

Panagiotis Tsakalides
www.ics.forth.gr/~tsakalid
www.spl.edu.gr

Executive Summary

[Panagiotis Tsakalides](#) (b. 1967) obtained the Diploma in Electrical Engineering from the Aristotle University of Thessaloniki, Greece, in 1990, having received scholarships from the State Scholarships Foundation of Greece (IKY) for academic excellence throughout his undergraduate studies. In August 1990, he moved to Los Angeles for graduate studies with scholarships from the Fulbright and Bodossakis Foundations. He received the M.Sc. degree in Computer Engineering and the PhD degree in Electrical Engineering from the University of Southern California (USC) in 1991 and 1995, respectively. From 1996 to 1999, he was a Research Assistant Professor with the Signal & Image Processing Institute at USC and he consulted for the US Navy and Air Force.

After almost 10 years in the US, he returned to Greece in the Department of Electrical Engineering, University of Patras, in 1999. In September 2002, he joined the Computer Science Department at the University of Crete as an Associate Professor and FORTH-ICS as a Researcher. In March 2010, he was promoted to a Professor. Currently, he is the Vice Rector for Finance, Research, and Infrastructures at the University of Crete and the Head of the Signal Processing Laboratory at FORTH-ICS.

His research interests lie in the field of statistical signal processing with emphasis in non-Gaussian estimation and detection theory, sparse representations, and applications in wireless sensor networks, remote sensing, audio, imaging, and multimedia systems. He has co-authored over 150 technical publications in these areas, including 35 papers in international peer-reviewed journals, 2 patents, 1 edited book, 5 book chapters, 120+ papers in international conferences, and 6 articles in specialized research review magazines. According to Google Scholar, he has more than 3800 citations, an h-index of 28, and an i10-index of 59.

Prof. Tsakalides has a strong commitment in inspiring young researchers, having supervised 7 PhD and 22 M.Sc. students, as well as 8 postdoctoral fellows. At FORTH-ICS, Prof. Tsakalides has been the founder and head of the [Signal Processing Laboratory](#) (SPL). SPL was established in 2011 as a natural consequence of a growing research and innovation activity that started in 2002. This group is one of the first internationally to have applied the novel ideas of sinusoidal modeling, multichannel coding, compressed sensing, and matrix completion to the fields of multimedia signal processing, wireless sensor networks, positioning, and remote sensing. It is now a 20 people strong laboratory with a thriving presence in H2020 European projects.

During the last decade, Prof. Tsakalides has been committed in maintaining several active international collaborations with both academic and industrial partners across Europe, the US, and Asia. Most recent ones involve CEA/Saclay, France; the University of Agder, Norway; University of Valencia, Spain; SAGEM, France; TWS, Italy; Cidana, China; IMEC, Belgium; Planetek, Italy. In 2008, he was on an 8-month sabbatical leave at the Department of Electrical Engineering, USC, US, and he has had various 2-month stays at the University of Valencia (2009, 2011).

He has an extended experience of transferring research and interacting with the industry, which he first obtained in the 90s during his involvement in projects related to the Small Business Innovation Research and Technology Transfer (SBIR & STTR) programs of the US Government. Prof. Tsakalides has been the project coordinator or co-PI in 7 European Commission and 9 national projects totaling more than 4.2 M€ in actual funding for the University of Crete and FORTH-ICS. Recently, he was the coordinator of the 1.3 M€ FP7 MC-IAPP "[CS-ORION](#)" project (2010-2014) conducting research on compressed sensing for remote imaging in aerial and terrestrial surveillance and of the 1 M€ H2020 COMPET project "[PHySIS](#)" conducting research on sparse signal processing technologies for hyperspectral systems. CS-ORION was tagged as a success story by the European Commission.

