

CONSTANTINOS B. PAPADIAS

Fellow, IEEE, EAI

**Executive Director
Research, Technology & Innovation Network
The American College of Greece
Professor, Information Technology, Deree & Alba**

Adjunct Professor, Aalborg University, Denmark

Adjunct Professor, University of Cyprus

Curriculum Vitae

CONTACT INFORMATION

Research, Technology & Information Network (RTIN)
The American College of Greece
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Email: cpapadias AT acg.edu

PERSONAL DATA

Date and place of birth: January 16, 1969, Athens, Greece
Citizenship: Greek, USA
Languages: Greek (native), English (fluent), French (fluent).
Marital status: married, father to three children.

EDUCATION

Degrees Conferred

- Engineer (EE) - National Technical University of Athens - 1991
- Ph.D. (Signal Processing-highest honors) - Ecole Nationale Supérieure des Télécommunications, Paris, March 1995

SUMMARY

Prof. Constantinos B. Papadias is the Executive Director of the Research, Technology and Innovation Network (RTIN) of The American College of Greece, since Feb. 1, 2020. Prior to this, he was the Scientific Director / Dean of Athens Information Technology (AIT), a research and graduate education institute that is located in Athens, Greece, which he had joined in 2006. At AIT he was also the Head of the Broadband Wireless and Sensor Networks (B-WiSE) Research Group and Academic Director of its PhD Program, which ran in cooperation with Aalborg University in Denmark, where he holds an Adjunct Professorship since 2015. He also holds an Adjunct Professorship at the University of Cyprus since 2019. He received the Diploma of Electrical Engineering from the National Technical University of Athens (NTUA) in 1991 and the Doctorate degree in Signal Processing (highest honors) from the Ecole Nationale Supérieure des Télécommunications (ENST), Paris, France, in 1995. He was a researcher at Institut Eurécom (1992-1995), Stanford University (1995-1997) and Bell Labs (as Member of Technical Staff from 1997-2001 and as Technical Manager from 2001-2006). He was also Adjunct Professor at Columbia University (2004-

2005) and Carnegie Mellon University (2006-2011). His research interests span several areas of advanced communication systems, with emphasis on wireless, cognitive, green and next generation networks. He has published over 200 papers, one research monograph, three edited books, 12 book chapters, and has received 9000 citations for his work with an h-index of 43. He has also made standards contributions (most notably as the co-inventor of the Space-Time Spreading (STS) technique that was adopted by the cdma2000 wireless standard for voice transmission) and holds 12 patents. He was a member of the steering board of the Wireless World Research Forum (WWRF) from 2002-2006, a member and industrial liaison of the IEEE's Signal Processing for Communications Technical Committee from 2003-2008, a National Representative of Greece to the European Research Council's IDEAS program from 2007-2008 and a Distinguished Lecturer of the IEEE Communications Society from 2012-2013. He was a member of the IEEE Communications Society's Fellow Evaluation and Awards Committees. He has served as Associate Editor for the IEEE Transactions on Signal Processing, the IEEE Transactions on Wireless Communications and the Journal of Communications and Networks. He was the Technical Coordinator of several European Commission research projects such as: CROWN, in the area of cognitive radio; HIATUS in the area of interference alignment; HARP, in the area of cloud radio; and ADEL, in the area of licensed shared access. His distinctions include the Bell Labs President's Award (2002); a Bell Labs Teamwork Award (2003); the IEEE Signal Processing Society's Young Author Best Paper Award (2003); ESI's "most cited paper of the decade" citation in the area of wireless networks (2006); two IEEE conference paper awards; and his recognition as a "Highly Cited Greek Scientist" (2011, 2017). Dr. Papadias is a Member of the Technical Chamber of Greece, an IEEE Fellow and a Fellow of the European Alliance of Innovation.

RESEARCH & TEACHING EXPERIENCE

- Summer 1989 Practical Training at the Public Power Corporation of Greece during 3 months.
- Summer 1990 Practical Training at the Electricité de France, les Renardières, during one month.
- Sept. '90- June '91 Diploma Thesis. Worked at the Signal Processing Laboratory of the National Technical University of Athens.
- Oct. '91 - July '92 PhD student at E.N.S.T. Took graduate courses in signal processing and telecommunications and began research in adaptive filtering algorithms for communications applications.
- Sept. '92 - March '95 Research Assistant, Eurécom Institute.
- Worked for his PhD thesis under the supervision of professor D. Slock and conducted research in the field of blind equalization for digital transmission systems. Proposed several new techniques and algorithms that increase the performance characteristics of existing schemes, as well as novel approaches to the problem.
- Spring '93 Teaching Assistant, to professor D. Slock and professor P. Humblet, Eurécom. Courses: Signal Processing, Telecommunications. Was responsible for giving lectures, exercises and laboratory assignment as well as for the preparation and correction of homeworks.
- Spring '94 Teaching Assistant, to professor D. Slock. Course: Signal Processing.
- Sept. '94- March '95 Teaching Assistant, to professor P. Humblet, Eurecom. Supervised master-thesis projects.
- April '95 - Sept. '97 Post-doctoral researcher, Stanford University. Joined the Information Systems Laboratory as a member of the Smart Antennas Research Group, headed by professor A. Paulraj. Conducted research on array signal processing, with focus on blind algorithms for space-time signal processing. Supervised graduate students in the group. Was involved with several research programs related to applications of smart antennas signal processing to wireless communications systems. He was also involved with the organization of the annual Workshop on Smart Antennas in Wireless Mobile Communications which is held every summer in Stanford University. He also taught short courses on smart antennas.
- October '97 - July 2001 Member of Technical Staff, Bell Laboratories, Lucent Technologies. Joined the Wireless Communications Systems Research Department of Bell Laboratories,

