Engineering (INAE), Fellow of the Indian Academy of Sciences (IASc), Fellow of the National Academy of Sciences, India (NASI), Fellow of Institution of Electronics and Telecommunication Engineers (IETE) India; Recipient of IEEE Wireless Communications & Networking Conference (WCNC) 2011 Best Academic Paper Award,

Primary research interests include space-time coding for MIMO channels, distributed space-time coding and cooperative communication, coding for multiple-access and relay channels, and network coding.