Prof. Tsakalides possesses an extensive and successful administrative experience. In March 2017, he was appointed the Vice Rector for Finance, Research, and Infrastructures at the University of Crete. He served two two-year terms as the Chairman of the Department of Computer Science at the University of Crete. During his first term in 2004-06, he successfully saw the Department grow from 18 faculty members to 23. In his second term, his efforts have been focusing on promoting the extrovert character of the Department via collaborations with the industry, the organization of open days for students and the society, and the formation of the CSD alumni association. From 2010 to 2017, he served as the Chairman of the Technical Council of the University of Crete. During these years, the council played an instrumental role in overseeing and facilitating the conclusion of a major construction phase in the University campuses of Heraklion and Rethymnon. Most notably, in 2013 the new buildings of the Mathematics and CS Departments were completed. As a result, the School of Sciences is now located in a single modern campus. At FORTH, P. Tsakalides was a member of the Scientific Council of ICS between 2010-16, contributing to the research and development strategic planning of the Institute.

PERSONAL COORDINATES

Place of birth Serres, Greece
Date of birth December 15, 1967
Marital Status Married to [Yiota Poirazi](#),
father of Christos, Andreas, and Melina-Polytimi.

Work Address Department of Computer Science Institute of Computer Science (ICS)
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URL: <http://www.csd.uoc.gr> URL: <http://www.ics.forth/~tsakalid>

EDUCATION

1990 - 1995 **University of Southern California, Los Angeles, California, USA**

- Ph.D., Department of Electrical Engineering, December 1995
Thesis: *Array signal processing with alpha-stable distributions – C. L. (Max) Nikias advisor*
- M.Sc., Computer Engineering, Department of Electrical Engineering, December 1991

1985 - 1990 **Aristotelian University of Thessaloniki, Greece**

- Diploma, Department of Electrical Engineering, June 1990
Thesis: *Digital filters for color image processing – I. Pitas advisor*

ACADEMIC & PROFESSIONAL CAREER

11/2002 – present **University of Crete, Department of Computer Science – Heraklion, Greece**

- 3/2010 – present: Professor
- 3/2017 – present: Vice Rector for Finance, Research, and Infrastructures
- 11/2002 - 2/2010: Associate Professor
- 9/2004 - 8/2006, 9/2014 – 8/2016: Department Chairman
- 9/2006 - 8/2008, 9/2010 – 8/2014, 9/2016 – present: Department Associate Chairman

09/2002 – present **Foundation for Research & Technology-Hellas, Institute of Computer Science (FORTH-ICS) – Crete, Greece**
Head, Signal Processing Laboratory (SPL)

01/2002 – 09/2002 **University of Thessalia – Volos, Greece**
Visiting Assistant Professor of Computer and Communications Engineering

09/2000 – 03/2002 **Greek Army – Athens, Xanthi, Greece**
18-months military service as a sergeant, Telecommunications Division

01/1999 – 12/2001 **University of Patras - Patras, Greece**
Visiting Assistant Professor of Electrical Engineering

01/1996 – 12/1998 **University of Southern California – Los Angeles, California, USA**
Research Assistant Professor of Electrical Engineering

09/1996 – 12/1998 **MultiSpec Corporation – Huntington Beach, California, USA**
Advanced Systems Engineer

09/1991 – 12/1995 **University of Southern California – Los Angeles, California, USA**
Graduate Research Assistant

RESEARCH FUNDING

Since 2003, P. Tsakalides has been the **project coordinator** or the **PI** for FORTH/UoC in 7 European Commission and 10 national projects totaling more than 4,5M€ in actual funding for FORTH-ICS and the University of Crete.

