

UNIVERSITÀ DEGLI STUDI DI MILANO

Procedura di selezione per la chiamata a professore di I fascia da ricoprire ai sensi dell'art. 18, comma 1, della Legge n. 240/2010 per il settore concorsuale 01/B1, (settore scientifico-disciplinare INF/01) presso il Dipartimento di Informatica (avviso bando pubblicato sulla G.U. 35 del 30/04/2024) - Codice concorso 5534

## STAVROS NTALAMPIRAS

### CURRICULUM VITAE

#### INFORMAZIONI PERSONALI

COGNOME	NTALAMPIRAS
NOME	STAVROS
DATA DI NASCITA	17/12/1983



*Full name:* Ntalampiras Stavros

*Marital status:* Married, *Nationality:* Greek

*Military service (mandatory):* Completed - Served at the Research and Informatics Section of the Hellenic Army, at the Hellenic National Defense College where, amongst other duties, he was the network administrator (Microsoft server, ~50 PCs), web-site administrator ([www.setha.mil.gr](http://www.setha.mil.gr)) and he was responsible for the set-up and maintenance of the e-learning platform.

*Personal web page:* <https://sites.google.com/site/stavrosntalampiras/home>

*e-mail:* [stavros.ntalampiras@unimi.it](mailto:stavros.ntalampiras@unimi.it)

*Google scholar link:* <http://scholar.google.com/citations?user=Ktqy0r0AAAAJ>

*Linkedin profile:* <http://it.linkedin.com/pub/stavros-ntalampiras/10/ba7/209>

*Orchid profile:* <https://orcid.org/0000-0003-3482-9215>

*Scopus profile:* <https://www.scopus.com/authid/detail.uri?authorId=24830597800>

#### Table of Contents

<b>Education</b>	<b>2</b>
<b>Prizes, Awards and Distinctions</b>	<b>3</b>
<b>Professional Experience</b>	<b>4</b>
<b>Membership in internationally recognized Research Groups</b>	<b>7</b>
<b>Didactic Experience</b>	<b>7</b>
<b>Seminars, Invited Talks, Panelist and Keynote Talks</b>	<b>8</b>
<b>PhD Examination &amp; Supervision</b>	<b>9</b>
<b>Theses Supervisor</b>	<b>9</b>
<i>A. Master Theses</i>	<i>9</i>
<i>B. Bachelor Theses</i>	<i>10</i>
<b>Responsibilities in national and international competitively funded projects</b>	<b>11</b>
<b>Evaluator of research projects/proposals</b>	<b>12</b>
<b>Standardization activity and Patent</b>	<b>12</b>

<b>International Management activities</b>	<b>12</b>
<b>Editing Responsibilities</b>	<b>13</b>
<b>International Collaborations (selected)</b>	<b>13</b>
<b>Institutional roles</b>	<b>13</b>
<b>Third-mission activities (selected)</b>	<b>14</b>
<b>Publications</b>	<b>15</b>
<i>A. Journals</i>	15
<i>B. Book Chapters</i>	18
<i>C. International Conference Papers</i>	19
<i>D. Citations and bibliometric analysis</i>	23
<i>E. Technical Reports (indicative list)</i>	24
<i>F. Miscellaneous</i>	24
<b>Memberships</b>	<b>25</b>
<b>Organization roles (Conferences, Workshops, etc.)</b>	<b>25</b>
<b>Reviewing - Journals</b>	<b>26</b>
<b>Reviewing - Conferences</b>	<b>28</b>
<b>General/Session Chair, Workshop and Challenge Organizer in International Prestigious Conferences</b>	<b>29</b>
<b>Media exposure and public engagement and outreach events</b>	<b>29</b>
<b>Selected Events, Workshops and Special Issues organized by the IEEE CIS Task Force on Computational Audio Processing (updated list at <a href="https://ieeeciscap.dii.univpm.it/">https://ieeeciscap.dii.univpm.it/</a>)</b>	<b>30</b>

## Education

- Ph.D. in Artificial Intelligence and Audio Signal Processing (Feb. 2007 - June 2010) at the Department of Electrical and Computer Engineering, Polytechnic School of the University of Patras under the supervision of Prof. Nikos Fakotakis, Prof. John Mourjopoulos and Prof. Evangelos Dermatas. Member of the AI Group of the Wire Communications Laboratory (he was accepted 1<sup>st</sup>/11 in the PhD program).
- Diploma of Electrical and Computer Engineer (5 years, integrated Bachelor and Master), Department of Electrical and Computer Engineering, Polytechnic School of the University of Patras, Greece (2001-2006, graduated 7<sup>th</sup>/82).
- Computer Alfa school graduate (Athens, Greece), 1996-1999. Low level programming languages, operating systems and image processing software (graduated first in his class).

**Master Thesis:** “Compression of multispectral images using visual perception criterions”, October 2006, rated as Excellent (grade 10/10). Low-level implementation of image compression algorithms and their comparison as regards to the case of multispectral images.

**PhD Thesis:** “Digital Processing and Automatic Classification of Environmental Sounds”, June 2010

*Abstract:* The dissertation introduces methods for automatic recognition of generalized sound events. More precisely, the dissertation proposes a series of novel methodologies for the following applications of the specific technology: a) recognition of urban environmental sound events, b) speech/music discrimination and c) acoustic surveillance of hazardous situations. As regards to the needs of the first application we propose the usage of principal component analysis for the post-processing of the acoustic parameters in combination with

an hierarchical classification topology. With respect to the second application we introduce the concurrent usage of feature sets which belong to frequency and wavelet domains. These are fed to hidden Markov models for automatic analysis of radiophonic signals. As regards to the third application we propose a methodology for detection of atypical situations which is self-adaptive to different acoustic conditions. Additionally, we investigate the novelty detection technology for acoustic surveillance of spaces using a database which was recorded under real-world conditions. Lastly the dissertation introduces the idea of temporal feature integration, a process which leads to high recognition rate. This methodology is a general scope one and can be adapted to fit the needs of various applications.

## Languages

Greek (native), English (expert), Italian (advanced)

## Prizes, Awards and Distinctions

- Invited member of the EC's DG CNECT Working group responsible to formulate a strategical framework supporting the application of Generative AI technologies in robotics (14/5/2024-today).
- Winner of the IEEE Signal Processing Society sponsorship to organize the challenge entitled "Listener Acoustic Personalization Challenge", 5k USD, 22/9/2023.
- Co-author of the Artificial Intelligence and Cybersecurity Research report of the European Union Agency for Cybersecurity, <https://www.enisa.europa.eu/publications/artificial-intelligence-and-cybersecurity-research> (7/6/2023).
- Inclusion and yearly advancement since 2020 in the top 2% (and *top 1%* since 2023) of World's most impactful scientists according to the evaluation metrics of the Stanford University <https://elsevier.digitalcommonsdata.com/-datasets/btchxktzyw/2>, (2020, 2021, 2022, 2023).
- EU Regional Chair for the 6th Asian Conference on Artificial Intelligence Technology, IEEE Computational Intelligence Society, Oct. 28-30 2022, Changzhou, China.
- Contributor to the Research and Innovation Brief - Annual Report on Cybersecurity Research and Innovation Needs and Priorities, European Union Agency for Cybersecurity, <https://www.enisa.europa.eu/publications/research-and-innovation-brief> (12/5/2022).
- Full Professor habilitation by the Italian Ministry of Education (31/1/2022).
- Distinguished cover article at the CAAI Transactions on Intelligence Technology, Sept. 2021 issue.
- Referee for the *European Research Council* (4/12/2020-today).
- Best regular paper award@IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications, 22-24 June 2020, Tunis, Tunisia.
- Voting and Contributing member of IEEE Computer Society Working Group for XML Musical Application (WG\_1599 of the IEEE Standards Association - STDS-1599-WG) for the definition, revision and implementation of IEEE 1599 standard, <https://standards.ieee.org/standard/1599-2008.html>, [https://ieee1599.lim.di.unimi.it/people\\_par\\_rev.php](https://ieee1599.lim.di.unimi.it/people_par_rev.php) (1/9/2018-today).
- Recipient of the NVIDIA GPU Grant, 3.000 USD (19/2/2019).
- Poster presentation award at 2nd Networking Alumni Workshop of the Joint Research Center of the European Commission, European Parliament, Brussels, Belgium (5/2/2019).
- Winner of the Patrick Turner MBA'78 Prize within the 37th INSEAD Venture Competition as a co-founder of the BabyT start-up team (5/12/2018).
- Associate Professor habilitation by the Italian Ministry of Education (7/8/2018).
- Outstanding reviewer Award for the following Elsevier journals: Journal of the Franklin Institute, Digital Signal Processing, Applied Soft Computing, Measurement, Expert Systems with Applications.
- Associate Researcher of the National Research Center of Italy, Institute of Electronics, Computer and Telecommunications Engineering (26/3/2018-today).

- Winner of the Microsoft Azure Research Award for the CACTUS project (21/7/2017).
- Winner of the European Research Consortium for Informatics and Mathematics Fellowship (hosted at CNR, Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni).
- Winner of International Neural Network Society Conf. on Big Data 2016 best regular paper award.
- Founding Member of the IEEE Computational Intelligent Society Task Force on Computational Audio Processing, Dec. 2015, where we have organized an extensive quantity of scientific events, such as workshops, special issues, etc. Full information available at <http://ieeeciscap.dii.univpm.it/>
- Associate Professor habilitation by the Agència per la Qualitat del Sistema Universitari de Catalunya, Spain (25/11/2015).
- Winner of Politecnico di Milano International Fellowship 2015-2017, Department of Electronics, Information and Bioengineering (3 available fellowships, number of applicants > 100).
- CRITIS 2014 Young Researcher Award, 9th International Conference on Critical Information Infrastructures Security, Limassol, Cyprus, 13-15 October 2014.

