

Anna Pantelidou

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EDUCATION	<i>Ph.D. in Electrical and Computer Engineering,</i> University of Maryland, College Park, MD USA	February 2009
	Major: Communications Dissertation title: A cross-layer study of the scheduling problem Research Advisor: Prof. Anthony Ephremides	
	<i>M.Sc. in Electrical and Computer Engineering,</i> University of Maryland, College Park, MD USA	December 2004
	Major: Communications Thesis title: Scheduling Transmissions in Wireless Ad-Hoc Networks with Time-varying Topologies Research Advisor: Prof. Anthony Ephremides	
	<i>B.Sc. in Computer Science and Telecommunications,</i> National Kapodistrian University of Athens, Athens Greece	June 2001
	Area: Communications and Signal Processing Thesis title: Specification of the Required Protocols for the Seamless Provision of Value Added Services in UMTS Networks Advisor: Prof. Lazaros Merakos	
RESEARCH & WORK EXPERIENCE	<i>Institute for Systems Research, University of Maryland</i>	March 2009 - present
	Research Associate Supervisor: Prof. Anthony Ephremides	
	<i>Institute for Systems Research, University of Maryland</i>	August 2001 – February 2009
	Research Assistant Advisor: Prof. Anthony Ephremides	
	<ul style="list-style-type: none"> ○ Scheduling in wireless networks <ul style="list-style-type: none"> • Obtained a joint scheduling and rate control policy for multicast traffic that couples the physical and Medium Access Control (MAC) layers together under the objectives of (i) sum throughput maximization and (ii) proportional fairness • Introduced a joint rate and power control policy for multicast traffic that maximizes the total utility in time-varying wireless networks both under perfect and imperfect knowledge of the current channel conditions • Obtained an optimal rate control and scheduling policy to solve the minimum-length scheduling problem for unicast traffic in static and time-varying wireless networks ○ Stable throughput maximization <ul style="list-style-type: none"> • Characterized the stability region of time-varying, multi-hop, wireless networks under channel estimation. Obtained a policy that maximizes the stable throughput region of the network by taking joint scheduling and routing decisions based on a possibly inaccurate estimate of the channel state • Characterized the stability region of time-varying, wireless networks under channel estimation, and provided an optimal joint scheduling and rate control policy that maximizes the stable throughput. Further, identified the conditions under which a pure Time Division Multiple Access (TDMA) scheduling scheme, combined with rate control, is optimal in terms of maximizing the stable throughput region of the network 	

	<p>Communication Networks Laboratory (CNL), National Kapodistrian University of Athens May 2000 – June 2001</p> <p>Undergraduate student researcher Advisor: Prof. Lazaros Merakos Supervisor: Alex Kaloxylos</p> <ul style="list-style-type: none"> ○ Using SDL and the SDT toolbox, integrated various protocols including the charging, billing, the value added service manager, etc. for the European Union IST Project MOBIVAS (“Downloadable Mobile Value Added Services through Software Radio and Switching Integrated Platforms”). The objective of this project was the introduction of Value Added Services in UMTS networks by developing the appropriate network components and signaling protocols required for the provision of QoS and charging of the services
	<p>High Performance Computing Laboratory (HPCL) December 1997 – December 1998</p> <p>Undergraduate Student Researcher Supervisor: Dimosthenis Anagnostopoulos</p> <ul style="list-style-type: none"> ○ Optimized 3D artery volumes that were obtained by using 2D artery images using algorithmic techniques in the Research and Technology (GSRT) project PATRA. Co-authored several technical reports and developed the project’s web site
RESEARCH INTERESTS	Wireless Ad-Hoc Networks, Resource Allocation, Cross-layer Design, Network Coding, Game Theory, Cognitive Radio, Cooperation in Wireless Networks
TEACHING EXPERIENCE	<p>Graduate Teaching Fellow (GTF), University of Maryland Fall 2007</p> <p>Engineering Probability ENEE324</p> <ul style="list-style-type: none"> ○ Prepared class notes and gave lectures in the absence of the course instructor ○ Gave recitations and held office hours ○ Graded homeworks ○ Held extra review sessions to review class material before exams
PUBLICATIONS	<p>Journal Papers</p> <ul style="list-style-type: none"> ○ A. Pantelidou, A. Ephremides, “Minimum-length scheduling and rate control in wireless networks: A shortest path approach”, in submission ○ A. Pantelidou, A. Ephremides, “Wireless multicast optimization: A cross-layer approach”, in submission ○ A. Pantelidou, A. Ephremides, “A cross-layer view of optimal scheduling”, submitted to <i>IEEE Transactions on Information Theory</i>, December 2008 ○ A. Pantelidou, A. Ephremides, A. L. Tits, “A cross-layer approach for stable throughput maximization under channel state uncertainty”, to appear in <i>ACM/Kluwer Journal of Wireless Networks</i>. Available online at http://www.springerlink.com/content/6181p42663316137/ <p>Conference Papers</p> <ul style="list-style-type: none"> ○ A. Pantelidou, A. Ephremides, “A cross-layer view of wireless multicasting under uncertainty”, <i>IEEE Information Theory Workshop (ITW)</i>, June 2009 ○ A. Pantelidou, A. Ephremides, “Joint scheduling and rate control algorithms for stable throughput maximization under channel estimation in single-hop wireless networks”, <i>IEEE Global Communications Conference (GLOBECOM)</i>, November 2008 ○ A. Pantelidou, A. Ephremides, “What is optimal scheduling in wireless networks?”, <i>4th International Wireless Internet Conference (WICON)</i>, November 2008 ○ A. Pantelidou, A. Ephremides, “Minimum schedule lengths with rate control in single-hop wireless networks”, <i>IEEE Military Communications Conference (MILCOM)</i>, November 2008