headed by Dr. Reinaldo Valenzuela. Participated in several research projects focused on the study and design of transceivers for wireless communication systems, with an emphasis on signal processing techniques for multiple transmit/ multiple receive systems.

- July 2001 – Feb. 2006 Technical Manager, Global Wireless Systems Research, Bell Labs, Lucent Technologies (currently on leave). He lead an international team of researchers (both in the USA and in the UK), with the goal of inventing and contributing to the design of future (fourth generation and beyond) wireless air interfaces. The team focuses on the invention and study of innovative transmission solutions for next generation wireless networks, ranging from physical layer to scheduling to system-level optimization techniques. We kicked off and participated in several EU and DARPA projects and conducted award-winning research that has found its way in several papers, patents and standards contributions. The team belongs to Lucent's Broadband and Wireless Access Research Center, which is part of Bell Laboratories' core research organization.
- Sept. 2004- Dec. 2006 Adjunct Associate Professor, Columbia University. Taught graduate courses on space-time wireless systems.
- March 2006 – May 2007: Associate Professor, AIT
- May 2006 – May 2007: Adjunct Associate Professor, INI, Carnegie Mellon
- Jan. 2006 – 2008: Greece's National Representative (Expert) in FP7 Program "IDEAS"
- May 2007 – Sept. 2011 : Adjunct Professor, INI, Carnegie Mellon
- June 2007 - present: Professor, AIT
- Jan. 2008 – present: Academic Director, AIT's PhD Program in conjunction with Aalborg University
- April 2013 – present: Head, AIT's Broadband Wireless & Sensor Networks Research Group
- March 2014 – Jan. 2020: Dean, AIT
- Oct. 2015 – present: Adjunct Professor, Aalborg University
- Oct. 2019 – present: Adjunct Professor, University of Cyprus
- Feb. 2020 – present: Affiliated Professor, Alba
- Feb. 2020 – present: Professor, Information Technology, Deree
- Feb. 2020 – present: Executive Director, RTIN, The American College of Greece

RESEARCH INTERESTS

- Communication systems and networks: energy and spectrally efficient wireless systems and networks, transceiver design, multi-antenna & MIMO techniques, low-complexity antenna design, sensor, ad-hoc & relay networking, spatial & spectrum sensing, cognitive radio, cloud radio, scheduling and cross-layer techniques, capacity analysis of wireless links and networks, converged wireless / optical networks, satellite communications, etc.
- Signal processing: adaptive algorithms for communication transmission and reception, beam forming / space-time coding / multi-dimensional signal processing for multi-user wireless networks, subspace techniques for direction finding, multi-dimensional sensing techniques, mixed analog-digital signal design for hybrid active / passive antenna arrays, unsupervised learning / blind identification of linear systems / channels with applications that range from wireless spatial multiplexing to optical communications, biomedical signal processing, etc.
- Technology applications: energy-efficient / smart wireless devices (antennas, terminals, radio heads, access points, base stations) and next-generation (5G / green / cognitive) networks, sensor networks, spectrum sharing, structural monitoring, smart grids / cities, assisted-living devices and environments, etc.

SOCIETIES / COMMITTEES

- 1988: IEEE Student Member
- 1991: Member of the Technical Chamber of Greece
- 1996: IEEE Member
- 2002-2008: Member of the "Signal Processing for Communications" Technical Committee of the IEEE Signal Processing Society and serves as the Committee's Industrial Liaison.
- 2002-2006: Member of the Steering Board of the Wireless World Research Forum (WWRF), representing Bell Labs / Lucent Technologies. Served as the board's R&D issue manager
- 2003: IEEE Senior Member
- 2010: Member of the IEEE ComSoc Technical Committee on Power Line Communications
- 2013: Member, IEEE Communications Society Fellow Committee
- 2013: Member, IEEE Communications Society Awards Committee
- 2013: IEEE Fellow
- 2016: Member of the IEEE Communication Theory Technical Committee
- 2019: Fellow of the European Alliance of Innovation

