

**Panagiotis Tsakalides**  
[www.ics.forth.gr/~tsakalid](http://www.ics.forth.gr/~tsakalid)  
[www.spl.edu.gr](http://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. He served as the Associate Rector for Finance (03/2017-08/2019) and as the Rector of the University of Crete (09/2019-08/2020). Currently, he is the Head of the Signal Processing Laboratory and the Associate Director of FORTH-ICS.

His research interests lie in the field of statistical signal processing and machine learning 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 240 technical publications in these areas, including 61 papers in international peer-reviewed journals, 2 patents, 1 edited book, 6 book chapters, 167 papers in international conferences, and 7 articles in specialized research review magazines. According to Google Scholar, he has more than 6500 citations, an h-index of 36, and an i10-index of 101.

Prof. Tsakalides has a strong commitment in inspiring young researchers, having supervised 10 PhD and 27 MSc students, as well as 9 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.

Prof. Tsakalides is 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 9 European Commission and 13 national projects with a budget in excess of 15 M€ totaling more than 8 M€ in actual funding for the University of Crete and FORTH-ICS. He was the coordinator of the 1.3 M€ FP7 MC-IAPP "[CS-ORION](#)" project 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. He currently runs a 2.5 M€ Horizon Europe ERA Chair project titled "TITAN: Frugal Artificial Intelligence and Application in Astrophysics," to create a center of excellence in computational science, machine learning and statistics research for data-oriented Astronomy.

Prof. Tsakalides possesses an extensive and successful administrative experience. In March 2017, he was appointed the Vice Rector of Financial Planning, Infrastructure and Development at the University of Crete, overseeing a major investment for upgrading scientific instrumentation infrastructure and for improving the energy efficiency of campus buildings. From September 2019 to August 2020, he was the University Rector. He served two 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 focused 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)  
University of Crete Foundation for Research & Technology-Hellas (FORTH)  
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## 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
- 9/2019 – 9/2020: University Rector
- 3/2017 – 9/2019: Vice Rector of Financial Planning, Infrastructure and Development
- 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 – 2/2017: Department Associate Chairman

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

- Head, Signal Processing Laboratory (SPL)
- Associate Director, FORTH-ICS (06/2021 – present)

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 9 European Commission and 13 national projects with a budget in excess of 15.3 M€ totaling more than 8.3 M€ in actual funding for FORTH-ICS and the University of Crete.

- 01/2023 – 12/2027 “[TITAN: Frugal Artificial Intelligence and Application in Astrophysics](#),” European Commission, Horizon Europe, HORIZON-WIDERA-2022-TALENTS-01 (ERA Chairs), **€2,500,000**. Project coordinator: P. Tsakalides, ERA Chair: Jean-Luc Starck.
- 09/2024 – 08/2027 “[BrainCode: Brain-inspired Intelligence for Semantic Video Compression](#),” European Commission, Horizon Europe, Marie Skłodowska-Curie HORIZON-MSCA-2023-PF-01, **€279,227**. Project PI: E. Doutsis, Project coordinators: P. Tsakalides and I. Katsavounidis (Meta).
- 01/2020 – 12/2022 “[V<sup>4</sup>-ICARUS: On-line and Adaptive Mathematical Signal Processing and Learning for Uncovering the Big Data Universe](#),” Hellenic Foundation for Research and Innovation (HFRI-EΛΙΔΕΚ), Research Projects for the Support of Academic Staff, total FORTH-ICS cost/funding: **€170,000**. Project coordinator: P. Tsakalides.
- 05/2018 – 10/2022 “[FRESQO: Freshness Recording System for Fish Quality Observation](#),” Greek Operational Program for Fisheries and the Sea 2014-2020, total cost/funding: €478,024, FORTH-ICS cost/funding: **€130,137**. PI for FORTH-ICS: P. Tsakalides, Project coordinator: I. Ioannidis (Athina Research Center).
- 11/2019 – 07/2022 “[CALCHAS: Computational Intelligence for Multi-Source Remote Sensing Data Analytics](#),” European Commission, H2020, Marie Skłodowska-Curie MSCA-IF-GF, **€215,492**. Project PI: G. Tsagkatakis, Project coordinators: P. Tsakalides and M. Moghaddam (USC).
- 08/2018 – 12/2020 “[SPARSE-VIEW: Sparse Representations Theory and Techniques for Hyperspectral and Medical Imaging Systems](#),” Greek Operational Program for Human Resources Development, Education and Lifelong Learning, **€65,800**. Project coordinator: P. Tsakalides.
- 12/2017 – 10/2020 “[SMARTWATER2020: Smart Water Distribution Networks for Loss Reduction](#),” 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**. Project coordinator: P. Tsakalides.
- 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: J.L. 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

- 06/2021 – present Associate Director, FORTH-ICS
- 09/2019 – 09/2020 Rector, University of Crete
- 03/2017 – 09/2019 Vice Rector of Financial Planning, Infrastructure and Development, 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 – 08/2018 & 09/2020 – present Member, Graduate Studies Committee, Department of Computer Science, Univ. of Crete

## TEACHING EXPERIENCE

### Undergraduate courses

*Probability Theory* (Fall 2002-2012, 2014-2023)  
*Applied Random Processes* (Spring 2005-2012, Fall 2013, Spring 2016, 2021-24)  
*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. Effrosyni Doutsis. “Neuro-inspired coding of images and videos” 09/2018 – present.
2. Grigorios Tsagkatakis. “Sparse representations for resource constrained remote imaging systems,” 08/2011 – 07/2015. Now an Assistant Professor at the University of Crete.
3. Athanasia Panousopoulou. “Networking and implementation aspects of WSNs for sensing and control of industrial plants,” 06/2013 – 09/2018. Now a Senior Back End Engineer at IntelliSense.io, UK.
4. Arsenia Chorti. “Applied physical layer orthogonal frequency division multiplexing encryption,” 05/2011 – 11/2013. Now a Professor at ENSEA - University of Cergy-Pontoise – CNRS, FR.
5. Alexandros Friagkiadakis, “Intrusion detection for wireless networks using compressed sensing,” 10/2011 – 11/2012. Now a Senior Researcher at FORTH-ICS.
6. Vishwas Lakkundi. “Compressive sensing based ultra-wideband communication systems,” 02/2009 – 03/2011. Now a Data Protection Officer at Smarten Spaces, India.
7. Anthony Griffin. “Compressive sensing methods for multichannel audio acquisition, representation, and transmission,” 01/2007 – 02/2009. Now a Senior Software Engineer at Fourier Space, NZ.
8. Toni Hirvonen. “Perceptual and modeling studies on spatial sound,” 10/2008 – 03/2010. Now an Acoustician at Akukon Ltd, Finland.
9. Athanasios Mouchtaris. “Immersive audio rendering and transmission technologies,” 09/2004 – 06/2008. Now a Senior Manager, Applied Science at Amazon Alexa.

### Doctoral students

1. Konstantinos Bountrogiannis. “Infusing the age of information to boost the performance of multimodal machine learning and compressive sensing algorithms,” 09/2020-present.
2. Areti Zervou. “Graph representation learning with generative adversarial networks for the protein folding problem,” 09/2019 – present.
3. Eirini Troullinou. “Learning deep generative models for the enhancement of imbalanced signal classification,” 03/2018 – 05/2023. Now a post-doctoral fellow at FORTH-ICS.
4. Anastasia Aidini. “Tensor learning for high-dimensional signal acquisition and analysis,” 02/2017 – 05/2023. Now a post-doctoral fellow at FORTH-ICS.
5. Michalis Giannopoulos. “Tensor signal modeling for high-dimensional deep learning systems,” 09/2016 – 04/2023. Now a data scientist at HOMLI, Athens, Greece.
6. Anastasia Pentari. “Graph signal processing and recurrence quantification techniques for the analysis of biomedical signal ensembles,” 09/2016 – 04/2022. Now a research associate at FORTH-ICS, Heraklion, Greece.
7. Konstantina Fotiadou. “Sparse representations and coupled dictionary learning for the enhancement of computational imaging systems,” 10/2014 – 09/2019. Now a solutions architect, Databricks, the Netherlands.
8. Sofia Nikitaki. “Location sensing via sparse and low rank signal models” 10/2009 - 06/2014. Now a data scientist at Deutsche Telekom, Darmstadt, Hesse, Germany.