### Professional Experience

- Associate Professor at the Department of Computer Science of the University of Milan: Research and Teaching in artificial intelligence, signal processing, computer audition, audio pattern recognition, machine learning, and cyber physical systems. Member of the PhD Directing Board. Member of the Laboratory of Music Informatics, (<http://www.lim.di.unimi.it/> (1/12/2020-today)). Responsible for the following courses:
  - Audio Pattern Recognition (Postgraduate course)
  - Artificial Intelligence for Music (Undergraduate course)
  - Computer Science applied to Music (Undergraduate course)
  - Computer Science applied to Sound (Undergraduate course)
- Lead Researcher of the Musical Informatics Lab of the University of Milan (overall composition: 4 post docs, 4 PhDs, and several Master students). The group focuses on *Deep Learning for Audio Signal Processing* and focuses on the novel applications of precision livestock farming and medical acoustics (see projects such as VOCAPRA, PLF4MILK, PNRR Solitaire, etc.). - More International and National Collaborations: [http://www.lim.di.unimi.it/people\\_partners\\_eng.php](http://www.lim.di.unimi.it/people_partners_eng.php) (1/12/2020-today).
- Assistant Professor (RTD-B) at the Department of Computer Science of the University of Milan: Research and Teaching in artificial intelligence, signal processing, computer audition, audio pattern recognition, machine learning, and cyber physical systems. Member of the PhD Directing Board. Member of the Laboratory of Music Informatics (1/12/2017-30/11/2020). Responsible for the following courses:
  - Audio Pattern Recognition (Postgraduate course)
  - Computer Science applied to Music (Laboratory, Undergraduate course)
  - Machine Learning for audio signal processing (PhD Course)
- Co-PI of PRIN 2022, Under 40 section, "The auditory digital twin of a cochlear implant: framework requirements for immersive sonic interactions with children (S-TWIN)" (total budget: 331.261 Euros, 28/9/2023-today).
- PI and Scientific Responsible for the EU Horizon European partnership on animal health and welfare. Main novelties: Design, development and implementation of adaptive deep/machine learning algorithms for audio-based assessment of animal health and welfare (Total budget: 120MEuros, UNIMI: € 943.915, 1/1/2024-today).
- Co-PI and Local Coordinator for the VOCAPRA project on Multidisciplinary Approach for Continuous Acoustic Monitoring of Farm Environments funded by the EU via Regione Lombardia within FEASR – Programma di Sviluppo Rurale 2014-2020. *Coordinator*: University of Milan, *Partners*: Società Agricola Bagaggera s.r.l., Azienda Agricola Il Boscasso di Onida Maria Chiara, and Società Agricola Il Colmetto dei F.lli Agosti S.S.

*Main novelties:* Design, development and implementation of a wireless acoustic sensor network for farms, adaptive deep learning algorithms running on the edge, and development of a smart phone application suitable for farm owners and workers, publications in INF/01 (Total budget: 514.154,01 Euros, 9/9/2019-8/3/2023).

- Researcher for MUSA, PNRR-MAD-2022-12376834, SOLITAIRE - Digital interventions for Social isOLation In youThs And theIR families, (Total budget: 1MEuros, 1/9/2022-today).
- co-PI of the PLF4MILK project (part of the AGRIDIGIT project) on processing cow vocalizations with the Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, <https://www.crea.gov.it/en/-/agridigit-en> (third mission activity, Total budget: 32.498 Euros, 1/6/2022-today).
- Selected Expert for European Union Agency for Cybersecurity (ENISA) for compiling the Research and Innovation Annual Report to be used as input for the following Work Programme of the European Commission <https://www.enisa.europa.eu/publications/research-and-innovation-brief/@/@download/fullReport> (1/5/2021-30/10/2021).
- Co-Founder and Data Science Advisor at Zoundream start-up, <https://zoundream.com/> Design and implementation of machine learning technologies for content-based audio signal processing solutions (1/7/2018-today).
- Mentor for the start-up teams participating the The Sound of AI Accelerator, <https://docs.google.com/document/d/1MJ3jucXw5HxtXzDD0X1CZqGbfTOjMQPWGnywyo1hVAM/edit> (25/8/2022-today).
- Scientific advisor for the project entitled “Alternatives to early dairy cow-calf separation for improving animal welfare: farmers' perceptions and scientific evidence” (scored 1<sup>st</sup> place in the evaluation), on the automatic analysis of animal vocalizations funded by the University of Padova within the call *Budget Integrato per la Ricerca dei Dipartimenti* (Third mission activity, total budget ~20.000euros, 1/9/2019-30/11/2020).
- Senior Researcher for the project SONICOM - Transforming auditory-based social interaction and communication in AR/VR, H2020-EU - Overall budget € 5.651.042,50 (1/1/2021-today).
- Senior Researcher of the project entitled “Advanced methods for sound and music computing”, funded from Piano di sostegno alla ricerca, University of Milan (Total budget ~18.000euros annually, 1/1/2020-today).
- Principal Investigator of the project entitled automatic aNalySis of complex evovlIng auditoRy scEnes (INSPIRE), funded from Piano di sostegno alla ricerca, University of Milan (Total budget ~3.200euros, 1/1/2019-31/12/2019).
- Data Science Consultant at Akvelon (<https://akvelon.com/>) within MeowTalk start-up, <https://play.google.com/store/apps/details?id=com.akvelon.meowtalk&hl=en>, Bellevue, Washington, USA (1/6/2020-30/11/2021).
- Professor for the course “Audio Technologies” within the Specialization Course of the IFTS Fondazione Clerici, Academic years 2019/2020/2021, *Employer*: Regione Lombardia.
- European Research Consortium for Informatics and Mathematics (ERCIM) Fellow at National Research Center of Italy, Institute of Electronics, Computer and Telecommunications Engineering (authored the ERCIM proposal). Analysis traffic data coming from cellular networks based on machine learning technologies (cooperation with Orange in France), transfer learning for audio applications, and signal processing over wireless acoustic sensor networks. Author of the proposal, researcher and developer for the CACTUS project – Climate-Aware CharacTerization of mobile service USage (1/4/2017-30/11/2017)
- Adjunct Lecturer and ECDL examiner at Bocconi University, SEDIN Centro di Servizi Didattici per l'informatica, Milan, Italy (April 2016-Nov. 2017). Course: Computer science (Undergraduate course).
- Politecnico di Milano Senior Research Fellow (Department of Electronics, Information and Bioengineering): Lecturer, senior researcher, developer and principal investigator of the ARTEMIS project (A fAult chaRacterization sysTEm basEd on Machine learnIng technologieS, fully authored by Stavros Ntalampiras (April 2015-March 2017)).
- Post-doc researcher and developer – Grantholder Cat. 30. at the Joint Research Center, European Commission, Institute for the Protection and Security of the Citizen. Project: Development of modeling tools

for critical infrastructure interdependencies assessment, STREST FP7 project: Harmonized approach to stress tests for critical infrastructures against natural hazards, development and application of a resilience optimization methodology for the critical infrastructure of the port of Thessaloniki (May 2013-April 2015).

- Tutor in the online educational/guidance service of the University of Athens “MentorMe”, *Employer*: National and Kapodistrian University of Athens, (Feb. 2015 - June 2016).
- Post-doc researcher and developer at the Department of Electronics and Information, Politecnico di Milano for the European project *i-Sense, Making Sense of Non-Sense*, Contract No: INSFO-ICT-270428. Pattern recognition for heterogeneous signals, methodology development for exploiting redundancies of data coming from multiple sensors, fault diagnosis (Nov. 2011 - May 2013).
- Post-doc researcher and developer at the Wire Communications Laboratory, Polytechnic School of the University of Patras for the European project *AMIBIO* (Automatic Acoustic Monitoring and Inventorying of Biodiversity), Grant: LIFE08 NAT/GR/000539 (July 2010 – Mar. 2013). Contributed to the proposal, responsible for the acoustic monitoring component, statistical signal processing, management of the audio database and field recordings. Chosen as the *best of the best* project of the LIFE+ program.
- Researcher and developer at the Wire Communications Laboratory, Polytechnic School of the University of Patras for the Greek program *LOGOS - A General Architecture for Speech Recognition and (User-Friendly) Dialog Interaction for Advanced Commercial Applications* (Feb. 2007 – Jan. 2008), funded by the General Secretariat for Research and Technology of the Greek Ministry of Development. Responsible for the construction of the isolated word recognition component and exploration of a great variety of speech enhancement methodologies. Moreover, I developed a multi-dimensional signal processing algorithm on a custom-made microphone array for detecting the position of the speaker(s).
- Researcher and developer at the Wire Communications Laboratory, Polytechnic School of the University of Patras for the European project *MoveON* (Multi-modal and multi-sensor zero-distraction interaction interface for two wheel vehicles on the move), IST-2005-034753, FP6 - STREP (Feb. 2007 – Jan. 2008). Responsible for the audio enhancement module towards improving the speech recognition performance (programming in C++ to develop algorithms for voice technology with respect to a real-time application).
- Researcher and developer at the Wire Communications Laboratory, Polytechnic School of the University of Patras for the European project *PROMETHEUS* (Prediction and interpretation of human behavior based on probabilistic structures and heterogeneous sensors), Grant agreement no. 214901, FP7 - STREP (Jan. 2008 – Feb. 2011). Responsible for the development of the audio event detection and recognition component. Creation of a database of heterogeneous sensors (visual, thermal, acoustic etc.) and creation of a real-time adaptive acoustic surveillance system.
- Researcher and developer at the Wire Communications Laboratory, Polytechnic School of the University of Patras for the European project *PLAYMANCER* (A European Serious Gaming 3D Environment), Grant agreement no. 215839, FP7 - STREP (Jan. 2009 – Feb. 2011). Responsible for the dialog management system and the feature extraction part of the emotion recognition component (programming in C++ and Matlab for improving the interaction of the user with the gaming platform).
- Researcher and developer for the Department of Music Technology and Acoustics of the Technological Educational Institute of Crete (European project *AMIBIO - Automatic Acoustic Monitoring and Inventorying of Biodiversity*), Grant: LIFE08 NAT/GR/000539 (Sept. 2011 – Dec. 2011). Development and implementation of a framework for long-term bird species detection (MATLAB and C++).
- Teaching Assistant under the umbrella of the European program *ETIEAK II* towards improving the undergraduate curriculum with respect to the laboratory of the Speech Technology class of the Electrical and Computer Engineering Department of the Polytechnic School of the University of Patras (construction of an integrated platform for conducting the laboratory exercises online) (Jan. 2008 – Apr. 2008).
- Teaching Assistant at the *Computer Analysis College* (private school). He was responsible for preparing laboratory material/exercises and teaching of the classes: Signals and Systems I, Signals and Systems II and Digital Telecommunications. (Sept. 2010-July 2011).
- Laboratory Assistant at the *Electrical and Computer Engineering Department of the University of Patras* including Speech Technology and C++ Lab. (Feb. 2007-June 2010).