HONORS

- 1990: Award for top-tier under-graduate records by the National Bursaries Foundation of Greece.
- 1991: Award for graduate studies abroad from the Eugenides Foundation (Greece).
- 1995: Highest distinction for his PhD thesis from his oral examination committee (composed by professors C. Gueguen, A. G. Constantinides, J. LeRoux, P. Duhamel, D. Slock and S. Marcos) and special mention of excellent teaching abilities.
- 2002: Promoted to Technical Manager, Wireless Research Lab, Lucent Technologies. (he is the youngest member of Bell Labs Wireless Research Lab's management team).
- 2002,2003: Cited in Marquis Who's Who in America
- 2003: Co-recipient of the **Bell Labs President's Gold award** for his contributions to the Bell labs LAYered Space-Time (BLAST) project ("signal processing algorithms").
- 2004: Recipient of the **IEEE Signal Processing Society's Young Author Best Paper Award** (2003).
- 2004: Co-recipient of the **Central Bell Labs Teamwork Award** (for founding and contributing to the FP5 project FITNESS)
- 2005: Cited in Marquis Who's Who in the World
- 2006: Appointed as **Greece's National Representative** at the European Research Council.
- 2008: Appointed **Director of AIT's PhD Program**, which runs jointly with Aalborg University
- 2009: Appointed Technical Coordinator of FP7 FET Project CROWN
- 2011: Appointed Technical Coordinator of FP7 FET Project HIATUS
- 2012: Appointed Technical Coordinator of FP7 Project HARP
- 2013: Appointed Technical Coordinator of FP7 Project ADEL
- 2011: Was listed as **Highly Cited Greek Scientist**
- 2012: **Distinguished Lecturer**, IEEE Communications Society
- 2013: Appointed **Head of AIT's Broadband Wireless & Sensor Networks Research Group**
- 2013: Elevated to the grade of **IEEE Fellow**
- 2013: Represented Greece in the 2013 EU-US Frontiers of Engineering Symposium
- 2014: Appointed **Dean / Scientific Director of AIT**
- 2015: Appointed **Adjunct Professor at Aalborg University**
- 2019: Appointed **Fellow of the European Alliance of Innovation (EAI)**
- 2019: Short-listed for the **Bell Labs Prize Award**

EDITORIAL WORK / PAPER REVIEWING

- 2002-2005: Associate Editor, IEEE Transactions on Signal Processing
- 2003: Guest Editor, EURASIP Journal on Applied Signal Processing, Special issue on MIMO Communications and Signal Processing (appeared May 2004). Co-editors: S. Barbarossa, V. Poor, X. Wang.
- Paper reviewing: IEEE Transactions on Signal Processing, IEEE Signal Processing Magazine, IEEE Signal Processing Letters, IEEE Transactions on Wireless Communications, Signal Processing Elsevier, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, the International Journal of Adaptive Control and Signal Processing, and several other international conferences and journals.
- Member of Technical Program Committee in several technical conferences (ICASSP, SPAWC, Globecom, ICC, PIMRC, etc.)

BOOKS

- Editor, *Space-Time Wireless Systems: From Array Processing to MIMO Communications* (co-edited with H. Bolcksei, D. Gesbert, and A. van der Veen), by Cambridge Press, June 2006, ISBN 052185105X.
- Author, *MIMO Communication for Cellular Networks*, (co-authored with H. Huang and V. Venkatesan), by Springer, Nov. 2011, ISBN 978-0-387-77521-0
- Editor, *Parasitic Antenna Arrays for Wireless MIMO Systems*, (co-edited with A. Kalis and A. Kanatas), Springer, 2013, ISBN 978-1-4614-7998-7.
- Editor, *Spectrum Sharing: The Next Frontier in Wireless Networks*, (co-edited with T. Ratnarajah and D. Slock), Wiley-IEEE Press, ISBN 978-1-119-55151-5, April 2020, ISBN 978-1-119-55151-5.

TEACHING

- Athens Information Technology, "Telecommunication Systems," MSITT program.
- Carnegie Mellon University & Athens Information Technology, "Wireless Communications," MSIN program.
- Athens Information Technology, "Wireless Communications," MSITT program,
- Carnegie Mellon University & Athens Information Technology, "Digital Communications & Signal Processing System Design," MSIN program.
- Carnegie Mellon University and Athens Information Technology, "Digital Communications," MSIN program.
- Carnegie Mellon University and Athens Information Technology, "Special Topics in Communications & Networking," MSIN program, Fall Semester 2007.
- Columbia University, Class ELEN6880, (topics in signal processing), "Space-Time Coding and Signal Processing for Wireless Communications," fall semester, 2004 and fall semester, 2005.

SHORT COURSES

- "Multiple antenna techniques for wireless systems," short course taught at Aalborg University, Aalborg, Denmark, Dec. 16-17, 2006, as well as Dec. 2008
- "MIMO Systems for Efficient Wireless Communications: Basic Theory & Recent Trends," short course taught at Imperial College, London, UK, June 9-10, 2011.

