

CURRICULUM VITAE

Prof.Dr. Buyurman Baykal

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EMPLOYMENT

Department of Electrical and Electronic Engineering, Middle East Technical University

Mar 04 – to date : Professor

July 99 – Mar 04 : Associate Professor

Havelsan A.Ş.

July 07 – to date : Program Manager, Airborne Early Warning and Control Aircraft Program (Peace Eagle)

Oct 04 – June 07 : Program Manager, Maritime Patrol and Surveillance Aircraft Program (Meltem-2)

Department of Electrical and Electronic Engineering, Başkent University

Jun 97 – July 99 : Assistant Professor

Department of Electrical and Electronic Engineering, Imperial College of Science, Technology and Medicine

Aug 95 – Jun 97 : Research Associate

Mar 93 – Aug 95 : Research Assistant

Oct 93 – Aug 95 : System Administrator

Department of Electrical and Electronic Engineering, Middle East Technical University

Sep 90 – Sep 91, Sep 92 – Mar 93 : Research Assistant

EDUCATION

Ph.D. (1995), Department of Electrical and Electronic Engineering, Imperial College of Science, Technology and Medicine, UK.

M.Sc. with Distinction (1992), Department of Electrical and Electronic Engineering, Imperial College of Science, Technology and Medicine, UK.

B.Sc. High Hons. (1990), Department of Electrical and Electronic Engineering and Department of Physics, Middle East Technical University.

TEACHING EXPERIENCE

Graduate teaching

Computer Communication and Networking, Communication Network Analysis and Teletraffic Engineering, Wireless Multimedia and Data Networks, Statistical Signal Processing, Digital Radio Communications, Advanced Communication Systems I and II, Communication Networks, High Speed Networks, Low Bit Rate Speech Coding

Undergraduate teaching

Signals and Systems I and II, Probability and Random Variables, Data Structures, Digital Design, Digital Signal Processing, Complex Calculus, Circuit Theory I and II

Short courses

Digital Communications, Broadband Wireless Communications

RESEARCH EXPERIENCE

Theory and applications of wireless communication/networking; Communication networks design and management; Theory and applications of signal processing, optimization, detection, estimation in telecommunications, sensing (radar systems, tracking) and finance; embedded systems hardware/software; engineering management.

INDUSTRIAL EXPERIENCE

Systems Engineering, C4ISR systems, management of large scale, multi-site software development, near real-time distributed C4ISR systems, multi-sensor data fusion, international contract management, program management.

ADMINISTRATIVE EXPERIENCE

- ◆ Program Manager (2007 – to date), Airborne Early Warning and Control Aircraft Program (Peace Eagle), Havelsan A.Ş.
- ◆ Program Manager (2004 – 2007), Maritime Patrol and Surveillance Aircraft Program (Meltem-2), Havelsan A.Ş.
- ◆ Chairman (1999 – 2002): IEEE Turkey Section, Signal Processing Chapter Chairman.
- ◆ Assistant Chairman (1998 – 1999), Department of Electrical and Electronic Engineering, Başkent University.

RESEARCH GRANTS

- ◆ Project investigator of “Communication protocols for multiservice next generation wireless Internet” (~\$60,000) supported by TUBITAK (Scientific and Technical Research Council of Turkey) for participation in European Union Cost 290 action “Traffic and Qos Management in Wireless Multimedia Networks” 2004-2008.
- ◆ Project co-investigator of “Signal analysis techniques” (~\$490,000) supported by Defense Industries Undersecretariat. Duration: 24 months, 2003-2005.
- ◆ Project investigator of “Performance improvement of HF serial modems” (~\$150,000) supported by TUBITAK-UEKAE (Turkish Technology Research Council-Electronics and Cryptology Institute). Duration: 18 months, 2000-2001.
- ◆ Project investigator of “Low bit rate speech and video coding” (~\$250,000) supported by TUBITAK-UEKAE (Turkish Technology Research Council-Electronics and Cryptology Institute). Duration: 12 months, 1998-1999.
- ◆ Proposal submission, research associate in the EPSRC (UK) research project GR/K 48662 “Channel Equalization Techniques for Mobile Communications” (~\$225,000). Duration: 36 months, 1995-1998.
- ◆ Research assistant in the European Union FP3 research project ESPRIT 6166 “Enhancement of Hands-free Telecommunications”. (~\$1,000,000). Duration: 36 months, 1993-1995.

