



**Ph.D. School of
Electrical and Electronic Engineering
and Computer Science**

Ph.D. School of Bioengineering

SEMINAR

Nanonetworks and Molecular Communication

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Conference room

D Floor, Department of Computer Science

Nanonetworks is an emerging communication paradigm that focuses on communication between micro- and nanoscale- machines; Nanomachines. In the literature, a variety of systems are proposed to provide communication in this scale. Among these systems, some utilize well-known communication methods while others are inspired by the intra- and inter-cell communication used by the living organism cells. These systems are called Molecular Communication (MC) systems and most of the current research regarding Nanonetworks are focused on these novel solutions. This talk will disclose the various key systems proposed for communication among Nanomachines while giving a special focus on MC systems. After a general overview about these systems, the Communication via Diffusion system, being one of the prominent solutions among MC systems will be discussed in detail. Various physical layer characteristics regarding this communication system, such as modulation techniques, interference analysis, and an energy model, will be revealed. Lastly, some future research opportunities regarding Nanonetworking and MC systems will be addressed.

Biography

Mehmet Şükrü Kuran received his B.S. degree in Computer Engineering from Yildiz Technical University, Turkey, in 2004 and his M.S. degree in Systems and Control Engineering from Bogazici University, Turkey, in 2007. He is currently pursuing his Ph.D. study in the Computer Engineering Department at Bogazici University. He also works as a research assistant in the same department in the TAM project. He worked in University Polytechnic Catalunya (UPC), Barcelona, Spain during Summer 2010 as a visiting researcher under the supervision of Professor Ian F. Akyildiz. His research interests are Nanonetworks, Molecular Communications, WiMAX networks, Wireless Mesh Networks.

Organizer

Prof. Lorenzo Favalli

Ph.D. Coordinator

Prof. Calzarossa / Prof. Buizza