- 12/2017 – 05/2020 “*SMARTWATER2020: Smart Water Networks for Reducing Water Losses*” European Territorial Cooperation (ETC) Interreg V-A Programme GR-CY 2014-2020, total cost/funding: €907.000/€770.950, FORTH-ICS cost/funding: **€200.000**. PI for FORTH-ICS: P. Tsakalides, Project coordinator: M. Polycarpou (KIOS, University of Cyprus).
- 10/2015 – 09/2018 “*DEDALE: Data Learning on Manifolds and Future Challenges*,” European Commission, H2020 Framework Programme, H2020-FET-OPEN-2014, total cost/funding: €2.702.398, FORTH-ICS cost/funding: **€560.000**. PI for FORTH-ICS: P. Tsakalides, Project coordinator: J.L. Starck (CEA, France).
- 03/2015 – 02/2017 “*PHYSIS: Sparse Signal Processing Technologies for HyperSpectral Imaging Systems*,” European Commission, H2020 Framework Programme, H2020-LEIT-Space-Competitiveness of the European Space Sector-2014, Topic: COMPET-06-2014 Bottom-up space technologies at low TRL total funding: €1.028.000, FORTH-ICS funding: **€240.000**.
- 07/2013 – 10/2015 “*SENSE: Audio-Visual Sensor Networks for Densely Sampling and Replaying Events*,” Greek Department of Education, total funding: €616,000, FORTH-ICS funding: **€180,000**. Project Coordinator: P. Tsakalides, PI: A. Mouchtaris.
- 04/2012 – 10/2015 “*MusiNet: Comprehensive Design and Implementation of a Networked Music Performance System*,” Greek Department of Education, Thales action, total funding: €600,000, UoC funding: **€150,000**. Project Coordinator: P. Tsakalides, PI: A. Mouchtaris.
- 10/2011 – 12/2014 “*HYDROBIONETS: Autonomous Control of Large-scale Water Treatment Plants based on Self-Organized Wireless BioMEM Sensor and Actuator Networks*,” European Commission, FP7 STREP ICT project #287613, total cost/funding: €3,178,914/€2,350,000, FORTH-ICS cost/funding: **€637,518/€478,513**, PI for FORTH-ICS: P. Tsakalides, Project coordinator: B. Beferull-Lozano (UVEG, Spain).
- 09/2010 – 08/2014 “*CS-ORION: Compressed Sensing for Remote Imaging in Aerial and Terrestrial Surveillance*,” European Commission, 7th Framework Programme, Marie Curie Industry-Academia Partnerships and Pathways (IAPP) Grant, total funding: €1,292,270, FORTH-ICS funding: **€600,000**. Project coordinator: P. Tsakalides, collaborators: JL Starck (CEA/Saclay, France), M. Bousquet (SAGEM Defense Securite, France), and D. Tsigos (V-Trip, Greece).
- 05/2011 – 11/2013 “*APLOE: Applied Physical Layer Orthogonal Frequency Division Multiplexing Encryption*,” European Commission, 7th Framework Programme, Marie Curie International Outgoing Fellowships (IOF) Grant, **€245,448**. Project coordinator: P. Tsakalides, Scientist: A. Chorti, co-PIs: V.H. Poor, A. Traganitis.
- 09/2006 – 08/2010 “*Collaborative Signal Processing for Efficient Wireless Sensor Networks*,” European Commission, 6th Framework Programme, Marie Curie Transfer of Knowledge (ToK-DEV), **€1,256,423**. Project coordinator: P. Tsakalides, collaborators: Baltasar Beferull-Lozano (University of Valencia, Spain) and C. Kyriakakis (University of Southern California, USA).
- 03/2006 – 02/2008 “*User-Centric Enhancement of Speech in Adverse Noise Conditions with Applications to Speech Communication Systems*,” Greek General Secretariat for Research and Technology (GSRT), **€60,000**. Project coordinator: P. Tsakalides, co-PIs: A. Mouchtaris (FORTH-ICS) and J. Van der Spiegel (University of Pennsylvania, USA).
- 10/2005 – 09/2008 “*Wireless Sensor Networks: Theory and Applications in Structural Health Monitoring*,” GSRT & Themeliodomi S.A., **€135,000**. Project coordinator: P. Tsakalides.
- 10/2005 – 09/2007 “*Multiresolution Algorithms for Spaceborne Synthetic Aperture Radar (SAR) Systems*,” GSRT & British Council, **€11,740**. Project coordinator: P. Tsakalides, co-PI: A. Achim (University of Bristol, UK).
- 03/2005 – 02/2007 “*Immersive Audio Rendering and Transmission Technologies*,” European Commission, 6th Framework Programme, **€80,000**. Project coordinator: P. Tsakalides, co-PI: A. Mouchtaris (FORTH-ICS).
- 03/2004 – 12/2007 “*Multichannel Audio Compression and Coding*,” Greek Department of Education, **€50,000**. Project coordinator: P. Tsakalides.