9. George Tzagkarakis. “Bayesian compressed sensing using alpha-stable distributions” 01/2005 - 11/2009. Now a principal researcher at FORTH-ICS, Heraklion, Greece.
10. Kallirroe Flouri. “Distributed algorithms for support vector machine training in wireless sensor networks,” 09/2006 - 11/2009. Now a solutions manager in asset management at Swiss Re, Zurich, Switzerland.

### **Master’s students**

1. Andreas Symiakakis. “Application of similarity learning and few-shot learning techniques for percussive sound recognition,” 09/2022 – 03/2024.
2. Eleftheria Plevridi. “Decentralized identity management and access control based on blockchain technologies,” 09/2022 – 03/2024.
3. Marianna Velessioti. “Autonomous fire front detection in satellite images with deep reinforcement learning,” 09/2022 – 11/2023.
4. Eleftheria Lydaki. “Speech rhythm detection and its application in speech perception,” 09/2022 – 06/2023.
5. Georgios Drakonakis. “Flood mapping via satellite remote sensing and artificial intelligence,” 05/2020 – 03/2021.
6. Konstantinos Bountrogiannis. “Data-driven symbolic representations for high-level time series analysis,” 02/2019 – 07/2020.
7. Antonis Tzougkarakis, “Distributed network management for smart water grids,” 09/2017 – 07/2019.
8. Areti Zervou. “Distributed motif discovery of human activity based on body sensor networks,” 02/2016 – 07/2019.
9. Maria Aspri. “Distributed computing architectures for streaming sensor analytics,” 02/2017 – 06/2019.
10. Manthos Stivaktakis. “Deep learning techniques in signal processing,” 02/2017 – 02/2019.
11. Eirini Troullinou. “Analysis and modeling of spontaneous neuronal activity using dictionary learning systems,” 09/2015 – 02/2018.
12. Katerina Karagiannaki. “Feature selection architectures for human activity recognition,” 09/2014 – 06/2017.
13. Sofia Savvaki. “Novel techniques for the estimation of multi-modal missing data in wireless sensor networks,” 09/2013 – 10/2016.
14. Kostas Karalas. “Multi-label land cover classification with remotely sensed data,” 02/2014 – 11/2015.
15. Konstantina Fotiadou. “Image super-resolution and low light image enhancement via sparse representations,” 03/2012 – 10/2014.
16. Pavlos Charalampidis. “Compressed sensing for image and video coding and transmission,” 09/2010 – 7/2013.
17. Dimitra Emmanouilidou. “Bayesian compressive sensing for magnetic resonance imaging,” 01/2009 – 11/2010.
18. Tanish Agrawal. “Compressed sensing for OFDM-based ultra wideband systems,” 09/2009 – 09/2010.
19. Aikaterini Gkirtzou. “Mature miRNA identification via the use of a naive Bayes classifier,” 09/2006 – 2/2009.
20. Christos Tzagkarakis. “Sinusoidal modeling for multichannel audio coding,” 09/2005 – 09/2007.
21. Hara Stefanou. “DNA microarray image enhancement in a multiresolution framework,” 09/2005 – 08/2007.
22. Kyriaki Karadimou. “Multichannel audio coding using the multiband source/filter model,” 09/2004 – 11/2005.
23. Anastasia Evangelatou. “DVB-RCT physical layer and implementation of the frame adaptation unit,” 01/2004 – 03/2005.
24. George Tzagkarakis. “Content-based image retrieval via alpha-stable modeling of texture information,” 01/2003 – 12/2004.
25. Alexia Briassouli. “DCT-domain watermark detection using alpha-stable models” 01/2000 – 09/2000.
26. Ioannis Dages. “Non-Linear Blind Equalization of Noisy Communication Channels” 02/2000 – 05/2001.
27. Filippo Trinci. “Constant False Alarm Rate (CFAR) Radar Detectors in Heavy-Tailed Clutter” 09/1997 – 12/1998.

28. Panagiotis Reveliotis. “Rate-Distortion Theory in the Alpha-Stable Framework” 09/1996 – 12/1997.
29. Raffaele Raspanti. “Space-Time Adaptive Processing for Airborne Radar in Impulsive Clutter Environments” 02/1996 – 12/1996.

### Other students advising

1. Has supervised over 120 undergraduate diploma theses over the past 20 years at the University of Crete
2. Has been a member of the PhD examination committee of 50+ doctoral candidates since 2002

### EXPERTISE AND GENERAL RESEARCH INTERESTS

1. Mathematical Signal Processing and Machine Learning:
  - Compressed sensing, sparse representations, 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 2018	<b>Best Paper Award</b> for the paper “1-Bit Tensor Completion,” (A. Aidini and G. Tsagkatakis co-authors) in <i>Proc. 2018 IS&amp;T International Symposium on Electronic Imaging, Image Processing: Algorithms and Systems</i> , Burlingame, CA, Jan. 28 – Feb. 2, 2018.
February 2016	<b>Best Paper Award</b> 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&amp;T International Symposium on Electronic Imaging, Image Sensors and Imaging Systems</i> , San Francisco, CA, February 15-19, 2016.
October 2013	<b>Best Paper Award</b> 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	<b>A. H. Reeve Best Paper Award</b> by the Institute of Electrical Engineers (IEEE) 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	<b>Fulbright Foundation</b> scholarship for graduate studies in the US
1990 - 1993	<b>Bodossakis Foundation</b> scholarship for graduate studies in the US
1990 - 1991	<b>Triantafyllou Foundation</b> scholarship for graduate studies in the US
1985 - 1990	<b>Greek State Scholarship Foundation (IKY) fellowships</b> for academic excellence throughout undergraduate studies
1985	<b>Greek State Scholarship Foundation (IKY) fellowship</b> for ranking first in the University entry national exam for the Department of Electrical Engineering, University of Thessaloniki

## PROFESSIONAL ACTIVITIES

- **Publicity Chair**, 44<sup>th</sup> *International Geoscience and Remote Sensing Symposium (IGARSS '24)*, Athens, Greece, July 7-12, 2024.
- **Publicity Chair**, 58<sup>th</sup> *International Conference on Acoustics, Speech, and Signal Processing (ICASSP '23)*, Rhodes Island, Greece, June 4-9, 2023.
- **Special Session Co-organizer**, 29<sup>th</sup> *IEEE International Conference on Image Processing (ICIP 2022)*, “Neuromorphic and Perception-based Image Acquisition and Analysis,” Bordeaux, France, Oct. 16-19, 2022.
- **Expert Evaluator**, European Commission, Horizon Europe Framework Programme, “HORIZON-EIC-2021-TRANSITIONOPEN-01,” October 2021.
- **Organizing Committee Co-Chair**, *Workshop on Computational Intelligence in Remote Sensing and Astrophysics*, Heraklion, Crete, July 17-19, 2019.
- **Chair**, 4<sup>th</sup> *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**, 25<sup>th</sup> *European Signal Processing Conference (EUSIPCO)*, Kos Island, Greece, August 28 - September 2, 2017.
- **Chair**, 3<sup>rd</sup> *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 21<sup>st</sup> Century Cosmology (SCCC21)*, in conjunction with the Astronomical Data Analysis Summer School, Chania, Greece, May 22-27, 2016.
- **Chair**, 2<sup>nd</sup> *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**, 1<sup>st</sup> *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**, 18<sup>th</sup> *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 Organising and Program Committees**, 5<sup>th</sup> *Astronomical Data Analysis (ADA V) Conference*, Hersonissos, Crete, Greece, May 7-9, 2008.
- **Chairman of the Organizing and Program Committees**, 8<sup>th</sup> *Biannual FORTH retreat*, October 12-13, 2007.
- **Member of the Organising and Program Committees, Session Chair** (Adaptive Signal Processing), 6<sup>th</sup> *IEEE International Conference on Electronics, Circuits, and Systems*, Paphos, Cyprus, September 1999.
- **Session Chair** (Signal Processing for Multimedia Communications), 10<sup>th</sup> *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

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### A. PHD THESIS

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

### B. EDITED BOOKS

1. "[Smart Water Grids: A Cyber-Physical Systems Approach](#)," **P. Tsakalides**, A. Panousopoulou, G. Tsagkatakis, and L. Montestruque Eds., CRC Press, ISBN 9781138197930, April 2018.