EDITORIAL and CONFERENCE ACTIVITIES

- ◆ Associate Editor (2005 –), International Journal of Mobile Network Design and Innovation
- ◆ Associate Editor (2003 – 2005), Sensor Letters (American Scientific Publishing).
- ◆ Associate Editor (2003 – 2007), Computer Networks (Elsevier).
- ◆ Associate Editor (2000 – 2002), IEEE Transactions on Circuits and Systems Part II - Analog and Digital Signal Processing.
- ◆ General Chair,
 - ◆ IEEE International Conference on Pervasive Services, 2007
 - ◆ 6th Conference on Signal Processing and its Applications (SIU'98). 28-30 May 1998
- ◆ Steering Committee Member,
 - ◆ Workshop on Wireless Mesh Networks (MeshNets2005)
 - ◆ Workshop on Information Fusion and Dissemination in Wireless Sensor Networks (SensorFusion2005, SensorFusion2007)
- ◆ Organization Committee Member,
 - ◆ First International Conference on Wireless Internet (WICON'05)
 - ◆ The Third Annual Mediterranean Ad Hoc Networking Workshop (MedHocNet'04)

- ◆ Technical Committee Member: International Mobile Multimedia Communications Conference (MobiMedia), International Conference on Communications (ICC), European Wireless Sensor Networks (EWSN), Signal Processing and its Applications Conferences (SIU) and others.

AWARDS and MEMBERSHIPS

- ◆ Ministry of Defense, SATEM Command Award (2007).
- ◆ METU Academic Achievement Award (2002, 2003).
- ◆ Senior Member, Institution of Electrical and Electronics Engineers (IEEE) (1994 –)
- ◆ British Council FCO scholarship (1991 – 1992)

CONSULTANCY and INDUSTRIAL INVOLVEMENT

- ◆ Embedded DSP software provider (2003): KAREL A.Ş.
- ◆ Consultant (2004): SAVRONIK A.Ş.
- ◆ Consultant (2003 – 2004): HAVELSAN A.Ş.
- ◆ Consultant (2003): TUBIN A.Ş.
- ◆ Consultant (1999 – 2003): TUBITAK-BILTEN (Turkish Technology Research Council-Information Technologies Institute)

OTHER RESEARCH ACTIVITIES

- ◆ Visiting Research Fellow (2002 – 2005), King's College London.
- ◆ Reviewer for the journals IEEE Transactions on Signal Processing, IEEE Transactions on Circuits and Systems, Signal Processing, IEE Electronics Letters, IEEE Signal Processing Letters, IEEE Communications Letters, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Vehicular Technology.

INVITED TALKS, SHORT COURSES and OTHER ACTIVITIES

- ◆ Ministry of Defense, SATEM Command (2006, 2007, 2008), National Research and Development Strategy
- ◆ Ministry of Defense, SATEM Command (2006), Data Fusion: Fundamentals
- ◆ Turkish Telecommunications Authority (2006), Digital Communications
- ◆ Turkish Telecommunications Authority (2006), Broadband Wireless Communications
- ◆ Türkiye 1. ve 2. Bilişim Şurası Arge Çalışma Grubu (2002, 2004), Üye ve raportör