	<ul style="list-style-type: none"> ○ A. Pantelidou, A. Ephremides, "A cross-layer view of wireless multicast optimization", <i>46th Annual Allerton Conference on Communication, Control, and Computing</i>, September 2008 ○ A. Pantelidou, A. Ephremides, "Optimal rate control policies for proportional fairness in wireless networks", <i>Conference on Information Sciences and Systems (CISS)</i>, March 2008 ○ A. Pantelidou, A. Ephremides, A. L. Tits, "Joint scheduling and routing for ad-hoc networks under channel state uncertainty", <i>5th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)</i>, April 2007 ○ A. Pantelidou, A. Ephremides, A. L. Tits, "Maximum throughput scheduling in time-varying-topology wireless ad-hoc networks", <i>Conference on Information Sciences and Systems (CISS)</i>, March 2005 <p>Selected Posters</p> <ul style="list-style-type: none"> ○ A. Pantelidou, A. Ephremides, "Rate control for stable throughput maximization under channel estimation", <i>IEEE International Symposium on Information Theory (ISIT)</i>, July 2008 ○ A. Pantelidou, A. Ephremides, "Optimal power and rate control for proportional fairness in time-varying wireless networks", <i>Stochastic Networks Conference</i>, June 2008
COMPUTER SKILLS	<p>Operating Systems: Microsoft Windows, UNIX/Linux</p> <p>Programming Languages: C/C++, Java, Pascal, HTML</p> <p>Software Applications: LaTeX, Mathematica, Microsoft Office, MATLAB, SDT (SDL Tool), OPNET</p>
AWARDS	<p>University of Maryland, Department of Electrical and Computer Engineering</p> <ul style="list-style-type: none"> ○ Best poster award - ISR Systems Symposium 2008 April 2008 ○ Full time graduate research assistant with tuition remission Fall 2001- present <p>University of Maryland</p> <ul style="list-style-type: none"> ○ Distinguished teaching assistant award May 2008 ○ Travel grant to attend the Lilly-East Conference on College and University Teaching at University of Delaware April 2008
LANGUAGES	Greek (native), English (fluent), French (intermediate), Turkish (intermediate)
ACTIVITIES	<ul style="list-style-type: none"> ○ Participated in the preparation of NSF proposal titled "Collaborative Research: NeTS-NEDG: Analysis and Design of Cooperative Networks - An Algorithmic Perspective", March 2008 (PI: Sriram Vishwanath, coPIs: Randy Berry, Anthony Ephremides, Lily Qiu) ○ Participated in the preparation of NSF proposal titled "Collaborative Research: Cooperative Networking across the Layers", October 2008 (PI: Anthony Ephremides, coPIs: Randy Berry, Sriram Vishwanath) ○ Reviewer for IEEE Transactions on Information Theory, WCNC 2008, Globecom 2007, Infocom 2003
REFERENCES	<ul style="list-style-type: none"> ○ Prof. Anthony Ephremides 2333 A.V. Williams Building Dept. of Electrical and Computer Engineering University of Maryland College Park, MD 20742 Phone: (301) 405-3641 email: etony@umd.edu ○ Prof. André L. Tits 2271 A.V. Williams Building Dept. of Electrical and Computer Engineering University of Maryland College Park, MD 20742 Phone: (301) 405-3669 email: andre@umd.edu

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