### C. BOOK CHAPTERS

1. M. Kalaitzakis, **P. Tsakalides**, C. Stephanidis, et al., "[Building a Smart City Ecosystem for Third Party Innovation in the City of Heraklion](#)," in *Mediterranean Cities and Island Communities: Smart, Sustainable, Inclusive and Resilient*, A. Stratigea and D. Kavroudakis Eds., Springer International Publishing, ISBN 978-3-319-99443-7, 2019 pp. 19-56.
2. 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.
3. A. Mouchtaris, C. Tzagkarakis, and **P. Tsakalides**, "[Low Bitrate Coding of Spot Audio Signals for Interactive and Immersive Audio Applications](#)," in *New Directions in Intelligent Interactive Multimedia*, G. A. Tsihrintzis and L. C. Jain Eds., Springer Studies in Computational Intelligence, ISBN 978-3-540-68126-7, 2008, pp. 155-164.
4. A. Mouchtaris and **P. Tsakalides**, "[Multichannel Audio Coding for Multimedia Services in Intelligent Environments](#)," in *Multimedia Interactive Services in Intelligent Environments*, G. A. Tsihrintzis and L. C. Jain Eds., Springer Studies in Computational Intelligence, ISBN 978-3-540-78491-3, Germany, 2008, pp. 103-148.
5. **P. Tsakalides** and C. L. Nikias, "Deviation from Normality in Statistical Signal Processing: Parameter Estimation with Alpha-Stable Distributions," in *A Practical Guide to Heavy Tails: Statistical Techniques and Applications*, R. Adler, R. Feldman, and M.S. Taqqu Eds., Boston: Birkhauser, ISBN 0-8176-3951-9, 1998, pp. 379-404.
6. **P. Tsakalides** and C. L. Nikias, "Mine Detection with the Cauchy Beamforming Signal Processing Approach," in *Detection and Remediation Technologies for Mines and Minelike Targets*, A. C. Dubey, R. L. Barnard, C. J. Lowe, and J. E. McFee Eds., Bellingham: The Intern. Society for Optical Eng., ISBN 0-8194-2146-4, 1996, pp. 137-148.

### D. PATENTS

1. A. Mouchtaris and P. Tsakalides, "[Apparatuses, Methods, and Systems for Audio Processing and Transmission](#)." U.S. Patent No. 9,111,525, August 18, 2015.
2. A. Griffin, A. Mouchtaris and P. Tsakalides, "[Apparatuses, Methods, and Systems for Sparse Sinusoidal Audio Processing and Transmission](#)." U.S. Patent No. 8,489,403, July 17, 2013.

### E. REFEREED JOURNAL PAPERS

1. A. Zervou, E. Doutsis, Y. Pantazis, and **P. Tsakalides**, "[De Novo Antimicrobial Peptide Design with Feedback Generative Adversarial Networks](#)," *International Journal of Molecular Sciences*, Special Issue on Molecular Advances in Bioinformatics Analysis of Protein Properties, 2024, 25, 5506. <https://doi.org/10.3390/ijms25105506>.
2. E. Troullinou, G. Tsagkatakis, A. Losonczy, P. Poirazi, and **P. Tsakalides**, "[A Generative Neighborhood-based Deep Autoencoder for Robust Imbalanced Classification](#)," *IEEE Transactions on Artificial Intelligence*, vol. 5, no. 1, pp. 80-91, Jan. 2024, doi: 10.1109/TAI.2023.3249685.
3. K. Bountrogiannis, G. Tzagkarakis, and **P. Tsakalides**, "[Distribution Agnostic Symbolic Representations for Time Series Dimensionality Reduction and Online Anomaly Detection](#)," *IEEE Transactions on Knowledge and Data Engineering*, vol. 35, no. 6, June 2023, doi: 10.1109/TKDE.2022.3174630.

4. A. Pentari, G. Tzagkarakis, K. Marias, and **P. Tsakalides**, "[Graph Denoising of Impulsive EEG Signals and the Effect of their Graph Representation](#)," *Elsevier Biomedical Signal Processing and Control*, vol. 78, 2022, 103886, ISSN 1746-8094, <https://doi.org/10.1016/j.bspc.2022.103886>.
5. G. Drakonakis, G. Tsagkatakis, K. Fotiadou, and **P. Tsakalides**, "[OmbriaNet - Supervised Flood Mapping via Convolutional Neural Networks Using Multitemporal Sentinel-1 and Sentinel-2 Data Fusion](#)," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 15, pp. 2341-2356, 2022, doi: 10.1109/JSTARS.2022.3155559.
6. M. Villia, G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, "[Embedded Temporal Convolutional Networks for Essential Climate Variables Forecasting](#)," *MDPI Sensors*, Special Issue on Machine Learning, Signal, and/or Image Processing Methods to Enhance Environmental Sensors, 2022, 22(5), 1851; <https://doi.org/10.3390/s22051851>.
7. M. Giannopoulos, G. Tsagkatakis, and **P. Tsakalides**, "[4D U-Nets for Multi-Temporal Remote Sensing Data Classification](#)," *MDPI Remote Sensing*, Special Issue on Computer Vision and Pattern Recognition for the Analysis of 2D/3D Remote Sensing Data in Geoscience, 2022, 14(3), 634; <https://doi.org/10.3390/rs14030634>.
8. A. Pentari, G. Tzagkarakis, **P. Tsakalides**, P. Simos, G. Bertsiyas, E. Kavroulakis, K. Marias, N. J. Simos, and E. Papadaki, "[Changes in resting-state functional connectivity in neuropsychiatric Lupus: A dynamic approach based on recurrence quantification analysis](#)," *Elsevier Biomedical Signal Processing and Control*, vol. 72, part A, 2022, pages 103285, ISSN 1746-8094, <https://doi.org/10.1016/j.bspc.2021.103285>.
9. E. Doutsis, L. Fillatre, M. Antonini, and **P. Tsakalides**, "[Dynamic Image Quantization Using Leaky Integrate-and-Fire Neurons](#)," *IEEE Transactions on Image Processing*, vol. 30, pp. 4305-4315, 2021, doi: 10.1109/TIP.2021.30701932021.
10. A. Zervou, E. Doutsis, P. Pavlidis, and **P. Tsakalides**, "[Structural Classification of Proteins Based on the Computationally Efficient Recurrence Quantification Analysis and Horizontal Visibility Graphs](#)," *Bioinformatics*, 2021, btab407, <https://doi.org/10.1093/bioinformatics/btab407>.
11. E. Troullinou, G. Tsagkatakis, S. Chavlis, G. Turi, W.-K. Li, A. Losonczy, **P. Tsakalides**, and P. Poirazi, "[Artificial Neural Networks in Action for an Automated Cell-Type Classification of Biological Neural Networks](#)," *IEEE Transactions on Emerging Topics in Computational Intelligence*, vol. 5, no. 5, pp. 755-767, Oct. 2021, doi: 10.1109/TETCI.2020.3028581.
12. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, "[Tensor Decomposition Learning for Compression of Multidimensional Signals](#)," *IEEE Journal of Selected Topics in Signal Processing*, vol. 15, no. 3, pp. 476-490, April 2021, doi: 10.1109/JSTSP.2021.3054314.
13. G. Tzagkarakis, J. P. Nolan, and **P. Tsakalides**, "[Robust Nonlinear Compressive Sampling Using Symmetric Alpha-Stable Distributions](#)," *Signal Processing*, vol. 182, May 2021, doi: 10.1016/j.sigpro.2020.107944.
14. T. Geiller, B. Vancura, S. Terada, E. Troullinou, S. Chavlis, G. Tsagkatakis, **P. Tsakalides**, K. Ócsai, P. Poirazi, B. J. Rózsa, and A. Losonczy, "[Large-Scale 3D Two-Photon Imaging of Molecularly Identified CA1 Interneuron Dynamics in Behaving Mice](#)," *Neuron*, vol. 108, issue 5, 2020, pp. 968-983.e9, doi: 10.1016/j.neuron.2020.09.013.
15. R. Stivaktakis, G. Tsagkatakis, B. Moares, F. Abdalla, J. L. Starck, and **P. Tsakalides**, "[Convolutional Neural Networks for Spectroscopic Redshift Estimation on Euclid Data](#)," *IEEE Transactions on Big Data*, vol. 6, no. 3, pp. 460-476, September 2020, doi: 10.1109/TBDATA.2019.2934475.
16. R. Stivaktakis, G. Tsagkatakis, and **P. Tsakalides**, "[Semantic Predictive Coding with Arbitrated Generative Adversarial Networks](#)," *MDPI Machine Learning and Knowledge Extraction*, 2020, 2, 307-326; doi:10.3390/make2030017.
17. M. Aspri, G. Tsagkatakis, and **P. Tsakalides**, "[Distributed Training and Inference of Deep Learning Models for Multi-Modal Land Cover Classification](#)," *MDPI Remote Sensing*, Special Issue on Computer Vision and Deep Learning for Remote Sensing Applications, 2020, 12(17), 2670; doi:10.3390/rs121726702020.
18. G. Tzagkarakis, P. Charalampidis, S. Roubakis, A. Makrogiannakis, and **P. Tsakalides**, "[Quantifying the Computational Efficiency of Compressive Sensing in Smart Water Network Infrastructures](#)," *MDPI Sensors*, 2020, 20(11), 3299; doi.org/10.3390/s20113299.
19. M. Giannopoulos, A. Aidini, A. Pentari, K. Fotiadou, and **P. Tsakalides**, "[Classification of Compressed Remote Sensing Multispectral Images via Convolutional Neural Networks](#)," *MDPI Journal of Imaging*, Special Issue on Multispectral Imaging, 2020, 6, 24; doi:10.3390/jimaging6040024.
20. E. Troullinou, G. Tsagkatakis, G. Palagina, M. Papadopoulou, S. M. Smirnakis, and **P. Tsakalides**, "[Adversarial Dictionary Learning for a Robust Analysis and Modelling of Spontaneous Neuronal Activity](#)," *Neurocomputing*, 2020, doi: <https://doi.org/10.1016/j.neucom.2020.01.041>.
21. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, "[Snapshot High Dynamic Range Imaging via Sparse Representations and Feature Learning](#)," *IEEE Transactions on Multimedia*, vol. 22, no. 3, pp. 688-703, March 2020, doi: 10.1109/TMM.2019.2933333
22. G. Tsagkatakis, A. Aidini, K. Fotiadou, M. Giannopoulos, A. Pentari, and **P. Tsakalides**, "[Survey of Deep-Learning Approaches for Remote Sensing Observation Enhancement](#)," *MDPI Sensors*, 2019, 19, 3929; doi:10.3390/s19183929.
23. R. Stivaktakis, G. Tsagkatakis, and **P. Tsakalides**, "[Deep Learning for Multi-Label Land Cover Scene Categorization Using Data Augmentation](#)," *IEEE Geoscience and Remote Sensing Letters*, vol. 16, no. 7, pp. 1031-1035, July 2019, doi: 10.1109/LGRS.2019.2893306.

