

# CURRICULUM VITAE

## Anastasios Giovanidis

December 20, 2009

**Dipl.-Ing. Anastasios Giovanidis** 20.08.1982

**PhD Candidate**

Technical University of Berlin  
Faculty of Electrical Engineering  
and Computer Science,  
Heinrich-Hertz-Chair for  
Information Theory and Theoretical  
Information Technology

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**Research Associate**

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## Education

- Sept. 2005 - Dec. 2009 **Technical University of Berlin** (Berlin - Germany)  
**PhD Candidate**  
 Thesis under Submission: "*Modeling and Analysis of Wireless Communication Systems using Automatic Retransmission reQuest Protocols*"  
 Adviser: Prof. Dr.-Ing. Dr. rer. nat. Holger Boche  
 Thesis Supervision: Dr.-Ing habil. Sławomir Stańczak  
 Submission Date: December 2009  
 Expected Defence Date: March 2010
- Sept. 2000 - July 2005 **National Technical University of Athens** (Athens - Greece)  
 Diploma in Electrical and Computer Engineering  
 Focus: Telecommunications, Control Theory, Electronics  
 Thesis: '*Investigation and Implementation of a Signal Processing Algorithm for Multistatic Inverse Synthetic Aperture Radar (ISAR) Imaging*'  
 Adviser: Prof. Dr. N. Uzunoglu (GPA: 8.60/10.00)
- June 2000 University Entrance Examinations  
 of the Greek General Lyceum (GPA: 19.55/20.00)

## Working Experience

- Sept 2005 - present **Heinrich Hertz Institute** (Berlin - Germany)  
 German-Sino Lab for Mobile Communications  
 Research Associate
- June 2004 - Sept 2004 **Forschungsgesellschaft für Angewandte Naturwissenschaften - F.G.A.N.** (Bonn - Germany)  
 Practical Training  
 Subjects: Synthetic Radar Imaging and Tracking

## Current Research Interests

- Probability Theory and Statistics
- Stochastic Optimal Control, Markov Decision Processes
- Queuing Theory, Stochastic Recurrence
- Convex and Non-Convex Optimization
- Distributed Optimization and Game Theory
- Linear and Non-linear Pricing, Microeconomic Theory

with applications in

- Performance Optimization of Error Control Protocols and Network Reliability
- Stability and Optimal Resource Allocation in Networks of Queues
- Flow Control, Routing and Congestion Control
- Network Optimization with Self-Organizing, Self-Configuring and Self-Healing Attributes.

## Research Projects

- Apr. - Dec. 2009: Methods for Self-optimization of Radio, RRM and Scheduler Parameter in LTE Radio Access Networks - project with Alcatel-Lucent Germany
- Jan. 2009 - June 2009: NetReFound European Project
- Sept. 2006 - Dec. 2008: The scalable and converged multi-access operators network from tomorrow - ScaleNet, funded by the German Ministry for Education and Research (BMBF)
- Sept. 2005 - Sept. 2006: Uplink Radio Resource Management, funded by Samsung R & D Center, S. Korea

## Teaching

Summer Semesters 2007/2008: **Stochastic Processes for Communication Systems**, Teaching Assistant, TU Berlin

## Supervised Students' Theses

- Qi Liao - '*A Cross Layer Approach to optimal Congestion Control, Routing and Resource Allocation in Mobile ad-hoc Networks*' - Masters Thesis (note: 1.0), November 2009, TU Berlin
- Stoycho Stefanov - '*Optimal Control Policies for Delay-Constrained Communications in Wireless Fading Environments incorporating Erroneous Packet Retransmission Protocols*' - Masters Thesis (note: 1.0), April 2008, TU Berlin - currently PhD candidate at TU Berlin
- Yosia Hadisusanto - '*OFDMA Resource Allocation using Multiuser Constant-Power Waterfilling*', Diploma Thesis (note: 1.0), April 2007, TU Berlin - currently PhD candidate at TU Berlin

## Refereed Publications

### Journal Publications

1. A. Giovanidis and S. Stańczak, '*Stability and Distributed Power Control in MANETs with Outages and Retransmissions*', submitted to IEEE Trans. on Communications, 2009, available at <http://arxiv.org/abs/0908.2542>.
2. A. Giovanidis, G. Wunder, J. Bühler, '*Optimal Control of a Single Queue with Retransmissions: Delay - Dropping Tradeoffs*', IEEE Trans. on Wireless Communications, vol. 8, no. 7, pp. 3736-3746, July 2009.