PHD THESES SUPERVISED

- Osama Alrabadi, "MIMO Transceiver Techniques and Channel Modeling for Single Feed and Compact Arrays," defended successfully and awarded by Aalborg University on Jan. 28, 2011.
- Elpiniki Tsakalaki, "Smart Antenna-Enabled Transceiver Techniques for Cognitive and MIMO Multi-User Communication," defended successfully and awarded by Aalborg University on Sept. 7, 2012.
- Bo Han, "Transceiver Techniques for Low Complexity Wireless Communication Systems", defended successfully and awarded by Aalborg University on Jan. 10, 2014.
- Ghafoor Shah, "Advanced Signal Processing Techniques for Wearable Smart Stethoscopes," defended successfully and awarded by Aalborg University on Dec. 18, 2015.
- Konstantinos Ntougias, "Cross-layer design and optimization for efficient LSA communication with QoS guarantees," graduation expected in 2019.
- Muhammad Haroon Tariq, "Adaptive mobile backhauling for portable access points," graduation expected in 2022.
- Nithin Babhu, "Dynamic Frequency Planning And Spectrum Management For Portable Access Points in a Wireless Network," graduation expected in 2022.

External PhD THESIS COMMITTEE PARTICIPATION

1. Luc Deneire, Ecole Nationale Supérieure des Telecommunications (ENST). I served as examiner in this thesis. Thesis entitled: "Estimation aveugle de canal et accès multiple par répartition spatiale," presented successfully, Eurécom Institute, Dec. 21, 1998.
2. Jonathan Ling, Stevens Institute of Technology. Thesis entitled "Channel prediction for Downlink Packet Data Systems," presented successfully, Nov. 19, 2007.
3. José Lopez-Salcedo, University of Catalonia (UPC). Thesis entitled "Coherent and Non-Coherent Ultra-Wideband Communications," presented successfully, March 28, 2007.
4. Nizar Zorba Barah, Polytechnic University of Catalonia (UPC). Thesis entitled "Multibeam opportunistic downlink beamforming in wireless communication systems," presented successfully, Dec. 10, 2007.
5. Marios Kountouris, Ecole Nationale Supérieure des Telecommunications (ENST). I served as "Rapporteur" in this thesis. Thesis entitled: "Multiuser Multi-antenna Systems with Limited Feedback," presented successfully, Eurecom Institute, Jan. 10, 2008.
6. Steredenn Daumont, Université de Rennes 1. I served as "Rapporteur" in this thesis. Thesis entitled: "Techniques de démodulation aveugle en interception de signaux MIMO," presented successfully, Supélec, Rennes, Dec. 4, 2009.
7. Bassem Zayen, Ecole Nationale Supérieure des Telecommunications (ENST). I served as "Rapporteur" in this thesis. Thesis entitled: "Spectrum Sensing and Resource Allocation Strategies for Cognitive Radio," presented successfully, Eurecom Institute, Nov. 19, 2010.
8. Mustapha Amara, Ecole Nationale Supérieure des Télécommunications (ENST). I served as "Rapporteur" in this thesis. Thesis entitled: "Linear Precoding for Capacity maximization in MU-MIMO BC Channels," presented successfully, Eurécom Institute, June 28, 2011.
9. Samir Mahamad Omar, Université Nice Sophia Antipolis. I served as "Rapporteur" in this thesis. Thesis entitled: "Deterministic and Bayesian Blind and Semi-blind Channel Identification for Wireless Communications," presented successfully, Eurécom Institute, Sept. 30, 2011.
10. Liang Li, Technical University of Darmstadt. I served as "Korreferent" and examiner of the thesis. Thesis entitled: "Transmit and Multiuser Diversity Techniques in Wireless Communications," presented successfully, TU Darmstadt, Germany, Feb. 7, 2012.
11. Benjamín Béjar Haro, Universidad Politécnica de Madrid (UPM). I served as External Examiner of the thesis. Thesis entitled: "Distributed collaborative processing in wireless sensor networks with application to target localization and beamforming," presented successfully at UPM. Madrid, in Sept. 2012.

12. Pekka Jänis, Aalto University, Finland. I served as External Examiner (Opponent) of the thesis. Thesis entitled: "Interference Management Techniques for Cellular Wireless Communication Systems," presented successfully, July 5, 2013.
13. Miguel Ángel Vázquez, Polytechnic University of Catalonia (UPC). Thesis entitled "Beamforming Design and Power Control for Spectrum Sharing Systems," presented successfully, Jan. 24, 2014.
14. Mohsen Rezaee Kheirabadi, Technischen Universität Wien "Interference Management Techniques with Imperfect Channel State Information at the Transmitter," presented successfully, May 19, 2014.
15. Miltiades Filippou, Telecom Paris Tech, "Performance and Coordination in Multi-Antenna Cognitive Radio Networks," presented successfully, Eurecom, France, July 11, 2014.
16. Konstantinos Manolakis, Technischen Universität Berlin, "Impairments in Coordinated Cellular Networks: Analysis, Impact on Performance and Mitigation," presented successfully, Nov. 10, 2014.
17. Yohan Lejosne, Telecom Paris Tech, "Multi-Cell Multi-User MIMO Aspects: Delay, Transceiver Design, User Selection and Topology," presented successfully, Dec. 19, 2014.
18. Dobroslav Tsonev, The University of Edinburgh, "High Speed Energy Efficient Incoherent Optical Wireless Communications," presented successfully, March 12, 2015.
19. Oscar D. R. Cantor, Technical University of Darmstadt. I served as "Korreferent" and examiner of the thesis. Thesis entitled: "Cooperative Resource Allocation in Wireless Communication Networks," presented successfully, TU Darmstadt, Germany, July 18, 2017.
20. Kalyana Gopala, Sorbonne Université. I served as Reviewer (Rapporteur) and Examiner. Thesis entitled: "Multiple Antenna Communications for 5G," presented successfully, Eurecom, France, Dec. 8, 2018.
21. Juan Carlos Bucheli Garcia, Institut Polytechnique de Paris, I served as Reviewer (Rapporteur) and Examiner. Thesis entitled "Electromagnetic aspects of ESPAR and digitally controllable scatterers with a look at low-complexity algorithm design," presented successfully, Telecom Paris, France, Feb. 6, 2020.