24. G. Tsagkatakis, M. Bloemen, B. Geelen, M. Jayapala, and **P. Tsakalides**, "[Graph and Rank Regularized Matrix Recovery for Snapshot Spectral Image Demosaicing](#)," *IEEE Transactions on Computational Imaging*, vol. 5, no. 2, pp. 301-316, June 2019, doi:10.1109/TCI.2018.2888989.
25. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, "[Spectral Super-Resolution of Hyperspectral Images via Coupled Dictionary Learning](#)," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 57, no. 5, pp. 2777 - 2797, May 2019, doi:10.1109/TGRS.2018.2877124.
26. G. Tzagkarakis, J. P. Nolan, and **P. Tsakalides**, "[Compressive Sensing Using Symmetric Alpha-Stable Distributions for Robust Sparse Signal Reconstruction](#)," *IEEE Transactions on Signal Processing*, vol. 67, no. 3, pp. 808-820, Feb. 2019, doi:10.1109/TSP.2018.2887400.
27. S. Savvaki, G. Tsagkatakis, A. Panousopoulou, and **P. Tsakalides**, "[Matrix and Tensor Completion on a Human Activity Recognition Framework](#)," *IEEE Journal of Biomedical and Health Informatics*, vol. 21, no. 6, pp. 1554 - 1561, 2017, doi: 10.1109/JBHI.2017.2716112.
28. G. Tsagkatakis, B. Beferull-Lozano, and **P. Tsakalides**, "[Singular Spectrum based Matrix Completion for Time-series Recovery and Prediction](#)," *EURASIP Journal on Advances in Signal Processing*, special issue on Signal Processing for Big Data, 2016, doi: 10.1186/s13634-016-0360-0.
29. A. Panousopoulou, M. Azkune, and **P. Tsakalides**, "[Feature Selection for Performance Characterization in Multi-hop Wireless Sensor Networks](#)," *Ad Hoc Networks*, 2016, doi:10.1016/j.adhoc.2016.06.011.
30. K. Karalas, G. Tsagkatakis, M. Zervakis, and **P. Tsakalides**, "[Land Classification Using Remotely Sensed Data: Going Multi-Label](#)," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 6, pp. 3548-3563, June 2016, doi: 10.1109/TGRS.2016.2520203.
31. A. Alin, A. Basarab, G. Tzagkarakis, **P. Tsakalides**, and D. Kouame, "[Reconstruction of Ultrasound RF Echoes Modelled as Stable Random Variables](#)," *IEEE Transactions on Computational Imaging*, vol. 1, no. 2, pp. 86-95, August 2015, doi:10.1109/TCI.2015.2463257.
32. S. Nikitaki, G. Tsagkatakis, and **P. Tsakalides**, "[Efficient Multi-Channel Signal Strength based Localization via Matrix Completion and Bayesian Sparse Learning](#)," *IEEE Transactions on Mobile Computing*, vol. 14, no. 11, pp. 2244-2256, Nov. 2015, doi:10.1109/TMC.2015.2393864.
33. G. Tsagkatakis, A. Woiselle, G. Tzagkarakis, M. Bousquet, J. L. Starck, and **P. Tsakalides**, "[Multireturn Compressed Gated Range Imaging](#)," *Optical Engineering*, special issue on Computational Approaches to Imaging LADAR, 031106 (2015). doi:10.1117/1.OE.54.3.031106.
34. G. Tzagkarakis, A. Seliniotaki, V. Christophides, and **P. Tsakalides**, "[Uncertainty-Aware Sensor Data Management and Early Warning for Monitoring Industrial Infrastructures](#)," *International Journal of Monitoring and Surveillance Technologies Research*, 2(4), pp. 1-24, October-December 2014.
35. G. Tzagkarakis, **P. Tsakalides**, and J. L. Starck, "[Covariation-based Subspace-Augmented MUSIC for Joint Sparse Support Recovery in Impulsive Environments](#)," *Signal Processing*, vol. 93, pp. 1365-1373, May 2013.
36. D. Milioris, G. Tzagkarakis, A. Papakonstantinou, M. Papadopouli, and **P. Tsakalides**, "[Low-dimensional Signal-Strength Fingerprint-based Positioning in Wireless LANs](#)," *Ad Hoc Networks*, 2012, doi:10.1016/j.adhoc.2011.12.006.
37. A. Griffin, T. Hirvonen, C. Tzagkarakis, A. Mouchtaris, and **P. Tsakalides**, "[Single-channel and Multi-channel Sinusoidal Audio Coding Using Compressed Sensing](#)," *IEEE Transactions on Audio, Speech and Language Processing*, vol. 19, no. 5, pp. 1382-1395, July 2011.
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39. C. Tzagkarakis, A. Mouchtaris, and **P. Tsakalides**, "[A Multichannel Sinusoidal Model Applied to Spot Microphone Signals for Immersive Audio](#)," *IEEE Transactions on Audio, Speech and Language Processing*, vol. 17, no. 8, pp. 1483-1497, November 2009.
40. G. Tzagkarakis, M. Papadopouli, and **P. Tsakalides**, "[Trend Forecasting based on Singular Spectrum Analysis of Traffic Workload in a Large-Scale Wireless LAN](#)," *Performance Evaluation*, vol. 66, no. 3, pp. 173-190, 2009, doi:10.1016/j.peva.2008.10.010.
41. G. Tzagkarakis, B. Beferull-Lozano, and **P. Tsakalides**, "[Rotation-Invariant Texture Retrieval via Signature Alignment based on Steerable sub-Gaussian Modeling](#)," *IEEE Transactions on Image Processing*, vol. 17, no. 7, pp. 1212- 1225, June 2008.
42. A. Mouchtaris, K. Karadimou, and **P. Tsakalides**, "[Multiresolution Source/Filter Model for Low Bitrate Coding of Spot Microphone Signals](#)," *EURASIP Journal on Audio, Speech, and Music Processing*, vol. 2008, Article ID 624321, doi:10.1155/2008/624321, 2008.
43. G. Tzagkarakis, M. I. Taroudakis, and **P. Tsakalides**, "[A Statistical Geoacoustic Inversion Scheme Based on a Modified Radial Basis Functions Neural Network](#)," *Journal of the Acoustical Society of America*, vol. 122, no. 4, pp. 1959-1968, October 2007.
44. A. Mouchtaris, J. Van der Spiegel, P. Mueller, and **P. Tsakalides**, "[A Spectral Conversion Approach to Single Channel Speech Enhancement](#)," *IEEE Transactions on Audio, Speech and Language Processing*, vol. 15, no. 4, pp. 1180-1193, May 2007.