### Conference Publications

1. A. Giovanidis and S. Stanczak, '*Retransmission Aware Congestion Control and Distributed Power Allocation in MANETs*', 5th Int. Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks (RAWNET/WNC<sup>3</sup> - part of WiOpt), Seoul, Korea, June 2009.
2. A. Giovanidis and S. Stanczak, '*Conditions for the Stability of Wireless ARQ Protocols and Reliable Communications*', 15th European Wireless Conference, Aalborg, Denmark, May 2009.
3. M. Wiese, A. Giovanidis and G. Wunder, '*Optimal Power Allocation Policies for the Reliable Transmission of a Single Packet via ARQ Protocols*', 42nd Annual Asilomar Conference on Signals, Systems and Computers, Monterey, USA Oct. 2008.
4. A. Giovanidis, G. Wunder, H. Boche, and S. Stefanov, '*Optimal Control of Transmission Errors with Power Allocation and Stability in ARQ Downlink*', Proc. 42nd Annual Conference on Information Sciences and Systems (CISS'08), Princeton University, USA, Mar. 2008.
5. A. Giovanidis, G. Wunder, and H. Boche, '*A Short-Term Throughput Measure for Communications with ARQ Protocols*', Proc. 7th International ITG Conference on Source and Channel Coding (SCC 08), Ulm, Germany, Jan. 2008.
6. A. Giovanidis, G. Wunder, and H. Boche, '*An Optimal Stopping Approach to ARQ Protocols with Variable Success Probabilities per Retransmission*', Proc. of 45th Annual Allerton Conference on Communication, Control, and Computing, Monticello, IL USA, Sept. 2007.
7. A. Giovanidis, A. Sezgin, U. Mönich, and D. Kim, '*Dynamic User Grouping and Shared Frequency Resource Assignment Strategies for OFDMA*', IEEE 65th Vehicular Technology Conference VTC2007-Spring, Dublin, Ireland, Apr. 2007.

8. A. Giovanidis, T. Haustein, E. Jorswieck, and D. Kim, '*Maximization of the Single User Rate in OFDMA Assuming Equal Power on Allocated Subcarriers*', IEEE 65th Vehicular Technology Conference VTC2007-Spring, Dublin, Ireland, Apr. 2007.
9. A. Giovanidis, T. Haustein, Y. Hadisusanto, A. Sezgin, and D. Kim, '*Multuser Scheduling using Equal Power in Allocated Subcarriers for OFDM Uplink*', 40th Annual Asilomar Conference on Signals, Systems and Computers, Monterey, USA, Nov. 2006.

## Patents

- '*Method and apparatus for positioning pilot in an OFDMA mobile communication system*', US Patent 11/828,689, 07F48670-HHI, together with Yeon-Ju Lim, Jae-Chon Yu, Hwan-Joon Kwon, Dong-Hee Kim, Yu-Chul Kim, Jin-Kyu Han, Stefan Schiffermuller and Sezgin Aydin

## Other Given Talks

- November 2008: TU Berlin, Mini Workshop on the Analysis of performance parameters in telecommunication networks, 'Achieving Reliable Communications with ARQ Protocols: Optimization and Performance Trade-offs'
- July 2008: Ecole Normale Supérieure (Rue d'Ulm-Paris, France), 'Performance optimization of Automatic Retransmission reQuest (ARQ) protocols in wireless communication systems'
- June 2008: SUPELEC (Paris, France), 'ARQ Protocols in Wireless Communications: Implications and Performance optimization in a single user and a multi user scenario'
- December 2007: Alcatel/Lucent Labs (Stuttgart, Germany): 'Some Results on ARQ Protocols: Applications of Optimal Stopping'
- November 2006: Samsung R & D Center (Suwon, Korea): 'Reverse Link Physical Layer Design with RRM for Mobile Cellular OFDM Systems'
- October 2006: Bell Labs/Lucent Technologies (Holmdel-New Jersey, USA): 'Multiuser Scheduling using Equal Power in Allocated Subcarriers for OFDM Uplink'
- October 2006: Stanford University (California, USA): 'Equal Power allocation in OFDMA Systems'

## Reviewer Work

IEEE Trans. on Wireless Communications, IEEE Trans. on Communications, EURASIP Journal on Wireless Communications and Networking, IEEE Globecom, IEEE PIMRC, IEEE SPAWC, ITG SCC, IWCLD

## Honors/Awards

Scholarship from the Greek Institution of National Scholarships (IKY) (top 1% in NTUA-ECE for the year 2003-2004 (GPA 9.23/10.00) )

## Memberships

- Technical Chamber of Greece
- Verband der Elektrotechnik Elektronik Informationstechnik (VDE)
- Institute of Electrical and Electronics Engineers (IEEE)

## Skills

Computer knowledge (MATLAB, MATHEMATICA)

### Languages:

- Greek - native language
- English - fluent spoken/written
- German - fluent spoken, very good written
- French - basics spoken/written

## References

- Prof. Dr.-Ing Dr. rer. nat. Holger Boche  
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- Prof. Dr. Leandros Tassiulas  
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