

Presents the Spring 2013 EECS Seminar Series

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“Topological properties of SINR Diagram with Interference Cancellation”

Thursday, January 31, 2013 • 1:00 p.m. • HEC 356

ABSTRACT

In this talk we will first present what is a SINR diagram and why it is important to the design of efficient algorithms for wireless networks. We will compare them to the Unit Disk Graph (UDG) Model. Then, we will discuss the reception zones of a wireless network in the SINR model with receivers that employ interference cancellation (IC). IC is a recently developed technique that allows a receiver to decode interfering signals, and cancel them from the received signal in order to decode its intended message. We first derive the important topological properties of the reception zones and their relation to high-order Voronoi diagrams and other geometric objects. We then discuss the computational issues that arise when seeking an efficient description of the zones. This is a joint work with Chen Avin, Asaf Cohen, Erez Kantor, Zvi Lotker, Merav Parter and David Peleg.

BIOGRAPHY

Yoram Haddad received his BSc, Engineer diploma and MSc (Radiocommunications) from SUPELEC in 2004 and 2005, and his PhD in computer science and networks from Telecom ParisTech in 2010. From January 2011 to October 2012, he has been a post-doctoral research associate at the Ben-Gurion University (BGU) in Beer-Sheva, Israel.

Since 2010 he is a tenure-track senior lecturer (Assistant Professor) at the Jerusalem College of Technology (JCT) in Jerusalem, Israel. Yoram's main research interests are in the area of Wireless Networks and Algorithms for networks. He is specifically interested in energy efficient wireless deployment, Femtocell, modeling of wireless networks, wireless application to Intelligent Transportation Systems (ITS) and more recently Wireless Software Defined Networks (SDN).