- 08/2003 – 08/2005 “Multicarrier Space-Time Coding for Multichannel Digital Audio Transmission,” GSRT, €60,000. Project coordinator: P. Tsakalides, co-PI: C. Kyriakakis (U. of Southern California, USA).
- 06/2004 – 05/2006 “3-D Audio Synthesis and Transmission through Wireless Networks for Teleconferencing and Telepresence Applications,” GSRT and FORTHnet S.A., €91,500. Project coordinator: P. Tsakalides.
- 06/2003 – 12/2004 “Development of a SAR Image Autofocusing Module for Environmental Monitoring with Remote Sensing,” GSRT, €44,000. Project coordinator: P. Tsakalides.

ADMINISTRATIVE EXPERIENCE

- 03/2017 – present Vice Rector for Finance, University of Crete
- 10/2010 – 02/2017 Chairman, Technical Council of the University of Crete
- 09/2004 – 08/2006 & 09/2014 – 08/2016 Chairman, Department of Computer Science, University of Crete
- 09/2006 – 08/2008 & 09/2010 – 08/2014 & 09/2016 – 02/2017 Associate Chairman, Department of Computer Science, University of Crete
- 10/2011 – present Head, Signal Processing Laboratory, FORTH-ICS
- 07/2010 – 08/2016 Member, Scientific Council of FORTH-ICS
- 05/2013 – 02/2017 Associate member, Board of Directors of ERCIM (the European Research Consortium for Informatics and Mathematics)
- 09/2004 – 08/2006 Member of the Senate, University of Crete
- 07/2003 – 10/2004 & 09/2008 – 08/2010 & 09/2012 – 08/2014 & 09/2016 – present Member, Graduate Studies Committee, Department of Computer Science, Univ. of Crete

TEACHING EXPERIENCE

Undergraduate courses

- Probability Theory* (Fall 2002-2012, 2014-17)
- Applied Random Processes* (Spring 2005-2012, Fall 2013, Spring 2016)
- Pattern Recognition* (Spring 2003-2004)
- Digital Communications* (Fall 2003)
- Signals and Systems* (Spring 2013, 2002, 2000)

Graduate courses

- Wireless Sensor Networks* (Spring 2015-16)
- Adaptive Signal Processing* (Spring 2004-2014, Spring 1999-2000, Fall 1997-1998)
- Array Signal Processing* (Spring 1997)
- Modern Spectral Analysis* (Spring 1996)
- Current Trends in Adaptive and Multisensor Signal Processing: Object Detection, Classification, Direction Finding, and Data Fusion* (short course, Summer 1998)

JUNIOR RESEARCHERS ADVISOR

Postdoctoral fellows

1. Athanasia Panousopoulou. ‘Networking and implementation aspects of WSNs for sensing and control of industrial plants’ 06/2013 – present.
2. Grigorios Tsagkatakis. ‘Sparse representations for resource constrained remote imaging systems’ 08/2011 – present.
3. Arsenia Chorti. ‘Applied physical layer orthogonal frequency division multiplexing encryption’ 05/2011 – 11/2013. Now a Lecturer at the University of Essex, UK.
4. Alexandros Friagkiadakis, ‘Intrusion detection for wireless networks using compressed sensing’ 10/2011 – 11/2012. Now with the Telecommunications and Networks Laboratory, FORTH-ICS, GR.

5. Vishwas Lakkundi. ‘Compressive sensing based ultra-wideband communication systems’ 02/2009 – 03/2011. Now a Sr. Staff Engineer/Technical Architect at Altiux Innovations, India.
6. Anthony Griffin. ‘Compressive sensing methods for multichannel audio acquisition, representation, and transmission’ 01/2007 – 02/2009. Now a Lecturer at Auckland University of Technology, NZ.
7. Toni Hirvonen. ‘Perceptual and modeling studies on spatial sound’ 10/2008 – 03/2010. Now a Staff Researcher at Dolby, Stockholm, Sweden.
8. Athanasios Mouchtaris. ‘Immersive audio rendering and transmission technologies’ 09/2004 – 06/2008. Now an Associate Professor at the University of Crete.