45. G. Tzagkarakis, B. Beferull-Lozano, and **P. Tsakalides**, "[Rotation-Invariant Texture Retrieval with Gaussianized Steerable Pyramids](#)," *IEEE Transactions on Image Processing*, vol. 15, no. 9, pp. 2702-2718, September 2006.
46. M. I. Taroudakis, G. Tzagkarakis, and **P. Tsakalides**, "[Classification of Shallow-Water Acoustic Signals via Alpha-Stable Modeling of the One-Dimensional Wavelet Coefficients](#)," *Journal of the Acoustical Society of America*, vol. 119, no. 3, pp. 1396-1405, March 2006.
47. A. Briassouli, **P. Tsakalides**, and A. Stouraitis, "[Hidden Messages in Heavy-Tails: DCT-Domain Watermark Detection Using Alpha-Stable Models](#)," *IEEE Transactions on Multimedia*, vol. 7, no. 4, pp. 700-715, August 2005.
48. M. Rupi, **P. Tsakalides**, E. Del Re, and C. L. Nikias, "[Constant Modulus Blind Equalization Based on Fractional Lower-Order Statistics](#)," *Signal Processing*, vol. 84, no. 5, pp. 881-894, May 2004.
49. A. Achim, **P. Tsakalides**, and A. Bezerianos, "[SAR Image Denoising via Bayesian Wavelet Shrinkage based on Heavy-Tailed Modeling](#)," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 41, no. 8, pp. 1773-1784, August 2003.
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52. **P. Tsakalides**, F. Trinci, and C. L. Nikias, "[Performance Assessment of CFAR Processors in Pearson-Distributed Clutter](#)," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 36, no. 4, pp. 1377-1386, October 2000.
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54. M. Rupi, **P. Tsakalides**, E. Del Re, and C. L. Nikias, "[Robust Spatial Filtering of Coherent Sources for Wireless Communications](#)," *Signal Processing*, vol. 80, no. 3, pp. 381-396, March 2000.
55. P. G. Georgiou, **P. Tsakalides**, and C. Kyriakakis, "[Alpha-Stable Modeling of Noise and Robust Time-Delay Estimation in the Presence of Impulsive Noise](#)," *IEEE Transactions on Multimedia*, vol. 1, no. 3, pp. 291-301, September 1999.
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## F. REFEREED CONFERENCE PAPERS

1. G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, "Soil Moisture Retrieval Using in Situ and Data Simulation Regularized Deep Learning Models," in *Proc. 2024 IEEE International Geoscience and Remote Sensing Symposium (IGARSS '24)*, Athens, Greece, July 7-12, 2024.
2. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, "Unsupervised Change Detection on Multi-Temporal Satellite Images Using Tensor Decomposition Learning," in *Proc. 2024 IEEE International Geoscience and Remote Sensing Symposium (IGARSS '24)*, Athens, Greece, July 7-12, 2024.
3. A. Zervou, E. Doutsis, Y. Pantazis, and **P. Tsakalides**, "[Multitask Classification of Antimicrobial Peptides for Simultaneous Assessment of Antimicrobial Property and Structural Fold](#)," in *Proc. 2024 International Conference on Acoustics, Speech, and Signal Processing (ICASSP '24)*, Seoul, Korea, April 14-19, 2024.
4. E. Kariotakis, G. Tsagkatakis, **P. Tsakalides**, and A. Kyriakidis, "[Leveraging Sparse Input and Sparse Models: Efficient Distributed Learning in Resource-Constrained Environments](#)," in *Proc. Conference on Parsimony and Learning (CPAL '24)*, Hong Kong, Jan. 3-6, 2024.
5. A. Aidini, G. Tsagkatakis, N. Sidiropoulos, and **P. Tsakalides**, "[Few-shot Classification Using Tensor Completion](#)," in *Proc. 57<sup>th</sup> Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Oct. 29 - Nov. 1, 2023.
6. E. Troullinou, G. Tsagkatakis, A. Losonczy, P. Poirazi, and **P. Tsakalides**, "[A Generative Neighborhood-Based Deep Autoencoder with an Extended Loss Function for Robust Imbalanced Classification](#)," in *Proc. 57<sup>th</sup> Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Oct. 29 - Nov. 1, 2023.