- Technician at *Computer Alfa* company (ACOM, Athens, Greece) (1999, duration 8 months, putting together electronic equipment, setup operating systems, etc.).

### **Membership in internationally recognized Research Groups**

- Artificial Intelligence Group, Wire Communications Laboratory, Department of Electrical and Computer Engineering, Polytechnic School of the University of Patras, Greece (2007-2011)
- System Architectures Group, Department of Electronics, Information and Bioengineering, Politecnico di Milano (2011-2013 and 2015-2017).
- Institute for the Protection and Security of the Citizen, Joint Research Center, European Commission (2013-2015).
- IEEE Computational Intelligent Society Task Force on Computational Audio Processing, Founding Member, *International Research Group* (12/2015-today).
- Institute of Electronics, Computer and Telecommunications Engineering, National Research Center of Italy (2017).
- Laboratory of Music Informatics, Department of Computer Science, University of Milan (2017-today).
- CINI Lab for Artificial Intelligence and Intelligent Systems, *InterUniversity Research Group* (2018-today).
- Member of the European Union' Agency ENISA Contributors group on AI for Cybersecurity for as part of the European Commission's agenda, *International Research Group* (1/5/2021-30/10/2021).
- IEEE Communication Society's Internet of Sounds Research Network, *International Research Group* (7/11/2022-today).
- Member of EC's DG CNECT Working group to formulate a strategical framework supporting the application of Generative AI technologies in robotics, *International Research Group* (14/5/2024-today).

### **Didactic Experience**

1. Graduation committee member for Bachelor and Master levels (3-4 times per year since 2017).
2. Supervisor of PhD, Master and Bachelor theses, Universities in Italy, Greece and Spain (see the respective section for more details).
3. Professor of the course of continuous learning 4EU+ Artificial Representation of Reality – 4EU+ LLL course, organized under task 4.1 (Professional learning Academy) of Project 4EU+ 1CORE, 2023 (6h).
4. Professor of the Course “Programmazione I”, (Laboratory, Undergraduate course), Department of Mathematics of the University of Milan, Academic year 2020-2021, 36h/y.
5. Professor of the Master's Course “Audio Pattern Recognition” which is included in the shared courses 4EU+ academic year 2022-today, <https://4euplus.eu/4EU-379.html>.
6. Professor of the Course “Computer Science applied to Sound” (Undergraduate course), Department of Computer Science of the University of Milan, Academic years 2021-today, 48h/y, 6 CFU.
7. Professor of the Course “Computer Science applied to Music” (Undergraduate course), Department of Computer Science of the University of Milan, Academic years 2017-today, 24h/y, 3 CFU.
8. Professor of the Course “Audio Pattern Recognition” (Masters level), Department of Computer Science of the University of Milan, Academic years 2017-today, 48h/y, 6 CFU.
9. Professor of the Course “Artificial Intelligence for Music” (Undergraduate course), Department of Computer Science of the University of Milan, Academic years 2023-today, 24h/y, 3 CFU.
10. Professor of the Course “Computer science for Economics”, 01/02/2016-30/11/2017, Adjunct Lecturer and ECDL examiner at Bocconi University, Centro di Servizi Didattici per l'informatica, Milan, Italy, 48h, 6 ECTS.
11. Professor of the Course “Speech Technology Laboratory”, Academic years 2008/2009/2010, Department of Electrical and Computer Engineering Department of the University of Patras, Patras, Greece, 48h annually.

## Seminars, Invited Talks, Panelist and Keynote Talks

- Panelist in “Review panel - Generative AI for robotics policy paper”, DG CNECT, AI, Data and Robotics Association (ADRA), 21/5/2024.
- Invited speaker at International Faculty Development Program, Chandigarh Group of Colleges Jhanjeri, Mohali, Punjab, India, 24-28 June, 2024.
- Keynote speaker at IEEE International Conference on Audio, Speech and Signal Processing, Seoul, Korea, Apr. 14 -19, 2024, entitled “Audio Pattern Recognition and Medical Acoustics”.
- Invited Panelist on “Autonomous Cyber Defence: Authorised Bounds for Autonomous Agents”, Centre for Emerging Technology and Security, *The Alan Turing Institute*, 07/02/2024.
- Invited Talk “Defense against adversarial attacks”, Centre for Emerging Technology and Security, *The Alan Turing Institute*, 15/11/2023.
- Seminar “Interpretable Deep Sound Classification”, 2022 Intelligent Sensing Winter School on Explainable AI Sensing, *Queen Mary University of London*, 13/12/2022.
- Seminar cycles (3) entitled “Audio Technologies” within the Specialization Course of the IFTS *Fondazione Clerici*, Academic years 2019/2020/2021, Regione Lombardia, 30h/year.
- Seminar “Machine Learning for Audio Signal Processing”, 29th IEEE Summer PhD School of Information Engineering SSIE 2019 jointly organized by *DEI University of Padova and IEEE Italy Section*, “Artificial Intelligence & Machine Learning for ICT Applications”, Casa della Gioventù, via Rio Bianco, 39042 Bressanone (BZ), Italy July 8 – 12, 2019.
- Keynote speaker at 6th International Conference on New Music Concepts April 13-14, 2019 Treviso – Italy, entitled “Transfer learning: Introduction and Audio signal processing opportunities”.
- Invited talk “Machine learning for signal processing”, 2nd Networking Alumni Workshop of the Joint Research Center of the European Commission, *European Parliament*, Brussels, Belgium, 5/2/2019.
- Invited talk “Automatic processing and recognition of animal vocalizations” Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia, *University of Milan*, 6/12/2018.
- Invited talk “Machine Learning for audio signal processing”, Department of Computer Science, *University of Milan*, 10/7/2017.
- Invited talk “Novel Applications of AI in Music”, Dept. of Music Technology & Acoustics, *Hellenic Mediterranean University*, 12/6/2017.
- Invited talk “Model-free fault diagnosis for large scale cyber physical systems”, at *Politecnico di Torino*, 16/5/2017.
- Invited talk “Probabilistic Novelty Detection and Model-free fault diagnosis”, at *Centro Nazionale delle Ricerche*, Institute of Electronics, Information and Telecommunications, 7/3/2017.
- Invited talk, “Intelligence for Cyber-Physical Systems”, 1<sup>st</sup> Italian Workshop on Embedded Systems, Pisa, Italy, 19/9/2016.
- Invited talk “Cognitive fault detection and isolation in large scale cyber physical systems”, Workshop "Diagnostics and Prognostics for Maintenance Engineering and Management: Achievements and Challenges", 20/11/2015, *Politecnico di Milano*, Milano, Italy, organized by the Reliability and Risk Analysis of Nuclear and Industrial Components and Systems Group of Politecnico di Milano.
- Invited talk “Assessing interdependencies of energy and ICT infrastructure on realistic topologies using experimental facilities and high level models”, Forschung und Innovation – Herausforderungen durch die Energiewende, 10/12/2013, Vienna, Austria.
- Invited talk “Modeling interdependencies in heterogeneous sensor networks”, Joint Research Center, *European Commission*, Ispra, Italy, 14/5/2013.



- Invited talk “Audio signal processing over sensor networks”, *Universidad Ramon Llull*, La Salle BCN, Barcelona, 5/2/2013.
- Invited talk “An HMM-based change detection method for intelligent embedded sensors, *KIOS Research and Innovation Center of Excellence* Workshop, Cyprus, 9/4/2012.
- Invited talk “Automatic monitoring of biodiversity: The Amibio project”, *Technological Educational Institute of Crete*, Greece, 5/6/2012.
- Invited talk “Automatic recognition of generalized sound events”, *Technical University of Munich*, Germany, 20/1/2011.

## **PhD Examination & Supervision**

1. Member of PhD review committee: Xavier Valero González, “Perceptually-based signal features for environmental sound classification”, *Universidad Ramon Llull*, La Salle BCN, Barcelona, Feb. 2013.
2. Member of PhD review committee: Pepe Giovanni, “Deep Learning Algorithms for Voice Activity Detection and Speaker Localization in Indoor Environments”, *Università Politecnica delle Marche*, Dec. 2021.
3. Supervisor of PhD thesis on *Multimodal Music Analysis*, Federico Simonetta, Department of Computer Science, University of Milan, Oct. 2019-April 2022.
4. Certified Supervisor of AI Doctoral Academy; AIDA is a joint initiative of the European projects: AI4Media, VISION, HumanE-AI NET, ELISE, and TAILOR, that supports world-level AI education and research programmes and attracts PhD talents in Europe (25/1/2022-today).
5. Supervisor of PhD thesis “Personalized Head-Related Transfer Functions”, Davide Fantini, Department of Computer Science, University of Milan, Oct. 2022-today.
6. Supervisor of PhD thesis “Multidisciplinary approach for setting up a continuous monitoring system in goat farms by means of vocalization analysis”, Stefania Celozzi, Jointly carried out in Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia and Department of Computer Science, University of Milan (2020-today).
7. Supervisor of PhD thesis “Manifold representations of musical signals and generative spaces”, Axel Chemla–Romeu-Santos, Jointly carried out in Université Paris-Sorbonne, École doctorale Informatique, Télécommunications et Électronique and Univ. of Milan, Dpt. of Computer Science, Dec. 2017-June 2020.
8. Responsible for the PhD research line “Exploring emotions through bioacoustic and behavioral analysis to enhance farm animal welfare”, PhD School on Agriculture, Environment and Bioenergy, DISAA, 2024.