Doctoral students

1. Anastasia Aidini. “1-bit tensor completion,” Feb. 2017 – present.
2. Michalis Giannopoulos. “Tensor decompositions for signal processing multi-sensor applications,” Sept. 2016 – present.
3. Anastasia Pentari. “High resolution diffusion weighted magnetic resonance imaging based on sparsity,” Sept. 2016 – present.
4. Konstantina Fotiadou. “Remote sensing and hyperspectral imaging using sparsity models,” 10/2014 - present.
5. Sofia Nikitaki. “Location sensing via sparse and low rank signal models” 10/2009 - 06/2014. Now a Research Scientist at NEC Research Europe Ltd, Frankfurt, Germany.
6. George Tzagkarakis. “Bayesian compressed sensing using alpha-stable distributions” 01/2005 - 11/2009. Now a Researcher at EONOS Investment Technologies, Paris, France.
7. Kallirroe Flouri. “Distributed algorithms for support vector machine training in wireless sensor networks,” 09/2006 - 11/2009. Now an Analytics Solutions Engineer at Swiss Re, Zürich, Switzerland.

Master’s students

1. Antonis Tzougkarakis, “Distributed network management for smart water grids,” 9/2017 – present.
2. Manthos Stivaktakis. “Deep learning based astrophysical signal processing,” 2/2017 – present.
3. Maria Aspri. “Distributed computing architectures for streaming sensor analytics,” 2/2017 – present.
4. Areti Zervou. “Distributed motif discovery of human activity based on body sensor networks,” 2/2016 – present.
5. Irimi Troulinou. “Graph signal processing techniques for analyzing neuronal networks,” 9/2015 – present.
6. Katerina Karagiannaki. “Feature selection architectures for human activity recognition,” 09/2014 – 06/2017.
7. Sofia Savvaki. “Novel techniques for the estimation of multi-modal missing data in wireless sensor networks,” 09/2013 – 10/2016.
8. Kostas Karalas. “Multi-label land cover classification with remotely sensed data,” 02/2014 – 11/2015.
9. Konstantina Fotiadou. “Image super-resolution and low light image enhancement via sparse representations,” 03/2012 – 10/2014.
10. Pavlos Charalampidis. “Compressed sensing for image and video coding and transmission,” 09/2010 – 7/2013.
11. Dimitra Emmanouilidou. “Bayesian compressive sensing for magnetic resonance imaging,” 01/2009 – 11/2010.
12. Tanish Agrawal. “Compressed sensing for OFDM-based ultra wideband systems,” 09/2009 – 09/2010.
13. Aikaterini Gkirtzou. “Mature miRNA identification via the use of a naive Bayes classifier,” 09/2006 – 2/2009.
14. Christos Tzagkarakis. “Sinusoidal modeling for multichannel audio coding,” 09/2005 – 09/2007.
15. Hara Stefanou. “DNA microarray image enhancement in a multiresolution framework,” 09/2005 – 08/2007.
16. Kyriaki Karadimou. “Multichannel audio coding using the multiband source/filter model,” 09/2004 – 11/2005.

17. Anastasia Evangelatou. "DVB-RCT physical layer and implementation of the frame adaptation unit," 01/2004 – 03/2005.
18. George Tzagkarakis. "Content-based image retrieval via alpha-stable modeling of texture information," 01/2003 – 12/2004.
19. Alexia Briassouli. "DCT-domain watermark detection using alpha-stable models" 01/2000 – 09/2000.
20. Ioannis Dages. "Non-Linear Blind Equalization of Noisy Communication Channels" 02/2000 – 05/2001.
21. Filippo Trinci. "Constant False Alarm Rate (CFAR) Radar Detectors in Heavy-Tailed Clutter" 09/1997 – 12/1998.
22. Panagiotis Reveliotis. "Rate-Distortion Theory in the Alpha-Stable Framework" 09/1996 – 12/1997.
23. Raffaele Raspanti. "Space-Time Adaptive Processing for Airborne Radar in Impulsive Clutter Environments" 02/1996 – 12/1996.