7. A. Zervou, E. Doutsis, and **P. Tsakalides**, "[Efficient Protein Structural Class Prediction via Chaos Game Representation and Recurrent Neural Networks](#)," in *Proc. 2023 International Conference on Acoustics, Speech, and Signal Processing (ICASSP '23)*, Rhodes, Greece, June 2-10, 2023.
8. G. Tsagkatakis, S. Vellas, S. Bammens, V. Zelenevskiy, D. Evans, M. Bernou, and **P. Tsakalides**, "[Onboard Sequence Compression through Multi-Frame Super-Resolution](#)," in *Proc. 8<sup>th</sup> International Workshop on On-Board Payload Data Compression (OBPDC '22)*, Athens, Greece, September 28-30, 2022.
9. A. Papanastasiou, E. Doutsis, M. Zervakis, and **P. Tsakalides**, "[A Hybrid Image Compression Architecture: Merging Conventional Filters like DCT and DWT with an Event-based Quantizer](#)," in *Proc. 56<sup>th</sup> Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Oct.30 - Nov. 2, 2022.
10. E. Doutsis, L. Fillatre, M. Antonini, and **P. Tsakalides**, "[Dynamic Image Quantization Using Leaky Integrate-and-Fire Neurons](#)," in *Proc. IEEE International Conference on Image Processing (ICIP '22)*, Bordeaux, France, October 16-19, 2022.
11. E. Doutsis, M. Antonini, and **P. Tsakalides**, "[Retina-inspired Spatio-temporal Filtering for Dynamic Video Coding](#)," in *Proc. IEEE International Conference on Image Processing (ICIP '22)*, Bordeaux, France, October 16-19, 2022.
12. A. Zervou, E. Doutsis, and **P. Tsakalides**, "[Secondary Structure Classification of Low-Homology Proteins with Graph Neural Networks](#)," in *Proc. 30<sup>th</sup> European Signal Processing Conference (EUSIPCO '22)*, Belgrade, Serbia, August 29-September 2, 2022.
13. A. Papanastasiou, E. Doutsis, M. Zervakis, and **P. Tsakalides**, "[Neuro-inspired Image Compression Architectures](#)," in *Proc. 2022 IEEE International Conference on Imaging Systems and Techniques (IST '22)*, virtual, June 21-23, 2022.
14. M. Giannopoulos, G. Tsagkatakis, and **P. Tsakalides**, "[4D Convolutional Neural Networks For Multi-Spectral and Multi-Temporal Remote Sensing Data Classification](#)," in *Proc. 2022 International Conference on Acoustics, Speech, and Signal Processing (ICASSP '22)*, Singapore, May 22-27, 2022.
15. A. Zervou, E. Doutsis, and **P. Tsakalides**, "[Visibility Graph Network of Multidimensional Time Series Data for Protein Structure Classification](#)," in *Proc. 29<sup>th</sup> European Signal Processing Conference (EUSIPCO '21)*, Dublin, Ireland, August 23-27, 2021.
16. G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, "[Deep Multi-Modal Satellite and in-situ Observation Fusion for Soil Moisture Retrieval](#)," in *Proc. 2021 IEEE International Geoscience and Remote Sensing Symposium (IGARSS '21)*, Brussels, Belgium, July 12-16, 2021.
17. G. Tsagkatakis, S. Nikolidakis, E. Petra, A. Kapantagakis, K. Grigorakis, G. Katselis, N. Vlahos, and **P. Tsakalides**, "[Knowledge Distillation from Multispectral Images to RGB for Fish Freshness Estimation](#)," in *Proc. 2021 IS&T International Symposium on Electronic Imaging, Food and Agricultural Imaging Systems*, Burlingame, CA, January 18-22, 2021.
18. A. Zervou, E. Doutsis, P. Pavlidis, and **P. Tsakalides**, "[Efficient Dynamical Analysis of Low-Similarity Protein Sequences for Structural Class Prediction](#)," in *Proc. 28<sup>th</sup> European Signal Processing Conference (EUSIPCO '20)*, Amsterdam, The Netherlands, January 18-22, 2021.
19. A. Pentari, G. Tzagkarakis, K. Marias, and **P. Tsakalides**, "[Graph-Based Denoising of EEG Signals in Impulsive Environments](#)," in *Proc. 28<sup>th</sup> European Signal Processing Conference (EUSIPCO '20)*, Amsterdam, The Netherlands, January 18-22, 2021.
20. K. Bountrogiannis, G. Tzagkarakis, and **P. Tsakalides**, "[Anomaly Detection for Symbolic Time Series Representations of Reduced Dimensionality](#)," in *Proc. 28<sup>th</sup> European Signal Processing Conference (EUSIPCO '20)*, Amsterdam, The Netherlands, January 18-22, 2021.
21. K. Bountrogiannis, G. Tzagkarakis, and **P. Tsakalides**, "[Data-Driven Kernel-Based Probabilistic SAX for Time Series Dimensionality Reduction](#)," in *Proc. 28<sup>th</sup> European Signal Processing Conference (EUSIPCO '20)*, Amsterdam, The Netherlands, January 18-22, 2021.
22. E. Doutsis, M. Antonini, and **P. Tsakalides**, "[An End-to-End Spike-based Image Compression Architecture](#)," in *Proc. 54<sup>th</sup> Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 1-5, 2020.
23. A. Pentari, G. Tzagkarakis, K. Marias, and **P. Tsakalides**, "[A Study on the Effect of Distinct Adjacency Matrices for Graph Signal Denoising](#)," in *Proc. 20<sup>th</sup> IEEE International Conference on BioInformatics and BioEngineering (BIBE '20)*, virtual conference, October 26-28, 2020.
24. G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, "[Multi-Temporal Convolutional Neural Networks For Satellite-Derived Soil Moisture Observation Enhancement](#)," in *Proc. 2020 IEEE International Geoscience and Remote Sensing Symposium (IGARSS '20)*, Waikoloa, Hawaii, July 19-24, 2020.
25. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, "[Quantized Tensor Robust Principal Component Analysis](#)," in *Proc. 45<sup>th</sup> International Conference on Acoustics, Speech, and Signal Proc. (ICASSP '20)*, Barcelona, May 4-8, 2020.
26. E. Doutsis and **P. Tsakalides**, "[Image Compression based on Neuroscience Models: Rate-Distortion Performance of the Neural Code](#)," in *Proc. Data Compression Conf. (DCC '20)*, Cliff Lodge, Snowbird, UT, March 24-27, 2020.
27. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, "[Tensor Dictionary Learning with Representation Quantization for Remote Sensing Observation Compression](#)," in *Proc. Data Compression Conference (DCC '20)*, Cliff Lodge, Snowbird, UT, March 24-27, 2020.
28. G. Tsagkatakis, S. Nikolidakis, E. Petra, A. Kapantagakis, K. Grigorakis, G. Katselis, N. Vlahos, and **P. Tsakalides**, "[Fish Freshness Estimation through Analysis of Multispectral Images with Convolutional Neural Networks](#)," in *Proc.*

- 2020 IS&T International Symposium on Electronic Imaging, Food and Agricultural Imaging Systems, Burlingame, CA, January 26-30, 2020.
29. A. Aidini, M. Giannopoulos, A. Pentari, K. Fotiadou, and **P. Tsakalides**, “[Hyperspectral Image Compression and Super-Resolution Using Tensor Decomposition Learning](#),” in *Proc. 53<sup>th</sup> Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 3-6, 2019.
  30. A. Zervou, G. Tzagkarakis, and **P. Tsakalides**, “[Automated Screening of Dyslexia via Dynamical Recurrence Analysis of Wearable Sensor Data](#),” in *Proc. 19<sup>th</sup> IEEE International Conference on BioInformatics and BioEngineering (BIBE '19)*, Athens, Greece, October 28-30, 2019.
  31. A. Pentari, G. Tsagkatakis, K. Marias, G. Manikis, N. Kartalis, N. Papanikolaou, and **P. Tsakalides**, “[Sparse Representations on DW-MRI: A Study on Pancreas](#),” in *Proc. 19<sup>th</sup> IEEE International Conference on BioInformatics and BioEngineering (BIBE '19)*, Athens, Greece, October 28-30, 2019.
  32. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, “[Compression of High-Dimensional Multispectral Image Time Series Using Tensor Decomposition Learning](#),” in *Proc. 27<sup>th</sup> European Signal Processing Conference (EUSIPCO '19)*, A Coruña, Spain, September 2-6, 2019.
  33. A. Zervou, A. Panousopoulou, G. Tzagkarakis, and **P. Tsakalides**, “[A Self-Tuned Architecture for Human Activity Recognition Based on a Dynamical Recurrence Analysis of Wearable Sensor Data](#),” in *Proc. 27<sup>th</sup> European Signal Processing Conference (EUSIPCO '19)*, A Coruña, Spain, September 2-6, 2019.
  34. S. Roubakis, G. Tzagkarakis, and **P. Tsakalides**, “[Real-Time Prototyping of Matlab-Java Code Integration for Water Sensor Networks Applications](#),” in *Proc. 27<sup>th</sup> European Signal Processing Conference (EUSIPCO '19)*, A Coruña, Spain, September 2-6, 2019.
  35. M. Aspri, G. Tsagkatakis, A. Panousopoulou, and **P. Tsakalides**, “[On Realizing Distributed Deep Neural Networks: An Astrophysics Case Study](#),” in *Proc. 27<sup>th</sup> European Signal Processing Conference (EUSIPCO '19)*, A Coruña, Spain, September 2-6, 2019.
  36. E. Doutsis, G. Tzagkarakis, and **P. Tsakalides**, “[Neuro-inspired Compression of RGB Images](#),” in *Proc. 27<sup>th</sup> European Signal Processing Conference (EUSIPCO '19)*, A Coruña, Spain, September 2-6, 2019.
  37. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, “[Alternating Direction Method of Multipliers for Semi-blind Astronomical Image Deconvolution](#),” in *Proc. 44<sup>th</sup> International Conference on Acoustics, Speech, and Signal Processing (ICASSP '19)*, Brighton, UK, May 12-17, 2019.
  38. G. Pitsis, G. Tsagkatakis, C. Kozanitis, I. Kalomoiris, A. Ioannou, A. Dollas, M. Katevenis, and **P. Tsakalides**, “[Efficient Convolutional Neural Network Weight Compression for Space Data Classification on Multi-FPGA Platforms](#),” in *Proc. 44<sup>th</sup> International Conference on Acoustics, Speech, and Signal Processing (ICASSP '19)*, Brighton, UK, May 12-17, 2019.
  39. I. Kalomoiris, G. Pitsis, G. Tsagkatakis, A. Ioannou, C. Kozanitis, A. Dollas, **P. Tsakalides**, M. Katevenis, “[An Experimental Analysis of the Opportunities to Use Field Programmable Gate Array Multiprocessors for On-board Satellite Deep Learning Classification of Spectroscopic Observations from Future ESA Space Missions](#),” in *Proc. 2019 European Workshop on On-Board Data Processing (OBDDP '19)*, European Space Research and Technology Centre (ESTEC), The Netherlands, February 25-27, 2019.
  40. G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, “[Convolutional Neural Networks for Downscaling SMAP Radiometer Brightness Temperature Observations with High-Resolution Radar](#),” *Abstract H51W-1218 presented at the 2018 Fall Meeting, American Geophysical Union (AGU)*, Washington, D.C., December 10-14, 2018.
  41. M. Giannopoulos, G. Tsagkatakis, and **P. Tsakalides**, “[On the Impact of Tensor Completion in the Classification of Undersampled Hyperspectral Imagery](#),” in *Proc. 26<sup>th</sup> European Signal Processing Conference (EUSIPCO '18)*, Rome, Italy, September 3-7, 2018.
  42. G. Tzagkarakis, J. Nolan, and **P. Tsakalides**, “[Compressive Sensing of Temporally Correlated Sources Using Isotropic Multivariate Stable Laws](#),” in *Proc. 26<sup>th</sup> European Signal Processing Conference (EUSIPCO '18)*, Rome, Italy, September 3-7, 2018.
  43. K. Fotiadou, G. Tsagkatakis, M. Moghaddam, and **P. Tsakalides**, “[Recovery of Soil Moisture Active Passive \(SMAP\) Instrument’s Active Measurements via Coupled Dictionary Learning](#),” in *Proc. 2018 IS&T International Symposium on Electronic Imaging, Computational Imaging XVI*, Burlingame, CA, January 28-February 2, 2018.
  44. A. Aidini, G. Tsagkatakis, and **P. Tsakalides**, “[1-Bit Tensor Completion](#),” in *Proc. 2018 IS&T International Symposium on Electronic Imaging, Image Processing: Algorithms and Systems*, Burlingame, CA, January 28-February 2, 2018 (**best paper award**).
  45. G. Tsagkatakis, M. Jaber, and **P. Tsakalides**, “[Convolutional Neural Networks for the Analysis of Broadcasted Tennis Games](#),” in *Proc. 2018 IS&T International Symposium on Electronic Imaging, Visual Information Processing and Communication*, Burlingame, CA, January 28-February 2, 2018.
  46. A. Panousopoulou, S. Farrens, Y. Mastorakis, J-L. Starck, and **P. Tsakalides**, “[A Distributed Learning Architecture for Big Imaging Problems in Astrophysics](#),” in *Proc. 25<sup>th</sup> European Signal Processing Conference (EUSIPCO '17)*, Kos island, Greece, August 28 – September 2, 2017.
  47. K. Fotiadou, G. Tsagkatakis, B. Moraes, F. Abdalla, and **P. Tsakalides**, “[Denoising Galaxy Spectra with Coupled Dictionary Learning](#),” in *Proc. 25<sup>th</sup> European Signal Processing Conference (EUSIPCO '17)*, Kos island, Greece, August 28 – September 2, 2017.