## **Theses Supervisor**

### ***A. Master Theses***

1. Automatic speech segmentation, University of Patras, 2009 (student Theodorou Theodoros).
2. Using speech enhancement techniques for denoising general sound events, University of Patras, 2010 (student Athanasiou Georgia).
3. Annotation of words and sound events in a Greek database for automatic emotion recognition, University of Patras, 2010 (student Tomaras Ioannis).
4. Music genre recognition under noisy conditions, University of Patras, 2010 (student Papanikolaou Panagiotis).
5. Automatic segmentation of popular music, University of Milan in cooperation with University of Aegean, 2018 (student Stratos Kampiotis).
6. Individualized binaural rendering through pinna anthropometry extraction from 3D images, University of Milan, 2019 (student Fantini Davide). [published International Conference on Immersive and 3D Audio 2021]
7. One-shot learning for acoustic bird species identification, University of Milan, 2020 (student Acconciaioco Michelangelo). [published at International Conference on Pattern Recognition 2021]

8. Real-time audio synthesis based on classification of environmental sounds, University of Milan, 2020 (student Giulia Clerici).
9. Beneficios de aplicar técnicas de aprendizaje no supervisadas antes del reconocimiento de sonido en un dispositivo hardware, Comillas Pontifical University, Madrid, Spain, 2020 (student Carlos Arranz Herrero).
10. Variational Autoencoders for anomaly detection in respiratory sounds, University of Milan, 2022 (student Michele Cozzati). [published at International Conference on Artificial Neural Networks 2022].
11. Automatic Discovery of Features for Medical Acoustics, University of Milan, 2022 (student Alessandro Maria Poirè). [published at International Conference on Artificial Neural Networks 2022].
12. Adversarial ML for audio and music processing, University of Milan, 2022 (student Nicolas Facchinetti). [published at Intelligent Computing, Science Partner Journal 2024].
13. Automatic acoustic monitoring of goat farms using a smartphone application, University of Milan, 2022 (student Mael Vittorio Vena). [published at Ecological Informatics, Elsevier 2023]
14. Sound classification in the presence of missing samples, Univ. of Milan, 2022 (student Davide Pedretti).
15. Optical Music Recognition for Cultural Heritage, University of Milan, 2022 (student Rishav Mondal).
16. Audio Based Covid-19 detection via Cough Analysis, University of Milan, 2023 (student Mattia Palano).
17. Modellazione di attacco impercettibile ad un sistema di speech recognition, University of Milan, 2023 (student Alessandro Di Marco).
18. Classification of Goat Vocalizations using Deep Learning Techniques, Data Augmentation and AI Explainability, University of Milan, 2023 (student Gabriele Pesando-Gamacchio).
19. Evaluation of audio classification models under adversarial attacks, University of Milan, 2023 (student Paolo Cortis).
20. Explainable Sound Recognition, University of Milan, 2023 (student Enada Dervishi).

## ***B. Bachelor Theses***

1. Cross-language speech emotion recognition: the Italian-German case, University of Milan, 2018 (student Mattia Panza).
2. Between class learning for acoustic surveillance, University of Milan, 2019 (student Gregorio Citterio).
3. MIDI velocity estimation of singular notes from polyphonic piano recordings, University of Milan, 2019 (student Francesco Festorazzi).
4. Identificazione automatica di brani musicali presenti su Spotify potenzialmente adatti a pubblicità, University of Milan, 2021 (student Gianmarco Lodi).
5. Two-factor Authentication System using Speaker Recognition, University of Milan, 2021 (student Federico Bargiggia).
6. Sistema di Machine Learning per la Hit Prediction basato sulle audio features di Spotify, University of Milan, 2021 (student Isacco Valsecchi).
7. One-shot learning for music genre recognition, University of Milan, 2021 (student Sebastiano Silipo).
8. Audio-based human activity recognition based on transfer learning, University of Milan, 2021 (student Marco Nicolini).
9. Parametrizzazione Automatica di un Sintetizzatore tramite Deep Learning, University of Milan, 2021 (student Andrea Cinquepalmi)
10. Riconoscimento di soundscapes con finalità di acustica forense, Un. of Milan, 2021 (student Luca Citterio)
11. Analysis of a convolutional model for melody-line identification, University of Milan, 2022 (student Carlotta Bellomo). [published in AudioMostly 2024]
12. Medical Acoustics using Bayesian NNs, University of Milan, 2022 (student Emanuele Peratello).

13. Analyzing emotion prediction system across different classes of sounds, University of Milan, 2022 (student Francesca Certo).
14. Ricerca su tecniche e tecnologie per lo sviluppo di un IA in grado di comporre 'type beat', University of Milan, 2023 (student Davide Abou Rachid).
15. Investigating feature extraction parameters for classifying respiratory sounds, University of Milan, 2023 (student Leonardo Tomaselli).
16. Literature review for speech-based identification of psychological diseases, University of Milan, 2023 (student Alice Giardina).
17. Controller MIDI basato sullo sfruttamento creativo dei difetti di una rete neurale, University of Milan, 2023 (student Francesco Fuselli).
18. Bayesian NNs for Heartbeat Classification, University of Milan, 2023 (student Giulia Demme).
19. Dataset creation and model development for disturbance assessment of inter-floor noises, University of Milan, 2023 (student Alessandro Scalabrino).
20. Explaining Audio Classification Models in Medical Acoustics, University of Milan, 2024 (student Giorgio Longhi).
21. Letteratura scientifica sulla sintesi di paesaggi sonori, University of Milan, 2024 (student Oliviero Casalatina).

### **Responsibilities in national and international competitively funded projects**

1. PI and Scientific Responsible for the project "European partnership on animal health and welfare", EU Horizon. Main novelties: Design, development, and implementation of wireless sensor networks and adaptive deep/machine learning algorithms for audio-based assessment of animal health and welfare for precision livestock farming (Total budget: 120MEuros, UNIMI: € 943.915, 1/1/2024-today).
2. Co-PI and Local Coordinator of PRIN 2022 (Under 40 section) "The auditory digital twin of a cochlear implant: framework requirements for immersive sonic interactions with children (S-TWIN)" (total budget: 331.261 Euros, 1/9/2023-today).
3. Researcher for MUSA, PNRR-MAD-2022-12376834, SOLITAIRE - Digital interventions for Social isOLation In youThs And theIR families, (total budget: 1MEuros, 1/1/2023-today).
4. Researcher for European project SONICOM - Transforming auditory-based social interaction and communication in AR/VR, H2020-EU (total budget € 5.651.042,50).
5. Co-PI and Local Coordinator for the VOCAPRA project on Multidisciplinary Approach for Continuous Acoustic Monitoring of Farm Environments funded by the EU via Regione Lombardia within FEASR – Programma di Sviluppo Rurale 2014-2020 (total budget € 514.154,01).
6. Researcher for European project STREST, Harmonized approach to stress tests for critical infrastructures against natural hazards, FP7, Grant agreement 603389 (total budget € 3.975.006).
7. Researcher for European project i-Sense, Making Sense of Non-Sense, Contract No: INSFO-ICT-270428 (total budget € 3.998.120).
8. Task Leader and Researcher for European project AMIBIO - Automatic Acoustic Monitoring and Inventorying of Biodiversity), Grant: LIFE08 NAT/GR/000539 (total budget € 1.661.282).
9. Researcher for European project PLAYMANCER (A European Serious Gaming 3D Environment), Grant agreement no. 215839, FP7 - STREP (total budget € 3.096.274).
10. Task Leader and Researcher for European project PROMETHEUS (Prediction and interpretation of human behavior based on probabilistic structures and heterogeneous sensors), Grant agreement no. 214901, FP7 - STREP (total budget € 2.908.561).
11. Researcher for European project MoveON (Multi-modal and multi-sensor zero-distraction interaction interface for two wheel vehicles on the move), IST-2005-034753, FP6 – STREP (total budget € 2.960.580,19).

12. PI for the Italian project ARTEMIS A fAult chaRacterization sysTem basEd on Machine learnIng technologieS, competition among PoLiMi International Research Fellows (total budget € 105.000).
13. Researcher for Greek program LOGOS - A General Architecture for Speech Recognition and (User-Friendly) Dialog Interaction for Advanced Commercial Applications, General Secretary of Research and Innovation, Greek Ministry of Research (total budget € 879.000).

#### **Evaluator of research projects/proposals**

- Referee for the *European Research Council* (4/12/2020-today).
- Expert Evaluator for the *European Innovation Council Accelerator* (22/3/2023-today).
- External Reviewer for the National Agency for the Evaluation of Universities and Research Institutes, *VQR* 2015-2019.
- Expert Evaluator for International Training Networks, Horizon Europe, *Marie Skłodowska-Curie action*, European Commission (2020-today).
- Invited Expert Evaluator and Rapporteur for various organizations, such as European Institute of Innovation and Technology, standICT - Supporting European Experts Presence in International Standardisation Activities in ICT, EUHubs4data, PROMIS Science Fund of the Republic of Serbia (ERC-level grants awarded by the Republic of Serbia), European Language Grid, NGI Atlantic: Bridging EU-US research on Next Generation Internet, PROCESS Marie-Curie Action, Digital Innovation Hubs in Healthcare Robotics, FAR 2020 University of Modena and Reggio Emilia.
- Reviewer of Marie Curie proposals for Junta de Andalucia, Agenzia Andaluza del Conocimiento, Consejeria de Economia, Innovacion, Cienza y Empleo (Nov. 2014).

#### **Standardization activity and Patent**

- ❖ Definition, Revision and Implementation of the IEEE 1599 Standard for the music industry. Voting and Contributing member of the IEEE Committee for the standard definition and regulation of the IEEE Recommended Practice for Defining a Commonly Acceptable Musical Application Using XML. This activity falls within the IEEE Computer Society Working Group for XML Musical Application (WG\_1599 of the IEEE Standards Association - STDS-1599-WG) for the definition, revision and implementation of IEEE 1599 standard, <https://standards.ieee.org/standard/1599-2008.html> (1/9/2018-today).
- ❖ Zoundream start-up co-founders, “A Computer-Implemented Method of Providing Data for an Automated Baby Cry Assessment”, patent number US2023260535A1, 17/8/2023.