Other students advising

1. Has supervised over 60 undergraduate diploma theses over the past 10 years at the University of Crete
2. Has been a member of the PhD examination committee of 20+ doctoral candidates since 2002

EXPERTISE AND GENERAL RESEARCH INTERESTS

1. Digital Signal Processing:
 - Compressed sensing, sparse representations, and applications
 - Alpha-stable processes and applications
 - SAR, radar, and sonar signal processing
 - Hyperspectral imaging systems
 - Biomedical image and signal processing
2. Information Theory/Multimedia Signal Processing:
 - Digital watermarking and data hiding techniques
 - Data quantization and coding
 - Wavelet-based denoising and coding
 - Multichannel audio processing
3. Telecommunication Systems:
 - Signal processing for wireless sensor networks
 - Array antennas
 - Non-linear methods for channel equalization

AWARDS/FELLOWSHIPS

February 2016	Best Paper Award for the paper "Non-negative Matrix Completion for the Enhancement of Snapshot Mosaic Multispectral Imagery," (G. Tsagkatakis, B. Geelen, and M. Jayapala co-authors) in <i>Proc. 2016 IS&T International Symposium on Electronic Imaging, Image Sensors and Imaging Systems</i> , San Francisco, CA, February 15-19, 2016.
October 2013	Best Paper Award for the paper "The secrecy capacity of block fading multiuser wireless networks," (A. Chorti, K. Papadaki, and H. V. Poor co-authors) in <i>Proc. International Conference on Advanced Technologies for Comm. (ATC '13)</i> , Hochiminh City, Vietnam.
October 2002	A. H. Reeve Best Paper Award by the Institute of Electrical Engineers (IEE) for the paper "Scalar quantisation of heavy-tailed signals," (P. Reveliotis, and C. L. Nikias co-authors) <i>IEE Proceedings – Vision, Image and Signal Processing</i> , vol. 147, no. 5, pp. 475-484, October 2000.
1990 - 1992	Fulbright Foundation scholarship for graduate studies in the US
1990 - 1993	Bodossakis Foundation scholarship for graduate studies in the US
1990 - 1991	Triantafyllou Foundation scholarship for graduate studies in the US
1985 - 1990	National Greek Fellowship for academic excellence throughout undergraduate studies
1985	National Greek Fellowship for ranking first in the University entry national exam for the Department of Electrical Engineering, University of Thessaloniki