Prof. Papadias has also supervised over 14 Masters theses at AIT since 2006.

CONFERENCE ORGANIZATION

- Chairman, 10th WWRF meeting, New York, NY, Oct. 27-28, 2003.
- Has contributed to the organization of several other conferences and workshops (such as the 2006 Crowncom conference on cognitive radio; the PIMRC 2007 conference the ICASSP 2007 (serving as Industrial Co-Chair); the special session on Cognitive Radio Techniques (SS3) at PIMRC 2010, ISABEL 2009-2011 (as Member of its International Scientific Committee), etc.
- Organizer & Chairman, AIT's 1st Research Forum, Nov. 25-26, 2010.
- Co-Organizer & Co-Chairman, AIT's 1st International Workshop on Compact Antennas COMPASS 2011, Athens, Greece, March 1, 2011.
- Co-Organizer & Co-Chair of ICC 2013 Workshop entitled "Beyond LTE-A," 2013 IEEE International Conference on Communications (ICC'13), to take place in Budapest, Hungary, June 9-13, 2013.
- Workshops Co-Chair, 2014 IEEE Global Communications Conference, which took place in Austin, Texas, USA, Dec. 8-12, 2014.
- General Co-Chair, IEEE Communication Theory Workshop, which was held in Nafplion, Greece, May 16-18, 2016.
- Workshops Co-Chair, 2017 IEEE Conference on Communications (ICC), Paris, France, May 21-25, 2017.
- General Co-Chair, The 19th IEEE International Workshop on Signal Processing Advances in Communications (SPAWC 2018), held in Kalamata, Greece, June 25-28, 2018.

Prof. Papadias was also the organizer and host of AIT's "Wireless Coffee Seminar," a seminar series in the area of wireless systems which was taking place in Athens 3-4 times a year, aiming at bringing together local researchers & esteemed visitors that are active in the field.

TUTORIALS

- [T1] C. Papadias and A. Lozano, "An Overview of MIMO Systems for Wireless Communications," tutorial given at the 2005 ICASSP Conference, Philadelphia, USA, March 2004.
- [T2] H. Huang and C. Papadias, "MIMO techniques for Wireless Systems," tutorial to be given at the 2006 IEEE Sarnoff Symposium, Princeton University, March 27-28, Princeton, NJ, USA.
- [T3] A. Lozano and C. Papadias, "MIMO Systems for Wireless Communications," tutorial given at the 2006 IEEE International Conference on Communications (ICC '2006), Istanbul, Turkey, June 11-15, 2006. Will soon be offered on-line by the IEEE ComSoc Society.
- [T4] H. Huang and C. Papadias, "System-level MIMO: Theory and Applications," tutorial given at the 2006 IEEE Globecom Conference, San Francisco, Nov. 27 – Dec. 1, 2006.
- [T5] C. B. Papadias and O. Alrabadi, Beam-space MIMO: From classical arrays to miniaturized parasitic realizations, tutorial given at the 2009 Wireless VITAE Conference, Aalborg, Denmark, May 17, 2009.
- [T6] C. B. Papadias, O. Alrabadi and A. Kalis, "Antenna Arrays with Parasitic Elements: a Technology for Compact MIMO Systems," tutorial given at the 2nd International Symposium on Applied Sciences in Biomedical and Communication Technologies Bratislava, Slovak Republic, Nov. 24, 2009.
- [T7] C. B. Papadias, "Compact Antenna Systems," tutorial given at the 3rd International Symposium on Applied Sciences in Biomedical and Communication Technologies, Rome, Italy, Nov. 7, 2010.

STANDARDS CONTRIBUTIONS

He was a co-inventor of the "Space-Time Spreading (STS)" transmit diversity scheme that was adopted by the cdma-2000 3rd generation cellular standard as an optional transmit diversity mode for voice communication (contribution 3GPP2-C30-19990817-014, accepted Sept. 1999).