48. E. Troullinou, G. Tsagkatakis, G. Palagina, M. Papadopoulou, S. Smirnakis, and **P. Tsakalides**, “[Dictionary Learning for Spontaneous Neural Activity Modeling](#),” in *Proc. 25th European Signal Processing Conference (EUSIPCO '17)*, Kos island, Greece, August 28 – September 2, 2017.
49. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, “[Multi-source Image Enhancement via Coupled Dictionary Learning](#),” in *Proc. Signal Processing with Adaptive Sparse Structured Representations Workshop (SPARS '17)*, Lisbon, Portugal, June 5-8, 2017.
50. M. Giannopoulos, S. Savvaki, G. Tsagkatakis, and **P. Tsakalides**, “[Application of Tensor and Matrix Completion on Environmental Sensing Data](#),” in *Proc. 25th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN '17)*, Bruges, Belgium, April 26-28, 2017.
51. S. Timotheatos, G. Tsagkatakis, **P. Tsakalides** and P. Trahanias, “[Feature Extraction and Learning for RSSI based Indoor Device Localization](#),” in *Proc. 25th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN '17)*, Bruges, Belgium, April 26-28, 2017.
52. K. Karagiannaki, A. Panousopoulou, and **P. Tsakalides**, “[An Online Feature Selection Architecture for Human Activity Recognition](#),” in *Proc. 42nd International Conference on Acoustics, Speech, and Signal Processing (ICASSP '17)*, New Orleans, LA, March 5-9, 2017.
53. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, “[Deep Convolutional Neural Networks for the Classification of Snapshot Mosaic Hyperspectral Imagery](#),” in *Proc. 2017 IS&T International Symposium on Electronic Imaging, Computational Imaging XV*, San Francisco, CA, January 29-February 2, 2017.
54. G. Tsagkatakis, M. Jaber, and **P. Tsakalides**, “[Goal! Event Detection in Sports Video](#),” in *Proc. 2017 IS&T International Symposium on Electronic Imaging, Computer Vision Applications in Sports*, San Francisco, CA, January 29-February 2, 2017.
55. G. Tsagkatakis and **P. Tsakalides**, “[A Self-Similar and Sparse Approach for Spectral Mosaic Snapshot Recovery](#),” in *Proc. 2016 IEEE International Conference on Imaging Systems and Techniques (IST 2016)*, Chania, Greece, October 4-6, 2016.
56. G. Tsagkatakis, L. Amoruso, D. Sykas, C. Abbattista, and **P. Tsakalides**, “[Lightweight Onboard Hyperspectral Compression and Recovery by Matrix Completion](#),” in *Proc. 5th International Workshop on On-Board Payload Data Compression*, ESRIN, Frascati, Italy, September 28-29, 2016.
57. K. Karagiannaki, A. Panousopoulou, and **P. Tsakalides**, “[A Benchmark Study on Feature Selection for Human Activity Recognition](#),” poster in *2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016)*, Heidelberg, Germany, September 12-16, 2016.
58. S. Savvaki, G. Tsagkatakis, A. Panousopoulou, and **P. Tsakalides**, “[Effects of Matrix Completion on the Classification of Undersampled Human Activity Data Streams](#),” in *Proc. 24th European Signal Processing Conference (EUSIPCO '16)*, Budapest, Hungary, August 29 – September 2, 2016.
59. G. Tzagkarakis, C. Wouter, and **P. Tsakalides**, “[Data Compression for Snapshot Mosaic Hyperspectral Image Sensors](#),” in *Proc. 24th European Signal Processing Conference (EUSIPCO '16)*, Budapest, Hungary, August 29 – September 2, 2016.
60. G. Tsagkatakis, and **P. Tsakalides**, “[Deep Feature Learning for Hyperspectral Image Classification and Land Cover Estimation](#),” in *Proc. 2016 European Space Agency Living Planet Symposium*, Prague, Czech Republic, May 9-13, 2016.
61. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, “[Spectral Super-Resolution for Hyperspectral Images via Sparse Representations](#),” in *Proc. 2016 European Space Agency Living Planet Symposium*, Prague, Czech Republic, May 9-13, 2016.
62. A. Panousopoulou and **P. Tsakalides**, “[On Graph-based Feature Selection for Multi-hop Performance Characterization in Industrial Smart Water Networks](#),” in *Proc. 2nd International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater 2016)*, CPS Week 2016, Vienna, Austria April 11-14, 2016.
63. G. Tsagkatakis, B. Geelen, M. Jayapala, and **P. Tsakalides**, “[Non-negative Matrix Completion for the Enhancement of Snapshot Mosaic Multispectral Imagery](#),” in *Proc. 2016 IS&T International Symposium on Electronic Imaging, Image Sensors and Imaging Systems*, San Francisco, CA, February 15-19, 2016 (**best paper award**).
64. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, “[Spectral Resolution Enhancement of Hyperspectral Images via Sparse Representations](#),” in *Proc. 2016 IS&T International Symposium on Electronic Imaging, Computational Imaging*, San Francisco, CA, February 15-19, 2016.
65. P. Phivou, A. Panousopoulou, and **P. Tsakalides**, “[On Realizing Distributed Topology Control in Low-power IoT Platforms](#),” in *Proc. 2015 IEEE World Forum - Internet of Things (WF-IoT)*, Milan, Italy, December 14-16, 2015.
66. K. Karalas, G. Tsagkatakis, M. Zervakis, and **P. Tsakalides**, “[Feature learning for Multilabel Land Cover Classification](#),” in *Proc. 2015 SPIE Remote Sensing Conference, Image and Signal Processing for Remote Sensing*, Toulouse, France, September 21-24, 2015.
67. A. Mouchtaris, **P. Tsakalides** et al., “[The MusiNet Project: Addressing the Challenges in Networked Music Performance Systems](#),” in *Proc. 6th IEEE International Conference on Information, Intelligence, Systems and Applications (IISA '15)*, Ionian University, Corfu, Greece, July 6-8, 2015.
68. S. Savvaki, G. Tsagkatakis, A. Panousopoulou, and **P. Tsakalides**, “[Application of Matrix Completion on Water Treatment Data](#),” in *Proc. 1th International Workshop on Cyber-Physical Systems for Smart Water Networks (CySWater 2015)*, CPS Week 2015, Seattle, WA, USA, April 13-16, 2015.