PROFESSIONAL ACTIVITIES

- **Chair**, 4th International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater), in conjunction with CPS Week 2018, Porto, Portugal, April 10, 2018.
- **Expert Evaluator**, European Commission, H2020 Framework Programme, “H2020-WIDESPREAD-04-2017-TeamingPhase1.”
- **Publicity Chair**, 25th European Signal Processing Conference (EUSIPCO), Kos Island, Greece, August 28 - September 2, 2017.
- **Chair**, 3rd International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater), in conjunction with CPS Week 2017, Pittsburgh, USA, April 21, 2017.
- **Local Organizing Committee Member**, IEEE Conference on Imaging Systems and Techniques, Chania, Greece, October 2016.
- **Local Organizing Committee Member**, International Symposium on Statistical Challenges in 21st Century Cosmology (SCCC21), in conjunction with the Astronomical Data Analysis Summer School, Chania, Greece, May 22-27, 2016.
- **Chair**, 2nd International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater), in conjunction with Cyber-Physical Systems (CPS) Week 2016, Vienna, Austria, April 11, 2016.
- **TPC Co-Chair**, Workshop on Distributed and Cooperative Visual Representation and Analysis, in conjunction with the 2015 IEEE International Conference on Multimedia and Expo (ICME 2015), Torino, Italy, June 29 – July 3, 2015.
- **Chair**, 1st International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater), in conjunction with CPS Week 2015, Seattle, WA, USA, April 13, 2015.
- **Member, Technical Program Committee** European Signal Processing Conference (EUSIPCO) during the years 2008-14.
- **Member, Technical Program Committee**, International Conference on Digital Signal Processing (DSP) during the years 2009 and 2011.
- **Member, Technical Program Committee**, KES International Conference on Intelligent Interactive Multimedia Systems and Services (KES IIMSS) during the years 2008, 2014, 2015.
- **Special Session Organizer**, 18th International Conference on Digital Signal Processing (DSP 2013), Compressive Sensing and Matrix Completion: Theory, and Applications in Signal and Image Processing, Santorini, Greece, July 1-3, 2013.
- **Member of the Organizing and Program Committees**, 5th Astronomical Data Analysis (ADA V) Conference, Hersonissos, Crete, Greece, May 7-9, 2008.
- **Chairman of the Organizing and Program Committees**, 8th Biannual FORTH retreat, October 12-13, 2007.
- **Member of the Organizing and Program Committees, Session Chair** (Adaptive Signal Processing), 6th IEEE International Conference on Electronics, Circuits, and Systems, Paphos, Cyprus, September 1999.
- **Session Chair** (Signal Processing for Multimedia Communications), 10th Tyrrhenian Workshop on Digital Communications, Ischia, Italy, September 1998.
- **Tutorial Speaker**, Higher-Order Statistics Workshop, Banff, Canada, Title: “Alpha-Stable Distributions: A New Statistical Signal Processing Framework,” July 1997.
- **Member of the Selection Committee**, Fulbright Foundation, May 2000.
- **Associate Editor**, Journal of Circuits, Systems and Computers, 2001-2008.
- **Reviewer** for: the IEEE Trans. on Signal Processing, IEEE Trans. on Vehicular Technology, IEEE Signal Processing Letters, IEEE Communications Letters, IEE Proceedings on Radar, Sonar and Navigation, Signal Processing, Multidimensional Systems and Signal Processing, Journal of Circuits, Systems and Computers, International Journal of Adaptive Control and Signal Processing.
- **Member**, Institute of Electrical and Electronic Engineers (IEEE)
- **Member**, Technical Chamber of Greece (TEE)

INVITED LECTURES

1. “[Intelligent Signal Processing and Learning in Imaging](#),” presented to the Department of Electrical and Electronic Engineering, University of Bristol, United Kingdom, November 18, 2014.
2. “[Compressed Sensing and its Applications in Video Coding and Classification](#),” presented to Cidana Inc., Shanghai, China, April 5, 2012.
3. “[Compressed Sensing and its Applications in Positioning, Audio Coding, and Video Compression](#),” presented to the Inst. de Robótica y de Tecnologías de la Información & las Comunicaciones (IRTIC), Universidad de Valencia, Spain, July 28, 2011.