INTERNATIONAL / NATIONAL PROJECTS & RESEARCH FUND RAISING

He was the main initiator of the **FITNESS** project (Fourth-generation Intelligent Transparent Networks Enhanced through Space-time Systems), which was funded by the European Commission's Information Society Technologies (IST) Programme (under FP5) for the period 2001-2003. He oversaw the project's technical management. He co-ordinated a Network of Excellence on Smart Antennas (SANE) proposal, which obtained funding by the IST 6th Framework Programme (FP6), under the **ACE** consortium. He oversaw Bell Labs' participation in **WINNER**, an FP6 integrated project aiming at the design of a next generation wireless air interface, as well as the targeted research FP6 project **OBAN**. He is also the main initiator of the recently accepted IST FP6 project **MEMBRANE** (Multi-Element Multihop Backhaul Reconfigurable Antenna Network), which focuses on wireless reconfigurable multi-hop MIMO backhaul networks. Through members of his team he participated in the DARPA-funded project **MnM** (Multi-node MIMO) and under Bell Labs, in various other research projects, including an ongoing scientific and technological cooperation (PENED) project with the University of Athens (as "project leader abroad"). He also participated as a contributor in the FP6 project **RESOLUTION**. He is the Technical Coordinator of two Future Emerging Technologies (FET) European Commission FP7 projects: **CROWN**, in the area of cognitive radio networks, and **HIATUS** in the area of interference alignment (FET Projects are considered quite prestigious, as they target blue sky research ideas). He is also the Technical Coordinator of the EU project **HARP**, in the area of radio remote heads, as well as of the EU project **ADEL**, in the area of licensed shared access for wireless networks. He participated in the EU Horizon2020 project **SANSA** in the area of satellite-assisted wireless backhauling and is currently the Technical Coordinator of the ITN Project **PAINLESS** on the topic of portable access points and of the CHIST-ERA Project **FIREMAN** on the topic of predictive maintenance for the Industry 4.0. He recently

joined the European Space Agency (ESA) project **SatNExIV**. On the industrial front, he currently runs a project on mmWave channel modelling sponsored by the **TIP Alliance**, an industrial project on base station antenna design by a major telecom manufacturer and was recently short-listed for a **Bell Labs Prize project** on the topic of liquid antenna arrays. His external research fund raising efforts have resulted in contracts of over €5M for the organizations that he has represented and about five-fold more (on the order of €25M) for the total received funds in the corresponding consortia.

CITATIONS

- Over **9500 citations** of his work by other researchers (according to Google Scholar)
- **h-index of 44** and **i10-index of 114** (Google Scholar)
- Highly cited Greek Scientist (<http://www.guide2research.com/scientists/GR>)
- His paper with A. Paulraj "Space-Time Processing for Wireless Communications", [J2] was recently recognized as "**the most highly cited paper in wireless networks**" over the last decade by Essential Science Indicators (ESI) and has by now collected **~1500 citations**.
- The paper "Is the PHY Layer Dead?" [J42] that he co-authored for the IEEE Communications Magazine made it in the **top 3 most downloaded documents of IEEE** in April 2011. The same paper was short-listed for the Ellersick Award of the IEEE Communications Society in 2013.

AWARDS

Was awarded the **IEEE Signal Processing Society's Young Author Best Paper Award**, (year: 2003, topic "Signal Processing for Communications") for paper [J8]. He received two Bell Labs awards: the **Bell Labs President's Award** and the **Central Bell Labs Teamwork Award**. He was also the co-author of two papers ([C104] and [C109]) awarded with **Best Student Paper Awards at the IEEE International Conference on BioInformatics and BioEngineering** (in 2013 and 2014, respectively). His paper [J36] was **nominated for the IEEE Marconi paper award**. His paper [J42] was **nominated for the IEEE Fred W. Ellersick Prize**. He received the "**Best Booth Award**" at the EUCNC 2016 conference, for the demo booth of the EU project ADEL, of which he is the Technical Coordinator. Recently the paper [C129] was ranked as runner up for the best paper award at the FABULOUS 2019 conference.

INVITED LECTURES / CHAIRED SESSIONS / PANELS

Invited lectures

- [1] "Blind joint equalization of multiple synchronous mobile users using oversampling and/or multiple antennas," session WA1: Signal Processing and Communications, 28th Annual Asilomar Conference on Signals, Systems, and Computers, Nov. 2, 1994.
- [2] "Some recent methods and results for the blind equalization of linear communication channels, Information Systems Laboratory, Stanford University, Nov. 4, 1994.
- [3] "Multichannel blind identification and equalization," I3S-CNRS, Sophia Antipolis, France, Feb. 23, 1995.
- [4] "Some recent results on the blind linear equalization of polyphase channels," University of California at Berkeley, Department of Electrical Engineering and Computer Science, Jan. 24, 1997.
- [5] "Space-time signal processing for wireless communications: a survey," First Signal Processing Workshop on Signal Processing Advances in Wireless Communications (SPAWC'97), Paris, France, April 16, 1997.