#### **International Management activities**

- ❖ Member of the Central Organization of the Alumni Network of European Commission’s Joint Research Center (1/1/2019-today).
- ❖ Member of the Contributors group on AI for Cybersecurity selected by the European Union Agency for Cybersecurity for forming the future research and innovation needs and priorities for the development of cybersecurity technology as part of the EC’s agenda (1/5/2021-30/10/2021).
- ❖ Member of the IEEE Access Management Committee Dedicated to Managing Recommended Corrective Actions for plagiarism (20/1/2023-today).
- ❖ EU Regional Chair for the 6th Asian Conference on Artificial Intelligence Technology, Technically Co-Sponsored by the IEEE Computational Intelligence Society, <http://www.acait.cn/> (Oct. 28-30 2022, Changzhou, China).
- ❖ Responsible for Managing the Partnership of Laboratorio di Informatica Musicale, Univ. of Milan with the worldwide Internet of Sounds Research Network, <https://internetofsounds.net/> (7/11/2022-today).
- ❖ Member of the Organizing Committee of the Erasmus Mundus Joint Master in Sound and Music Computing (with University of Copenhagen, KTH Stockholm, University of Oslo, METU Ankara) (1/1/2022-today).

- ❖ Main organizer of the IEEE Listener Acoustic Personalization Challenge in cooperation with Imperial College London, UK, Sorbonne Univ., Austrian Academy of Sciences, and Univ. of Glasgow, 2023-24.
- ❖ Sponsorship Chair, ACM AudioMostly Conference, September 2024.

### Editing Responsibilities

- Associate Editor for IEEE Transactions on Neural Networks and Learning Systems (12/2023-today).
- Associate Editor of IEEE Access (23/5/2017-30/4/2024).
- Editor of the book entitled “Big Data in Engineering Applications” Editors: Roy, S.S., Samui, P., Deo, R., Ntalampiras, S. (Eds.), Studies in Big Data. 2018 Springer, Singapore. ISBN 978-981-10-8476-8.
- Associate Editor for PlosOne Journal (21/6/2018-today).
- Editor of IEEE MMRP 2019 proceedings published by IEEE CPS.
- Lead Guest Editor of the Special Issue entitled “Computational Bioacoustics” within the Animals, MDPI journal (submission deadline: 15/10/2020).
- Lead Guest Editor of the Special Issue entitled "Computational Intelligence for Audio Signal Processing" within the Information, MDPI journal (submission deadline: 31/5/2020).
- Associate Editor for IET Signal Processing Journal (2/10/2019-today).
- Associate Editor of CAAI Transactions on Intelligence Technology (10/12/2019-today).
- Associate Editor for Frontiers in Signal Processing (13/6/2021-today).
- Lead Guest Editor of the Special Issue entitled “Advances in Deep Audio Pattern Recognition” within the *Sensors*, MDPI journal (submission deadline: 30/9/2023).
- Lead Guest Editor of the Special Issue entitled “Data Driven Human Activity Recognition in Smart World” within the *Sensors*, MDPI journal (submission deadline: 31/12/2023).

### International Collaborations (selected)

The collaborations are evident from the joint implementation of R&D projects and the respective publications, so this list includes a selection of the most notable ones:

- Prof. Nikos Fakotakis (Polytechnic School of the University of Patras, Greece)
- Prof. Ilyas Potamitis (Hellenic Mediterranean University, Greece)
- Prof. Cesare Alippi (Università della Svizzera italiana and the Politecnico di Milano)
- Dr. Eng. Georgios Giannopoulos (Head of Unit, Joint Research Center, European Commission)
- Prof. Marco Fiore (IMDEA Networks Institute, Spain)
- Prof. Gerhard Widmer (Johannes Kepler University Linz, Austria)
- Prof. Philippe Esling (IRCAM, France)
- Prof. Emmanouil Benetos (Queen Mary and Turing Institute, UK)
- Members of the IEEE CIS Task Force on Computational Audio Processing.
- Prof. Brian F.G. Katz (Sorbonne University, France)
- Prof. Lorenzo Picinali (Imperial College London, UK)
- Prof. Klaus Riede (Zoological Research Museum Bonn, Germany)
- Dr. Marco Barros Lourenço (Research and Innovation Team Lead, ENISA, European Commission)
- Prof. Wen Qi (Guangdong Artificial Intelligence and Digital Economy Laboratory, Guangzhou, China)
- Prof. Sean Luke (George Mason University, USA)

### Institutional roles

1. Head of the Committee for the decision regarding the post-doc position of S-TWIN, PRIN 2022 (16/1/2024).
2. Member of Commissione Trasferimenti F3X (2023-today).
3. Docente di riferimento, Informatica Musicale, Informatica (2023-today).

4. Member of the commission for the post-doc position Paralinguistic Speech Signal Processing, SOLITAIRE - Digital interventions for Social isOLation In youThs And theIR familiEs - Progetto NextGeneration EU PNRR: M6/C2\_CALL 2022 (PNRRMAD-2022-12376834) 18/7/2023.
5. Member of the commission for evaluating the progress of PhD students of the Computer Science Department, University of Milan (12/7/2023).
6. Member of the commission for the admission of the extra-EU students to the master's degree of the Department of Computer Science, University of Milan (2023-today).
7. Member of the Committee for the decision regarding a scholarship on “Automated web scraping and supervised computer learning - Spoke 2 “Creativity and intangible cultural heritage” funded by PNRR – Cultural heritage active innovation for sustainable society” (5/4/2023).
8. Member of the Committee for the decision regarding a scholarship (borsa di studio) funded by SONICOM EU H2020 project (15/5/2023).
9. Member of the Committee for student fellowship for the PLF4MILK project on cow vocalizations with the Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (06/07/2022).
10. Member of the Committee for research assistant position (post-doc, assegno tipo-B) on “Personalized augmented reality audio (Personalizzazione di audio per la realtà aumentata)” and “Automatic Processing of Goat Vocalizations”, funded by SONICOM EU H2020 and VOCAPRA projects (04/07/2022).
11. Member of the Committee for the decision regarding a scholarship (borsa di studio) funded by SONICOM EU H2020 project (23/5/2022).
12. Head of the Committee for the decision regarding the External Consultant for the project entitled “ALGEBRAIC ANALYSIS OF HMAC-SHA-1”, Codice Identificativo, CTE\_INT19AVISC\_01 (8/5/2022).
13. Member of the Committee for the decision regarding the External Consultant for the VOCAPRA project on app development including audio classification capabilities (22/2/2022).
14. Member (as appointed by the University Rector) of the Examination Committee for the admission process in the PhD in Computer Science, Department of Computer Science, University of Milan (a.a. 2021-22).
15. Member of the Committee for research assistant position (post-doc, assegno tipo-B) on “Personalized augmented reality audio (Personalizzazione di audio per la realtà aumentata)”, funded by SONICOM EU H2020 project (17/05/2021).
16. Member of the Committee for fellowship for young graduates (post-graduate borsa) on “VOCAPRA - Approccio multidisciplinare per la messa a punto di un sistema di monitoraggio continuo in allevamenti caprini da latte mediante analisi delle vocalizzazioni”, University of Milan (14/12/2020).
17. Head of the Committee for research assistant position (post-doc, assegno tipo-B) on “VOCAPRA - Approccio multidisciplinare per la messa a punto di un sistema di monitoraggio continuo in allevamenti caprini da latte mediante analisi delle vocalizzazioni”, University of Milan (14/02/2020).
18. Committee for research assistant position (post-doc, assegno tipo-B) on “VOCAPRA - Approccio multidisciplinare per la messa a punto di un sistema di monitoraggio continuo in allevamenti caprini da latte mediante analisi delle vocalizzazioni”, University of Milan (11/02/2020).
19. Committee for research assistant position (post-doc, assegno tipo-B) on “Progettazione e realizzazione del Sistema Museale Virtuale di Ateneo”, University of Milan (10/12/2019).
20. Member of Collegio Docenti, Dottorato in Informatica, University of Milan (2018-today).
21. Member of Collegio Docenti, University of Milan (2017-today).
22. President of the PhD students of the Polytechnic School of the University of Patras (2009-2010).

### **Third-mission activities (selected)**

1. Participation in the IEEE Standard 1599-2008 - IEEE Recommended Practice for Defining a Commonly Acceptable Musical Application Using XML (2018-today).

2. Publication and management of websites and other social channels for scientific communication and dissemination for the VOCAPRA project (9/9/2020-8/3/2023).
3. Scientific advisor for the project entitled “Alternatives to early dairy cow-calf separation for improving animal welfare: farmers' perceptions and scientific evidence” (scored 1<sup>st</sup> place in the evaluation), on the automatic analysis of animal vocalizations funded by the University of Padova within the call *Budget Integrato per la Ricerca dei Dipartimenti* (Third mission activity, total budget ~20.000euros, 1/9/2019-30/11/2020).
4. co-PI of the PLF4MILK project (part of the AGRIDIGIT project) on processing cow vocalizations with the Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, <https://www.crea.gov.it/en/-/agridigit-en> (Total budget: 32.498 Euros, 1/6/2022-today).