69. G. Tzagkarakis, **P. Tsakalides**, and J. L. Starck, "[Compressive Video Sensing with Adaptive Measurement Allocation for Improving MPEGx Performance](#)," in *Proc. 10<sup>th</sup> International Conference on Computer Vision Theory and Applications (VISAPP '15)*, Berlin, Germany, March 11-14, 2015.
70. G. Tsagkatakis, and **P. Tsakalides**, "[Compressed Hyperspectral Sensing](#)," in *Proc. 2015 IS&T/SPIE Electronic Imaging Conference, Image Sensors and Imaging Systems*, San Francisco, CA, February 8-12, 2015.
71. G. Tsagkatakis, and **P. Tsakalides**, "[Recovery of Quantized Compressed Sensing Measurements](#)," in *Proc. 2015 IS&T/SPIE Electronic Imaging Conference, Computational Imaging XIII*, San Francisco, CA, February 8-12, 2015.
72. K. Fotiadou, G. Tsagkatakis, and **P. Tsakalides**, "[Low Light Image Enhancement via Sparse Representations](#)," in *Proc. International Conference on Image Analysis and Recognition (ICIAR '14)*, Vilamoura, Algarve, Portugal, October 22-24, 2014.
73. A. Achim, A. Basarab, G. Tzagkarakis, **P. Tsakalides**, and D. Kouame, "[Reconstruction of Compressively Sampled Ultrasound Images Using Dual Prior Information](#)," in *Proc. IEEE International Conference on Image Processing (ICIP '14)*, Paris, France, October 27-30, 2014.
74. A. Seliniotaki, G. Tzagkarakis, V. Christofides and **P. Tsakalides**, "[Stream Correlation Monitoring for Uncertainty-Aware Data Processing Systems](#)," in *Proc. 5<sup>th</sup> IEEE International Conference on Information, Intelligence, Systems and Applications (IISA '14)*, Chania, Greece, July 7-9, 2014.
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76. G. Tsagkatakis, G. Tzagkarakis, A. Woiselle, M. Bousquet, J.L. Starck, and **P. Tsakalides**, "[Compressed Sensing Reconstruction of Convolved Sparse Signals](#)," in *Proc. 39<sup>th</sup> International Conference on Acoustics, Speech, and Signal Processing (ICASSP '14)*, Florence, Italy, May 4-9, 2014.
77. A. Chorti, K. Papadaki, **P. Tsakalides**, and H. V. Poor, "[The Secrecy Capacity of Block Fading Multiuser Wireless Networks](#)," in *Proc. International Conference on Advanced Technologies for Communications (ATC '13)*, Hochiminh City, Vietnam, October 16-18, 2013 (**best paper award**).
78. S. Nikitaki, G. Tsagkatakis, and **P. Tsakalides**, "[Efficient recalibration via Dynamic Matrix Completion](#)," in *Proc. 23<sup>th</sup> IEEE Machine Learning for Signal Processing Workshop (MLSP '13)*, Southampton, UK, September 22-25, 2013.
79. D. Milioris, G. Tzagkarakis, P. Jacquet, and **P. Tsakalides**, "[LAN-based Indoor Path Tracking Using Compressive RSS Measurements](#)," in *Proc. 21<sup>st</sup> European Signal Processing Conference (EUSIPCO '13)*, Marrakech, Morocco, September 9-13, 2013.
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81. S. Nikitaki, P. M. Scholl, K. Van Laerhoven, and **P. Tsakalides**, "[Localization in Wireless Networks via Laser Scanning and Bayesian Compressed Sensing](#)," in *Proc. 14<sup>th</sup> IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC '13)*, Darmstadt, Germany, June 16-19, 2013.
82. S. Poularakis, G. Tsagkatakis, **P. Tsakalides**, and I. Katsavounidis, "[Sparse Representations for Hand Gesture Recognition](#)," in *Proc. International Conference on Acoustics, Speech, and Signal Processing (ICASSP '13)*, Vancouver, Canada, May 26-31, 2013.
83. G. Tzagkarakis, A. Achim, **P. Tsakalides**, and J. L. Starck, "[Joint Reconstruction of Compressed Ultrasound RF Echoes by Exploiting Temporal Correlations](#)," in *Proc. IEEE International Symposium on Biomedical Imaging (ISBI 2013)*, San Francisco, CA, April 7-11, 2013.
84. S. Nikitaki and **P. Tsakalides**, "[Decentralized Indoor Wireless Localization Using Compressed Sensing of Signal-Strength Fingerprints](#)," in *Proc. 7-th ACM Workshop on Performance Monitoring and Measurement of Heterogeneous Wireless and Wired Networks (PM<sup>2</sup>HW<sup>2</sup>N 2012)*, Paphos, Cyprus, October 21-25, 2012.
85. A. Fragkiadakis, S. Nikitaki and **P. Tsakalides**, "[Physical-layer Intrusion Detection for Wireless Networks using Compressed Sensing](#)," in *Proc. 5<sup>th</sup> IEEE International Workshop on Selected Topics in Mobile and Wireless Computing (STWiMob '12)*, Barcelona, Spain, October 8-10, 2012.
86. G. Tsagkatakis, A. Woiselle, G. Tzagkarakis, M. Bousquet, J. L. Starck, and **P. Tsakalides**, "[Active Range Imaging via Random Gating](#)," in *Proc. 2012 SPIE Security and Defense*, Edinburgh, United Kingdom, September 24-27, 2012.
87. G. Tsagkatakis and **P. Tsakalides**, "[Efficient High Dynamic Range Imaging Via Matrix Completion](#)," in *Proc. 22<sup>nd</sup> IEEE Machine Learning for Signal Processing Workshop (MLSP '12)*, Santander, Spain, September 23-26, 2012.
88. G. Tzagkarakis, G. Tsagkatakis, J. L. Starck, and **P. Tsakalides**, "[Compressive Video Classification in a Low-Dimensional Manifold of Random Measurements with Learned Distance Metric](#)," in *Proc. 20<sup>th</sup> European Signal Processing Conference (EUSIPCO '12)*, Boucharest, Romania, August 27-31, 2012.
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90. G. Tsagkarakis and **P. Tsakalides**, "[Dictionary Based Reconstruction and Classification of Randomly Sampled Sensor Network Data](#)," in *Proc. 7<sup>th</sup> IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM '12)*, Stevens Institute of Technology, Hoboken, NJ, USA, June 17-20, 2012.
91. A. Chorti, **P. Tsakalides**, and V. H. Poor, "[Physical Layer Security in Scale Free Networks](#)," in *Proc. 10<sup>th</sup> International Conference on Wired/Wireless Internet Communications (WWIC '12)*, Santorini, Greece, June 6-8, 2012.
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