MSc thesis defense presentation

<u>Αικατερ■νη Νικολιδ■κη</u> defends her MSc thesis.

Date:	Δευτ■ρα, 02 Μ■ρ 2015
■ρα:	17:00-18:00
Location:	Σχολ■ Ηλεκτρολ■γων Μηχανικ■ν και Μηχανικ■ν Υπολογιστ■ν, ΕΜΠ (παλαι■ κτ■ρια), 1.1.31
Thesis title:	[Game Theoretic Models for Power Control in Wireless Networks]
Committee:	• [Δημ■τρης Φωτ■κης] • [Αριστε■δης Παγουρτζ■ς] • [Ευστ■θιος Ζ■χος]

<u>Thesis abstract</u>

In recent years, the technology of mobile communications has evolved rapidly due to increasing requirements, such as access to Internet services via mobile phones and requirements better quality services. Nowadays, the devices use the Long Term Evolution (LTE), which called also as 4G networks. The fourth generation (4G) networks replace the third networks generation (3G) and offer to users improved services at higher speeds. Mobile devices to access the Internet, such as smartphones, tablet PCs and netbooks are in high demand in the market for it is an effort to develop in energy consumption level, that the user does not need recharge the device at regular time intervals. Game theory provides valuable mathematical tools that can be used to solve problems of wireless communication networks and can be applied to multiple layers of wireless networks. In this thesis, we study power control issue and consider it at the physical layer of wireless networks. Specifically, we study game theoretic models for power control in wireless communication networks (CDMA & LTE). In the game theory, we have focused in the non-cooperative power control games and assumed that both transmitters and receivers are selfish and rational. In addition, we insert regret learning techniques and their connection with the game theory. Finally, we investigate the regret learning techniques applied to the problem of power control in the next generation networks.