## Publications

### A. Journals

1. Stavros Ntalampiras, Ilyas Potamitis, and Nikos Fakotakis, “An Adaptive Framework for Acoustic Monitoring of Potential Hazards”, *EURASIP Journal on Audio, Speech, and Music Processing*, Volume 2009 (2009), Article ID 594103, doi:10.1155/2009/594103 (impact factor: 0.341).
2. Stavros Ntalampiras, Ilyas Potamitis, and Nikos Fakotakis, “Exploiting Temporal Feature Integration for Generalized Sound Recognition”, *EURASIP Journal on Advances in Signal Processing*, Volume 2009 (2009), Article ID 807162, doi:10.1155/2009/807162, (impact factor: 1.012).
3. Stavros Ntalampiras, Ilyas Potamitis, and Nikos Fakotakis, “A Practical System for Acoustic Surveillance of Hazardous Situations”, *International Journal of Artificial Intelligence Tools*, vol. 20(1), 2011, doi: 10.1142/S021821301100005X (impact factor: 0.320).
4. Stavros Ntalampiras, Ilyas Potamitis, and Nikos Fakotakis, “Probabilistic Novelty Detection for Acoustic Surveillance Under Real-World Conditions”, *IEEE Transactions on Multimedia*, vol. 13, no. 4, August 2011 (impact factor: 1.684).
5. Stavros Ntalampiras, Ilyas Potamitis, Nikos Fakotakis, and Spyros Kouzoupis, “Automatic Recognition of an Unknown and Time-Varying Number of Simultaneous Environmental Sound Sources”, *Journal of World Academy of Science, Engineering and Technology*, vol.59, 2011 (invited).
6. Stavros Ntalampiras and Nikos Fakotakis, “Modeling the Temporal Evolution of Acoustic Parameters for Speech Emotion Recognition”, *IEEE Transactions on Affective Computing*, Jan.-March 2012, vol. 3, no. 1, pp. 116-125 (impact factor 2.675). <http://www.computer.org/csdl/trans/ta/2012/01/tta2012010116-abs.html>.
7. Stavros Ntalampiras, Dejan Arsic, Martin Hofmann, Maria Andersson and Todor Ganchev, “PROMETHEUS: Heterogeneous sensor database in support of research on human Behavioral patterns in unrestricted environments”, *Signal, Image and Video Processing*, Springer, June 2012, DOI 10.1007/s11760-012-0346-9 (impact factor 0.617).
8. Stavros Ntalampiras, Ilyas Potamitis, Nikos Fakotakis, “Acoustic Detection of Human Activities in Natural Environments”, *Journal of Audio Engineering Society*, Vol. 60, No. 9, 2012 September (impact factor 0.537).
9. Stavros Ntalampiras, “A Novel Holistic Modeling Approach for Generalized Sound Recognition”, *IEEE Signal Processing Letters*, vol. 20, no. 2, pp. 185-188, Feb. 2013 (impact factor 1.388).
- 10\*. Cesare Alippi, Stavros Ntalampiras, Manuel Roveri, “A Cognitive Fault Diagnosis System for Distributed Sensor Networks”, *IEEE Transactions on Neural Networks and Learning Systems*, vol.24, no.8, pp.1213-1226, Aug. 2013, <http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6502725> (impact factor 3.766).
11. Stavros Ntalampiras, “Directed Acyclic Graphs for Content-based Sound, Musical Genre and Speech Emotion Classification”, *Journal of New Music Research*, Taylor & Francis, vol. 43, issue 2, June 2014 (impact factor 0.767).

---

\* The order of the authors is alphabetical after the policy of the respective research group, while most of the work has been conducted by Prof. Stavros Ntalampiras.



12. Ilyas Potamitis, Stavros Ntalampiras, Olaf Jahn, and Klaus Riede, "Automatic Bird Sound Detection in Long Real Field Recordings: Applications and Tools", *Applied Acoustics*, Elsevier, vol. 80, pp. 1-9, 2014 (impact factor 1.097).
13. Stavros Ntalampiras, "Universal Background Modeling for Acoustic Surveillance of Urban Traffic", *Digital Signal Processing*, Elsevier, vol. 31, august 2014, pp. 69–78 (impact factor 1.918).
14. Olaf Jonkeren, Ivano Azzini, Luca Galbusera, Stavros Ntalampiras, Georgios Giannopoulos, "Analysis of Critical Infrastructure Network Failure in the European Union: A Combined Systems Engineering and Economic Model", *Networks and Spatial Economics*, Special Issue on Resilience and Vulnerability of Spatial Economic Networks, Springer, pp. 1-18, 2014 (impact factor 1.8).
15. Stavros Ntalampiras, "Fault Identification in Distributed Sensor Networks Based on Universal Probabilistic Modelling", *IEEE Transactions on Neural Networks and Learning Systems*, vol. 26, no. 9, pp. 1939-1949, Sept. 2015 (impact factor 4.3).
16. Stavros Ntalampiras, "Audio Pattern Recognition of Baby Crying Sound Events", *Journal of Audio Engineering Society*, vol. 63, no. 5, pp. 358-369, May 2015 (impact factor 1.12).
17. Stavros Ntalampiras, "Detection of Integrity Attacks in Cyber-Physical Critical Infrastructures Using Ensemble Modeling", *IEEE Transactions on Industrial Informatics*, vol.11, no.1, pp.104-111, Feb. 2015 (impact factor: 8.7).
18. Stavros Ntalampiras, Yannis Soupionis and Georgios Giannopoulos, "A Fault Diagnosis System For Interdependent Critical Infrastructures Based On HMMs", *Reliability Engineering & System Safety*, Elsevier, vol. 138, pp. 73–81, June 2015 (impact factor 2.04, ranked in the 25 most "downloaded" articles in June 2015).
19. Stavros Ntalampiras, "Automatic Identification of Integrity Attacks in Cyber-Physical Systems", *Expert Systems with Applications*, 2016, Elsevier, vol. 58, pp. 164-173 (impact factor 2.24).
20. Stavros Ntalampiras, "Fault Diagnosis for Smart Grids in Pragmatic Conditions", *IEEE Transactions on Smart Grid*, vol. 9, no. 3, pp. 1964-1971, May 2018 (impact factor 3.19).
21. Stavros Ntalampiras, and Yannis Soupionis, "Gaussian Mixture Modeling for Detecting Integrity Attacks in Smart Grids", *MDPI Electronics*, 2016, 5(4), 82; Special Issue Smart Grid Cyber Security (invited).
22. Stavros Ntalampiras, "Hybrid Framework for Categorizing Sounds of Mysticete Whales", *IET Signal Processing*, vol. 11(4), June 2017, p. 349 – 355 (impact factor 0.911).
- 23\*. Cesare Alippi, Stavros Ntalampiras, Manuel Roveri, "Model-free fault detection and isolation in large-scale cyber physical systems", *IEEE Transactions on Emerging Topics in Computational Intelligence*, vol. 1, no. 1, pp. 61-71, Feb. 2017.
24. Stavros Ntalampiras, "An automatic framework for predicting the emotional content of generalized sound events based on transfer learning", *The Journal of the Acoustical Society of America*, vol. 141, no. 3, pp.1694-1701, 2017 (impact factor 1.572).
25. Stavros Ntalampiras, "Moving Vehicle Classification Using Wireless Acoustic Sensor Networks", *IEEE Transactions on Emerging Topics in Computational Intelligence*, vol. 2, no. 2, pp. 129-138, April 2018.
26. Stavros Ntalampiras, "Bird Species Identification via Transfer Learning from Music Genres", *Ecological Informatics*, vol. 44, March 2018, pages 76–81, (impact factor 2.020).
27. Stavros Ntalampiras and Ilyas Potamitis, "Transfer Learning for Improved Audio-based Human Activity Recognition", *Biosensors*, MDPI, vol. 8, no. 3, 60, 2018 <https://doi.org/10.3390/bios8030060>.
28. Iraklis Rigakis, Ilyas Potamitis, Nicolaos-Alexandros Tatlas, Ioannis Livadaras and Stavros Ntalampiras, "A Multispectral Backscattered Light Recorder of Insects' Wingbeat", *Electronics*, MDPI, vol. 8, no. 3, 277, 2019 (impact factor 1.764).
29. F. Avanzini, A. Baratè, G. Haus, L.A. Ludovico, S. Ntalampiras, G. Presti, "Sound and Music Computing in Higher Education", *International Journal of Music Science, Technology and Art*, Feb. 2019 (invited).

30. Stavros Ntalampiras and Ilyas Potamitis, "A Statistical Inference Framework for Understanding Music-Related Brain Activity", *IEEE Journal of Selected Topics in Signal Processing*, vol. 13, issue 2, pages 275-284, 2019 (impact factor 4.361).
31. Stavros Ntalampiras, "Automatic acoustic classification of insect species based on directed acyclic graphs", *The Journal of the Acoustical Society of America*, vol.145, no.6, pp. EL541-EL546, 2019 (impact factor 1.605).
32. Stavros Ntalampiras, Luca A. Ludovico, Giorgio Presti, Emanuela Prato Previde, Monica Battini, Simona Cannas, Clara Palestrini, Silvana Mattiello, "Automatic Classification of Cat Vocalizations Emitted in Different Contexts", *Animals 2019*, MDPI, vol. 9, no. 8, 543, 2019 (impact factor 1.832).
33. Stavros Ntalampiras, "Generalized sound recognition in reverberant environments", *Journal of Audio Engineering Society*, vol. 67(10), 772-781, Oct. 2019 (impact factor 0.774).
34. Stavros Ntalampiras and Ilyas Potamitis,, "A concept drift-aware DAG-based classification scheme for acoustic farm environment monitoring", *International Journal of Embedded and Real-Time Communication Systems*, vol. 11, no. 1, Jan.-March 2020 (accepted, extended version of C42).
35. Stavros Ntalampiras, "Towards language-agnostic speech emotion recognition", *Journal of Audio Engineering Society*, vol. 68(1/2), 7-13, Feb. 2020 (impact factor 0.774).
36. Stavros Ntalampiras, "A collaborative framework for automatic classification of respiratory sounds", *IET Signal Processing*, vol. 14, no. 4, pp. 223-228, 6 2020.
37. Stavros Ntalampiras and Ilyas Potamitis, "Automatic Acoustic Identification of Respiratory Diseases", *Evolving Systems*, Springer, April 2020 (invited, extended B8).
38. Stavros Ntalampiras, "Emotional Quantification of Soundscapes by Learning Between Samples", *Multimedia Tools and Applications*, Springer, vol. 79, pages 30387–30395, 2020.
39. Stavros Ntalampiras, "Identification of Anomalous Phonocardiograms based on Universal Probabilistic Modeling", *IEEE Letters of the Computer Society*, vol. 3, no.2, pp. 50-53, July-December 2020.
40. Emanuela Prato-Previde, Simona Cannas, Clara Palestrini, Sara Ingrassia, Monica Battini, Luca Andrea Ludovico, Stavros Ntalampiras, Giorgio Presti and Silvana Mattiello, "What's in a Meow? A Study on Human Classification and Interpretation of Domestic Cat Vocalizations", *Animals*, 2020, 10(12), 2390.
41. Stavros Ntalampiras and Ilyas Potamitis, "Acoustic Detection of Unknown Bird Species and Individuals", *CAAI Transactions on Intelligence Technology*, vol. 6, no. 3, 291–300 (2021). <https://doi.org/10.1049/cit2.12007>.
42. Stavros Ntalampiras, "Speech emotion recognition via learning analogies", *Pattern Recognition Letters*, vol. 144, April 2021, pp. 21-26.
43. Iraklis Rigakis, Ilyas Potamitis, N.-A. Tatlas, Stelios Potirakis, Stavros Ntalampiras, "TreeVibes: Modern tools for global monitoring of trees against borers", *Smart Cities*, MDPI, 2021, vol. 4(1), pp. 271-285.
44. Stavros Ntalampiras, "One-shot learning for acoustic diagnosis of industrial machines", *Expert Systems With Applications*, vol. 178(15), Sept. 2021.
45. Giannis Saradopoulos, Ilyas Potamitis, Stavros Ntalampiras, Antonios J. Konstantaras and Emmanuel N. Antonidakis, "Edge computing for vision-based, urban-insects traps in the context of Smart Cities", *Sensors MDPI* 2022, vol. 22(5), <https://doi.org/10.3390/s22052006>.
46. Federico Simonetta, Federico Avanzini, Stavros Ntalampiras, "A Perceptual Measure for Evaluating the Resynthesis of Automatic Music Transcriptions", *Multimedia Tools and Applications* (2022).
47. Stavros Ntalampiras, "Adversarial attacks against acoustic monitoring of industrial machines", *IEEE Internet of Things Journal*, vol. 10, no. 4, Feb. 2023, doi: 10.1109/JIOT.2022.3194703.
48. Stavros Ntalampiras and Ilyas Potamitis, "Few-shot learning for modeling cyber physical systems in non-stationary environments", *Neural Computing with Applications*, 35(5), pp. 3853–3863, 2023, doi: 10.1007/s00521-022-07903-0.