GRADUATE SUPERVISION

- ◆ Ayhan Yazıcı, (PhD in progress) “MIMO Radars”
- ◆ Yılmaz Kalkan, (PhD in progress) “Distributed Electronic Counter Measures”
- ◆ Dilek Karabudak, (PhD in progress) “Delay and Disruption Tolerant Networking”
- ◆ Ayhan İrci, (PhD in progress) “MIMO Radars”
- ◆ Mustafa Sert, (PhD, 2006) “Structural And Semantic Analysis of Audio Content For Content-Based Querying and Browsing”, METU.
- ◆ Ozgur Ertug, (PhD, 2006) “Generalized Random Spreading Performance Analysis of CDMA Over GWSSUS Fading Channels”, METU.
- ◆ Cenk Toker, (PhD, 2005, co-supervised) “Signal Processing Algorithms and Architectures for Communication Transceivers”, King's College, London.
- ◆ Izzet Ozcelik, (PhD, 2005, co-supervised) “Adaptive System Identification Algorithms and Sequence Estimation In Telecommunication Channels” University of Westminster, London.
- ◆ Selma Ozaydin, (PhD, 2001) “Development of a 1200 bps vocoder based on efficient matrix quantization techniques”, METU.
- ◆ Mehmet Yağlı, (MSc, 2006) “Passive Wireless Sensor Networks”, METU.
- ◆ Ayhan İrci, (MSc, 2006) “Resource Allocation in Multifunction Phased-Array Radars”, METU.
- ◆ Ayhan Yazıcı, (MSc, 2005) “Block Transmission on Orthogonal Carriers”, METU.
- ◆ Fatih Bayramoğlu, (MSc, 2005) “Factor Graph Approach in Sum-Product Algorithms”, METU.

- ◆ Tunç Çakar, (MSc, 2004) “2D Correlated Diffusion Process for Mobility Modeling in Mobile Networks”, METU.
- ◆ Sinan Şenol, (MSc, 2004) “Performance Comparison of Adaptive Decision Feedback Equalizer and Blind Decision Feedback Equalizer”, METU.
- ◆ Vehbi Çağrı Güngör, (MSc, 2003) “Handover Algorithms for Mobile IPv6”, METU.
- ◆ Özgür Babür, (MSc, 2003) “A Simulation Study of Scheduling Algorithms for Packet Switching Networks”, METU.
- ◆ Ülkü Gülmez Başköy, (MSc, 2003) “A Turbo Detection Scheme For EGPRS”, METU.
- ◆ Süleyman Altundaş, (MSc, 2003) “A Novel Architecture Proposal For Multi-Access Management In IP-Based Future Wireless Networks”, METU.
- ◆ Cüneyt Sevgi, (MSc, 2003) “A Statistical Approach For Examining Internet Traffic and Delay Characteristics of UDP Packets”, METU.
- ◆ Çınar Eren, (MSc, 2003) “Real Time Video Over IP Transmission”, METU.
- ◆ Esra Kurban, (MSc, 2002) “Blind Decision Feedback Equalization”, METU.
- ◆ Serkan Ceylan, (MSc, 2002) “Buffer And Error Management Techniques In Voice Over IP”, METU.
- ◆ Ozgur Baris Akan, (MSc, 2001) “Pre-Handoff Messaging for QoS-Aware and Reduced Latency Handoffs in Cellular Networks”, METU.
- ◆ Iskender Yigitel, (MSc, 2001) “Real Time Voice over IP”, METU.
- ◆ Özgür Eser Akdemir, (MSc, 2001) “Mobility management in wireless networks: Handover issue”, METU.
- ◆ İzzet Özçelik, (MSc, 1999) “Implementation of a 2400 bps vocoder on TMS320C3x”, Başkent University
- ◆ Kadriye Özbaş, (MSc, 1999) “Seamless handover in wireless ATM networks”, Başkent University
- ◆ Afşar Saranlı, (MSc, 1994) “B-spline functions for Radial Basis Function networks”, Imperial College
- ◆ Mani Afschar-Yazdi, (MEng, 1995) “Comparative study of adaptive least-squares algorithms”, Imperial College
- ◆ Steven Chan, (MEng, 1994) “Nonlinear system identification using cascaded Volterra adaptive filters”, Imperial College