4. "[Bayesian Estimation, Classification, and Denoising Based on Alpha-Stable Statistical Modeling](#)" *5th Astronomical Data Analysis (ADA V) Conference, Hersonissos Crete*, May 8, 2008.
5. "Alpha-Stable Distributions: Theory & Applications," presented to the *Non-Linear Speech Processing Workshop, Heraklion, Crete, Greece*, October 20, 2005.
6. "[Sensing and Actuation: Merging the Physical and Virtual Worlds with Wireless Sensor Networks](#)," presented to the *Heraklion Soroptimist Chapter, Heraklion, Crete, Greece*, May 7, 2004.
7. "Modern Remote Sensing Techniques for Environmental Monitoring," presented to the Computer Science Department, *Agricultural University of Athens, Greece*, December 23, 2002.
8. "[Novel Bayesian Multiscale Methods for Speckle Removal in SAR Images](#)," presented to the Department of Cybernetics, *University of Reading, Reading, United Kingdom*, November 8, 2002.
9. "[Hidden Messages in Heavy-Tails: DCT-Domain Watermark Detection Using Alpha-Stable Models](#)," presented to the Statistics Department, *Athens University of Economics and Business, Greece*, November 22, 2000.
10. "Stable Processes and their Application in Communication, Radar, and Audio System Design," presented to the Department of Electrical and Computer Engineering, *University of California at Irvine, CA*, January 10, 2000.
11. "Deviating from the Gaussian Law: Alpha-Stable Processes and their Applications in Signal Processing," presented to the Department of Electrical and Computer Engineering, *University of Patras, Greece*, November 25, 1999.
12. "Alpha-Stable Processes and their Applications in Communication System Design," presented to the Department of Mathematics, *University of Thessaloniki, Greece*, November 9, 1999.
13. "Adaptive Space-Time Signal Processing for Telecommunication and Radar Systems," presented to the Department of Mathematics, *University of Ioannina, Greece*, September 30, 1999.
14. "Array Signal Processors for Mobile Communication Systems," presented to the Department of Computer Science, *University of Crete, Greece*, February 25, 1999.
15. "Alpha-Stable Distributions: A New Statistical Signal Processing Framework," plenary talk at the *Higher-Order Statistics Workshop, Banff, Canada*, July 22, 1997.
16. "Signal Processing with Alpha-Stable Distributions: Current and Future Trends," presented to the Department of Electrical Engineering, *Polytechnic University, Brooklyn, NY*, March 10, 1997.
17. "New Results in Non-Stationary Signal Processing," presented to the Department of Electrical and Computer Engineering, *University of Alberta, Edmonton, Canada*, March 7, 1997.
18. "Applications of Alpha-Stable Theory in Engineering: Space-Time Adaptive Processing in Severe Radar Clutter," presented to the Department of Statistics and Applied Mathematics, *University of California at Santa Barbara, CA*, December 3, 1996.
19. "Robust Methods for Submarine Communications with Alpha-Stable Distributions," presented at the *Workshop on New Techniques for Radio Communications and Wireless Networks, Naval Command, Control and Ocean Surveillance Center, RDT&E Division, San Diego, CA*, September 11, 1996.
20. "Advanced Signal Processing Methods for Radar Systems," presented at the *Litton Corporate Wide Wavelet Seminar, Litton Applied Technology, San Jose, CA*, July 10, 1996.
21. "Multidisciplinary Research on Advanced, High-Speed, Adaptive Signal Processing for Radar Sensors," presented at the *Space-Time Adaptive Processing University Initiative Workshop, Rome Laboratory, Rome, NY*, June 13, 1996.
22. "Applications of Lower-Order Statistics in Radar Array Signal Processing," presented to the Department of Electrical Engineering, *University of Virginia, Charlottesville, VA*, March 18, 1996.
23. "Array Signal Processing with Alpha-Stable Distributions," presented at the *Stable Time Series Workshop, University of California at Santa Barbara, CA*, December 3-4, 1995.
24. "Advanced Acoustic Signal Detection and Localization with Lower-Order Statistics," presented at the *130th Meeting of the Acoustical Society of America, St. Louis, MO*, November 30, 1995.
25. "Robust Statistical Signal Processing with Alpha-Stable Distributions and Fractional Lower-Order Moments," presented to the Department of Electrical Engineering, *University of Delaware, Newark, DE*, November 27, 1995.

PUBLICATIONS

[Google citation profile](#)
[Scopus citation overview](#)

A. PHD THESIS

1. **P. Tsakalides**, "[Array Signal Processing with Alpha-Stable Distributions](#)," University of Southern California, Los Angeles, California, December 1995.

B. BOOKS

1. "Smart Water Grids: A Cyber-Physical Systems Approach," **P. Tsakalides**, A. Panousopoulou, G. Tsagkatakis, and L. Montestruque Eds., CRC Press, to appear in March 2018.

C. BOOK CHAPTERS

1. G. Tzagkarakis, G. Tsagkatakis, A. Panousopoulou, D. Alonso, E. Celada, C. Asensio, **P. Tsakalides**, and B. B. Lozano, "[Signal and Data Processing Techniques for Industrial Cyber-Physical Systems](#)," in *Cyber Physical Systems: From Theory to Practice*, D.B. Rawat, J. Rodrigues, and I. Stojmenovic Eds., CRC Press, ISBN 9781482263329, 2015.
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