- [6] "Blind separation of independent co-channel signals," 13th International Conference on Digital Signal Processing, Santorini, Greece, July 4, 1997.
- [7] "On the blind separability of multiple user signals in the presence of delay spread," 31st Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 2-5, 1997.
- [8] "Second-order-based blind equalization/ separation of i.i.d. signals," International Conference on Telecommunications (ICT-98), Chalkidiki, Greece, June 22-25, 1998.
- [9] "Adaptive multi-user detection for fading CDMA channels," 32nd Asilomar '98 Conference on Signals, Systems, and Computers, Pacific Grove, CA, USA, Nov. 1-4, 1998.
- [10] "Some recent research results on space-time signal processing for CDMA systems," invited talk at University of California at Berkeley, seminar series on communications, Oct. 29, 1998.
- [11] "Some recent research results on space-time signal processing for CDMA systems," invited talk at Stanford University, Oct. 30, 1998.
- [12] "Performance analysis of finite-length DFE receivers based on a polyphase representation," 32nd Asilomar '98 Conference on Signals, Systems, and Computers, Pacific Grove, CA, USA, Nov. 1-4, 1998.
- [13] "Kurtosis-based optimization criteria for blind source separation with applications to multi-user detection for CDMA systems," invited talk at Princeton University, ISS group seminar, Dec. 10, 1998.
- [14] "Kurtosis-based optimization criteria for blind source separation with applications to multi-user detection for CDMA systems," invited talk at Eurecom Institute, Sophia Antipolis, France, Dec. 21, 1998, weekly technical seminar.
- [15] "Recent advances in the blind deconvolution of linear channels," invited talk given at the Mathematics for Communications Research Department of Bell Laboratories, Murray Hill, NJ, Jan. 26, 1999.
- [16] "Space-time spreading for CDMA systems," invited talk at the 6th workshop on Smart Antennas in Wireless Mobile Communications, Stanford University, Stanford, CA, July 22-23, 1999.
- [17] "Space-Time Spreading: a transmit diversity scheme for cdma-2000," invited talk at the Wireless Circuits and Systems Research Department of Bell Laboratories, Swindon, UK, Oct. 19, 1999.
- [18] "BLAST receiver processing using very few (if any) training symbols," invited talk at 1st Bell Labs BLAST Workshop, Murray Hill, Feb. 2-3, 2000.
- [19] "Blind signal separation in narrow band BLAST systems," invited talk at CISS-2000 Conference, Princeton, NJ, March 15-17, 2000.
- [20] "Channel estimation for BLAST: fundamental limitations," invited talk at 1st BLAST Coffee Hour, Murray Hill, March 25, 2000.
- [21] "Smart antennas: a technology that can help boost the capacity of wireless communication systems," invited talk at the Dept. of Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece, April 5, 2000.
- [22] "Open-Loop Transmit Diversity Technique for Systems Employing Four Transmitter Antennas," invited talk in ICASSP-2001 conference, special session on space-time coding, Salt Lake city, May 7-11, 2001.
- [23] "An overview of some recent research studies in the area of multiple antenna communication systems", invited talk given at Stanford University, January 10, 2002.
- [24] "An overview of some recent research studies in the area of multiple antenna communication systems", invited talk given at Drexel University, March 14, 2003.
- [25] "An overview of some recent research studies in the area of multiple antenna wireless communication systems," invited seminar, Athens Information Technology, Athens, Greece, Sept. 1, 2003.

- [26] "An overview of some recent research activities in the area of multiple antennas wireless communication systems," invited seminar given at the Dept. of Informatics and Telecommunications, University of Athens, Sept. 5, 2003.
- [27] "FITNESS: Fourth-generation Intelligent Transparent Networks Enhanced through Space-time Systems (project summary)," invited presentation given at the "Globecom at Stanford symposium, organized by the Smart Antenna Research Group at Stanford University, Stanford, CA, Dec. 5, 2003.
- [28] "Some Recent EU-funded MIMO Research Activities," invited talk at the 2004 Workshop on Smart Antennas in Wireless Communications, Stanford University, Stanford, CA, July 29-30, 2004.
- [29] "Some recent advances in the area of space-time wireless communications," invited seminar, Athens Information Technology, Athens, Greece, Sept. 5, 2004.
- [30] "An overview of some recent research activities in the area of space-time wireless systems and their application to wireless networks," invited seminar given at CyLab, Carnegie Mellon University, Nov. 29, 2005.

Several more invited lectures since 2005, such as at the University of Athens, Supélec, TU Darmstadt, Imperial College London, University of Edinburgh, Stanford University, University of Cyprus, Aalborg University, Technical University of Madrid, University College London, among others.

Chaired sessions

- [1] 28th Annual Asilomar Conference on Signals, Systems, and Computers, Nov. 2, 1994. Chaired the poster session WA8a (equalization).
- [2] Third Workshop on Smart Antennas in Wireless Mobile Communications, Stanford University, July 26, 1996. Chaired the first oral presentation session.
- [3] 13th International Conference on Digital Signal Processing, Santorini, Greece, July 2-4, 1997. Organized and chaired the special session "Signal Processing Techniques for Wireless Communications".
- [4] Sixth Workshop on Smart Antennas in Wireless Mobile Communications, Stanford University, July 22, 1999. Chaired session IV.
- [5] 2000 Conference on Information Sciences and Systems (CISS-2000), March 15-17, 2000. Co-chaired and organized the session "Signal Processing for Wireless Communications I".
- [6] 2000 IEEE International Symposium on Information Theory (ISIT '2000)," Sorrento, Italy, June 25-30, 2000. Chaired the session "Signal Processing I".
- [7] 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-2001), chaired the session "Constant Modulus Algorithms."
- [8] 2003 International Conference on Communications (ICC 2003), chaired the session CT5 "Space-Time Coding and Unknown Channels."
- [9] 2003 Information Society Technologies (IST) Mobile Communications Summit, chaired session on MIMO techniques.
- [10] 2003 Globecom Conference (Globecom '03), chaired session WC-31, "Multiple Carrier & Antenna Systems II."
- [11] 2004 Globecom Conference (Globecom '04), chaired session on interference cancellation.
- [12] 2005 ICASSP Conference (ICASSP '05), chaired session on MIMO channel estimation.
- [13] 12th European Wireless Conference (EW2006), Athens, Greece, April 2-5, 2006: chaired session A5 on Smart Antennas, MIMO and Beamforming.
- [14] 15th IST Mobile Summit, Mykonos, Greece, June 4-8, 2006: chaired session "MIMO Systems I".
- [15] 4th IFIP Conference on Artificial Intelligence Applications & Innovations (AIAI 2007), Sept 19-21, 2007, chaired session "Applications of AI in Communications and Networks."

- [16] Co-organized and co-chaired the special session "Multiuser & Multi-cell MIMO Techniques" at the 18th Annual Symposium on Personal Indoor and Mobile Radio Communications (PIRMC 2007) was recently held in Athens, Greece (Athens Hilton, September, 3-7, 2007).
- [17] Chaired the session "MIMO I" at the 18th Annual Symposium on Personal Indoor and Mobile Radio Communications (PIRMC 2007) held in Athens, Greece, Sept. 3-7, 2007.
- [18] Chaired & co-organized the "Show and Tell" session of ICASSP 2008, which was held in Las Vegas, April 2, 2008.
- [19] Chaired the special session on Cognitive Radio Techniques (SS3) at PIMRC 2010, Sept. 27, 2010.
- [20] Co-chaired the special session "Smart Antenna Enabled Cognitive Radio Techniques: Results from the Cognitive Radio Oriented Wireless Networks (CROWN) project," at ISABEL 2011, Barcelona, Spain, Oct. 26-29, 2011.
- [21] Co-organized & chaired the special session "HIATUS: Taking IA from the Interference Channel to Wireless Networks: Recent Results from the HIATUS Project," at the 19th International Conference on Systems, Signals and Image Processing (IWSSIP 2012), Vienna, Austria, April 11-13, 2013.
- [22] Co-organized & chaired the 3rd technical session of the ICC 2013 Workshop entitled "Beyond LTE-A."

Several more sessions have been chaired since 2013 in various conferences such as the recent special session "*Hybrid Terrestrial Satellite Networking and Services*," in the 2016 ASMS / SPSC Conference and the upcoming special session in IEEE ICC 2017 on "*Satellite Communications: Challenges and Integration in the 5G ecosystem*."

PANELS

- [1] 2005 ICASSP Conference, Philadelphia, USA, March 18-23, 2005: participated in Panel entitled "when will the smart antennas be ready for the market"
- [2] 1st CROWNCOM Conference (CROWNCOM 2006), Mykonos, Greece, June 8-10, 2006: participated in Panel II: "Cognitive Radio Dynamic Spectrum Access: Enablers & Future Architectures".
- [3] International Symposium on Wireless Pervasive Computing, Santorini, Greece, May 7-9, 2008: organizer and participant in panel "Challenges and Solutions for future Wireless Pervasive Networking."
- [4] IEEE 2009 VTC Conference, participated in panel "Is the PHY Layer dead?" This panel gave rise to the paper [J42]
- [5] 4th International Symposium on Applied Sciences in Biomedical and Communication Technologies, organized & participated in panel "Cognitive Radio Networks: Challenges, Opportunities and the Role of the Spatial Dimension"

PUBLICATIONS

Appeared / accepted journal articles

- [J1] C. B. Papadias and D. T. M. Slock, "Normalized Sliding Window Constant Modulus and Decision-Directed Algorithms for Blind Equalization: a Link Between Blind Equalization and Classical Adaptive Filtering," IEEE Transactions on Signal Processing, vol. 45, No. 1, pp. 231-235, Jan. 1997.
- [J2] A. Paulraj and C. B. Papadias, "Space-Time Processing for Wireless Communications," IEEE Signal Processing Magazine, vol. 14, No. 6, pp. 49-83, Nov. 1997.

- [J3] M. C. Vanderveen, C. B. Papadias and A. Paulraj, "Joint Angle and Delay Estimation (JADE) for Multipath Signals Arriving at an Antenna Array," *IEEE Communications Letters*, vol. 1, No. 1, pp. 12-14, Jan. 1997.
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- [J14] C. B. Papadias and G. J. Foschini, "Capacity-Approaching Space-Time Codes for Systems Employing Four Transmitter Antennas," *IEEE Trans. on Information Theory*, vol. 49, No. 3, pp. 726-732, March 2003.
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- [J72] N. Babu, C. B. Papadias, and P. Popovski, "Energy-efficient 3D deployment of aerial access points in a UAV communication system," *IEEE Communication Letters*, doi: 10.1109/LCOMM.2020.3017559.
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Conference articles

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