49. Stavros Ntalampiras, Luca Andrea Ludovico, Giorgio Presti, Davide Fantini, Tyfen Ogel, Mael Vittorio Vena, Stefania Celozzi, Monica Battini, Silvana Mattiello, "An Integrated System for Acoustic Monitoring of Goat Farms", *Ecological Informatics*, Elsevier, vol. 75, 2023, <https://doi.org/10.1016/j.ecoinf.2023.102043>.
50. Stavros Ntalampiras, "Model ensemble for predicting physiological markers of stress based on transfer learning", *IEEE Internet Computing Magazine*, 2023, doi: 10.1109/MIC.2023.3257862.
51. Ioannis Saradopoulos, Ilyas Potamitis, Antonios Konstantaras, Panagiotis Eliopoulos, Stavros Ntalampiras, Iraklis Rigakis, "Image-based insect counting embedded in e-traps that learn without manual image annotation and self-dispose captured insects", *Information, MDPI*, 14(5), 267 (selected as an issue cover).
52. Stavros Ntalampiras, "Explainable Siamese Neural Network for Classifying Pediatric Respiratory Sounds" *IEEE Journal of Biomedical and Health Informatics*, vol. 27, no. 10, pp. 4728-4735, Oct. 2023, doi: 10.1109/JBHI.2023.3299341.
53. Marta Bršćić, Claudia Manfrè, Monica Battini, Alberto Simonetto, Barbara Contiero, Silvana Mattiello, Stavros Ntalampiras, Simona Normando, "Comparison of continuous observation and instantaneous sampling of dairy cattle behaviour from birth to the first hours of life of the calf: a methodological study", *Frontiers in Veterinary Science*, 2024, doi: 10.3389/fvets.2024.1360239.
54. Nicolas Facchinetti, Federico Simonetta, and Stavros Ntalampiras, "A systematic evaluation of adversarial attacks against speech emotion recognition models", *Intelligent Computing, Science Partner Journal*, DOI: 10.34133/icomputing.0088 (accepted).
55. Stavros Ntalampiras, "Interpretable probabilistic identification of depression in speech", *Expert Systems with Applications* (submitted).
56. Stavros Ntalampiras and Wen Qi, "Self-supervised learning for speech-based mental health assessment", *Journal of Healthcare Informatics Research* (submitted).
57. Stavros Ntalampiras and Alessandro Scalabrino, "Automatic Prediction of Disturbance Caused by Inter-floor Sound Events", *IEEE Transactions on Cognitive and Developmental Systems* (in revision).
58. Gabriele Pesando Gamacchio and Stavros Ntalampiras, "Explainable Classification of Goat Vocalizations Using Convolutional Neural Networks", *IEEE Transactions on Artificial Intelligence* (submitted).
59. Davide Fantini, Michele Geronazzo, Federico Avanzini, and Stavros Ntalampiras, "A Survey on Machine Learning Techniques for Head-Related Transfer Function Individualization", *ACM Computing Surveys* (submitted).
60. Samara Soares Leal, Stavros Ntalampiras, and Roberto Sassi, "Speech-based Depression Diagnosis: A Comprehensive Survey", *IEEE Transactions on Affective Computing* (submitted).
61. Paolo Cortis, Federico Simonetta, and Stavros Ntalampiras, "Adversarial Robustness Evaluation of Universal Audio Representation Learning Models", *IEEE Journal on Selected Topics in Signal Processing* (submitted).

## **B. Book Chapters**

1. Stavros Ntalampiras, Ilyas Potamitis, Nikos Fakotakis, "Automatic Recognition of Urban Soundscapes", In Proceedings of the 1st International Symposium on Intelligent Interactive Multimedia Systems and Services, KES IIMSS 2008, Piraeus, Greece, 9-11 July, 2008.
2. Theodoros Kostoulas, Iosif Mporas, Todor Ganchev, Nikos Katsaounos, Alexandros Lazaridis, Stavros Ntalampiras, Nikos Fakotakis, "LOGOS: A Multimodal Dialogue System for Controlling Smart Appliances", In Proceedings of the 1st International Symposium on Intelligent Interactive Multimedia Systems and Services, KES IIMSS 2008, Piraeus, Greece, 9-11 July, 2008.
3. Stavros Ntalampiras and Nikos Fakotakis, "Speech/Music discrimination based on Discrete Wavelet Transform", SETN 2008, Syros, Greece, 2-4 October, Lecture Notes in Artificial Intelligence, © Springer-Verlag Berlin Heidelberg 2008.
4. Stavros Ntalampiras, "Audio Surveillance", Critical Infrastructure Security: Assessment, Prevention, Detection, Response, WIT Press, 2012, ISBN: 978-1-84564-562-5 (invited).

5. *Stavros Ntalampiras*, and Georgios Giannopoulos, “Automatic Fault Identification in Sensor Networks Based on Probabilistic Modeling”, Critical Information Infrastructures Security: 9th Intern. Conf., CRITIS 2014, Limassol, Cyprus, October 13-15, 2014, Selected Papers, Springer International Publishing, eds. Panayiotou G. Christos, Ellinas Georgios, Kyriakides Elias, and Polycarpou, M. Marios, pp. 344-354, 2016.
6. Yannis Soupionis, *Stavros Ntalampiras*, and Georgios Giannopoulos, “Faults and Cyber Attacks Detection in Critical Infrastructures”, Critical Information Infrastructures Security: 9th Intern. Conf., CRITIS 2014, Limassol, Cyprus, October 13-15, 2014, Selected Papers, Springer International Publishing, eds. Panayiotou G. Christos, Ellinas Georgios, Kyriakides Elias, and Polycarpou, M. Marios, pp. 344-354, 2016.
7. *Stavros Ntalampiras*, “A Deep Learning Framework for Classifying Mysticete Sounds”, HandBook of Neural Computation, Elsevier, Eds: Pijush Samui Sanjiban Sekhar Roy Valentina E. Balas, July 2017 (invited).
8. *Stavros Ntalampiras* and Ilyas Potamitis, “Classification of Sounds Indicative of Respiratory Diseases”, In: Macintyre J., Iliadis L., Maglogiannis I., Jayne C. (eds) Engineering Applications of Neural Networks. EANN 2019. Communications in Computer and Information Science, vol 1000. Springer, Cham.
9. *Stavros Ntalampiras*, “Transfer Learning for Generalized Audio Signal Processing”, Handbook of Artificial Intelligence for Music: Foundations, Advanced Approaches, and Developments for Creativity, Springer International Publishing, Cham, pp. 679-691, 2021 (invited).
10. Marco Nicolini and *Stavros Ntalampiras*, “Gender-aware speech emotion recognition in multiple languages”, Pattern Recognition Applications and Methods. ICPRAM 2023. Lecture Notes in Computer Science, vol 14547. Springer, pp. 111–123, 2024 (invited).

### ***C. International Conference Papers***

1. *Stavros Ntalampiras*, Ilyas Potamitis, Todor Ganchev, Nikos Fakotakis, “Audio Database in Support of Potential Threat and Crisis Situation Management”, LREC’2008, Morocco, May 28-30, 2008.
2. *Stavros Ntalampiras*, Ilyas Potamitis, Nikos Fakotakis, “Automatic Recognition of Urban Environmental Sound Events”, International Association for Pattern Recognition Workshop on Cognitive Information Processing, Santorini, Greece, June 9-10, 2008.
3. *Stavros Ntalampiras*, Todor Ganchev, Ilyas Potamitis, Nikos Fakotakis, “Objective Comparison of Speech Enhancement Algorithms under Real World Conditions”, 1st International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2008), Athens, Greece, July 16 - 19, 2008.
4. A. Lazaridis, T. Kostoulas, I. Mporas, T. Ganchev, N. Katsaounos, *S. Ntalampiras*, N. Fakotakis, “Human Evaluation of the LOGOS Multimodal Dialogue System”, 1st International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2008), Athens, Greece, July 16 - 19, 2008.
5. *Stavros Ntalampiras* and Nikos Fakotakis, “A Comparative Study in Automatic Recognition of Broadcast Audio”, ICSLP 2008, 9th INTERSPEECH, Brisbane, Australia, 22-26 September 2008.
6. Jorgen Ahlberg, Dejan Arsic, Todor Ganchev, Anna Linderhed, Paulo Menezes, *Stavros Ntalampiras*, Tadeusz Olma, Ilyas Potamitis, Julien Ros, “Prometheus: Prediction and interpretation of human behaviour based on probabilistic structures and heterogeneous sensors”, System Demonstration in the European Conference on Artificial Intelligence 2008, Patras, Greece, 21-25 July 2008.
7. Todor Ganchev, Otilia Kocsis, Nikos Katsaounos, Iosif Mporas, Alexandros Lazaridis, Theodoros Kostoulas, *Stavros Ntalampiras*, Dimitrios Lyras, George Papadopoulos, Kyriakos Sgarbas, Nikos Fakotakis, “Natural Spoken Dialogue Interaction: Technology, Tools, Resources and Applications”, System Demonstration in the European Conference on Artificial Intelligence 2008, Patras, Greece, 21-25 July 2008.
8. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, “On Acoustic Surveillance of Hazardous Situations”, International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2009, Taiwan, Taipei, April 19-24, 2009.
9. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, “Sound Recognition in the urban environment inspired by the Speech/Speaker Recognition Paradigm”, in SPECOM 2009, Russia, June 21-25, 2009.

10. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, "Acoustic Monitoring of Abnormal Situations under different kind of Environments", in SPECOM 2009, Saint Petersburg, Russia, June 21-25, 2009.
11. *Stavros Ntalampiras*, Dejan Arsic, Andre Stormer, Todor Ganchev, Ilyas Potamitis and Nikos Fakotakis, "PROMETHEUS Database: A Multimodal Corpus for Research on Modeling and Interpreting Human Behavior", in 17th International Conference on Digital Signal Processing 2009, IEEE, Special session: Fusion of Heterogeneous Data for Robust Estimation and Classification, Santorini, Greece, July 5-7, 2009.
12. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, "A Portable System for Robust Acoustic Detection of Atypical Situations", in 17th EUSIPCO, Glasgow, Scotland, August 24-28, 2009.
13. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, "Sound Classification based on Temporal Feature Integration", in 4th International Symposium on Communications, Control and Signal Processing, March 3-5, 2010, Limassol, Cyprus.
14. *Stavros Ntalampiras*, Todor Ganchev, Ilyas Potamitis and Nikos Fakotakis, "Heterogeneous Sensor Database in Support for Human Behavior Analysis in Unrestricted Environments: The Audio Part", LREC 2010, Malta, May 17-23, 2010.
15. Maria Andersson, *Stavros Ntalampiras*, Todor Ganchev, Joakim Rydell, Jörgen Ahlberg and Nikos Fakotakis, "Fusion of Acoustic and Optical Sensor Data for Automatic Fight Detection in Urban Environments", International Conference on Information Fusion, Edinburg, 26-29 July, 2010.
16. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, "A Multidomain Approach for Automatic Home Environmental Sound Classification", in Interspeech 2010, Makuhari, Japan, September 26-10, 2010.
17. *Stavros Ntalampiras*, Ilyas Potamitis and Nikos Fakotakis, "Identification of Abnormal Audio Events Based on Probabilistic Novelty Detection", in Interspeech 2010, Makuhari, Japan, September 26-10, 2010.
18. *Stavros Ntalampiras*, Ilyas Potamitis, Nikos Fakotakis and Spyros Kouzoupis, "Automatic Recognition of an Unknown and Time-varying Number of Simultaneous Environmental Sound Sources", International Conference on Ecosystems, Environment and Sustainable Energy, Venice, Italy, 28-30 November, 2011.
19. Todor Ganchev, Klaus Riede, Ilyas Potamitis, Tsenka Stoyanova, *Stavros Ntalampiras*, et al., "AmiBio: Automatic acoustic Monitoring and Inventorying of BIODiversity", The XXIII meeting of the International Bioacoustics Council, La Rochelle, France, 12-16 Sept. 2011.
- 20\*. Cesare Alippi, *Stavros Ntalampiras* and Manuel Roveri, "An HMM-based change detection method for intelligent embedded sensors", IEEE International Joint Conference on Neural Networks, Brisbane, Australia, 10-15 June 2012.
21. *Stavros Ntalampiras* and Ilyas Potamitis, "Detection of Human Activities in Natural Environments Based On Their Acoustic Emissions", EUSIPCO, Bucharest, Romania, 27-31 August 2012.
- 22\*. Cesare Alippi, *Stavros Ntalampiras* and Manuel Roveri, "Model ensemble for an effective on-line reconstruction of missing data in sensor networks", IEEE International Joint Conference on Neural Networks, Dallas, Texas, 4-9 August 2013.
23. J. Quevedo, C. Alippi, M.A. Cuguerro, *S. Ntalampiras*, V. Puig, M. Roveri, D. Garcia, "Temporal/Spatial Model-Based Fault Diagnosis vs. Hidden Markov Models Change Detection Method: Application to the Barcelona Water Network", 21st Med. Conf. on Control and Automation, Crete, Greece, 25-28 June 2013.
24. *Stavros Ntalampiras* and Manuel Roveri, "Rock collapse forecasting: a novel approach based on the classification of micro-acoustic signals in the wavelet domain", IEEE Sensors 2013, Baltimore, Maryland, USA, November 3-6.
25. Ilyas Potamitis and *Stavros Ntalampiras*, "Automatic analysis of a whale song", Neural Information Processing Systems Foundation, Harrahs and Harveys, Lake Tahoe, Nevada, United States, Dec. 5-10, 2013.
26. Luca Galbusera, Ivano Azzini, Olaf Jonkeren, *Stavros Ntalampiras*, Georgios Giannopoulos, "Evaluating the resilience of critical infrastructures assessing interdependencies and economic impact: the role of inventories", 2nd Int. Conf. on Vulnerability and Risk Analysis and Management, 13-16 July, 2013, UK.

27. *Stavros Ntalampiras* and Ilyas Potamitis, "On predicting the unpleasantness level of a sound event", in Interspeech 2014, Singapore, September 14-18, 2014.
28. *Stavros Ntalampiras* and Georgios Giannopoulos, "Automatic Fault Identification in Sensor Networks Based on Probabilistic Modeling", 9th International Conference on Critical Information Infrastructures Security, October 13-15, 2014, Limassol, Cyprus. **CRITIS 2014 Young Researcher and Best Paper Award**
29. Yannis Soupionis, *Stavros Ntalampiras* and Georgios Giannopoulos, "Faults and Cyber Attacks Detection in Critical Infrastructures", 9th International Conference on Critical Information Infrastructures Security, October 13-15, 2014, Limassol, Cyprus.
30. *Stavros Ntalampiras* and Ilyas Potamitis, "Canonical Correlation Analysis for Classifying Baby Crying Sound Events", 22<sup>nd</sup> International Congress on Sound and Vibration, Florence, Italy, 12-16 July 2015.
31. Ilyas Potamitis, Konstantinos Fysarakis, Didier Longueville and *Stavros Ntalampiras*, "Hardware Implementation of a System Classifying the Optoacoustic Signature of Insects Wing-Flap", 22<sup>nd</sup> Int. Congress on Sound and Vibration, Florence, Italy, 12-16 July 2015.
32. *Stavros Ntalampiras*, and Yannis Soupionis, "Detection of Integrity Attacks in Cyber Physical Systems Based On Reservoir Networks", 2nd International Electronic Conference on Entropy and Its Applications, Special Session on Machine Learning and Systems Theory, Nov. 2015 (invited).
- 33\*. Cesare Alippi, *Stavros Ntalampiras* and Manuel Roveri, "Online Model-free Sensor Fault Identification and Dictionary Learning in Cyber-Physical Systems", IEEE International Joint Conference on Neural Networks, Vancouver, Canada, 25-29 July 2016.
34. *Stavros Ntalampiras*, "Automatic Analysis Of Audiostreams In The Concept Drift Environment", IEEE International Workshop on Machine Learning for Signal Processing, September 13-16, 2016 Vietri sul Mare, Salerno, Italy.
- 35\*. Cesare Alippi, *Stavros Ntalampiras* and Manuel Roveri, "Designing HMM models in the age of Big Data", INNS Conference on Big Data, Thessaloniki, Greece, 23-25 October 2016. **Best paper award**
36. *Stavros Ntalampiras* and Manuel Roveri, "An Incremental Learning Mechanism for Human Activity Recognition", IEEE Symposium Series on Computational Intelligence 2016, Symposium on Computational Intelligence for Embedded and Cyber-physical Systems, Athens, Greece, 6-9 December 2016.
37. *Stavros Ntalampiras* and Ilyas Potamitis, "Emotion prediction of sound events based on transfer learning", 18<sup>th</sup> Conference on Engineering Applications of Neural Networks, Athens, Greece, August 25-27, 2017.
38. *Stavros Ntalampiras* and Marco Fiore, "Forecasting mobile service demands for anticipatory MEC", IEEE WoWMoM 2018, June 12-15, Chania, Greece.
39. Federico Avanzini, Adriano Barate, Goffredo Haus, Luca A. Ludovico, *Stavros Ntalampiras*, and Giorgio Presti, "Perspectives in Education for Sound and Music Computing", 5th International Conference on New Music Concepts (ICNMC 2018) March 17-18, 2018 Treviso – Italy.
40. *Stavros Ntalampiras*, "On acoustic monitoring of farm environments", Fourth International Symposium on Signal Processing and Intelligent Recognition Systems, September 19-22, 2018, India (invited).
41. F. Avanzini, A. Barate, G. Haus, L.A. Ludovico, D.A. Mauro, *S. Ntalampiras*, G. Presti, "Quale Futuro per il Formato IEEE 1599?", XXII Colloquio di Informatica Musicale, Udine, Nov. 2018.
42. *Stavros Ntalampiras*, "A classification scheme based on directed acyclic graphs for acoustic farm environment monitoring", IEEE FRUCT International Workshop on Semantic Audio and the Internet of Things, Bologna, Italy, 14-15 Nov. 2018.
43. Federico Simonetta, *Stavros Ntalampiras*, Federico Avanzini, "Multimodal collaborative music information processing and retrieval: survey and future challenges", First International Workshop on Multilayer Music Representation and Processing, Milan, Italy, 24-25 Jan. 2019.
44. *Stavros Ntalampiras*, Federico Avanzini, and Luca Andrea Ludovico, "Fusing Acoustic and Electroencephalographic Modalities for User-Independent Emotion Prediction", IEEE International Conference on Cognitive Computing 2019, Milan, Italy, 8-13 July, 2019.

45. Axel Chemla–Romeu-Santos, *Stavros Ntalampiras*, Philippe Esling, Goffredo Haus, and Gérard Assayag, "Cross-modal variational inference for bijective signal-symbol translation ", Proceedings of the 22nd International Conference on Digital Audio Effects (DAFx-19), Birmingham, UK, September 2–6, 2019.
46. Carlos Eduardo Cancino-Chacón, Federico Simonetta, *Stavros Ntalampiras*, and Gerhard Widmer, "A Convolutional Approach to Melody-Line Identification in Symbolic Scores", International Symposium on Music Information Retrieval, Delft, Netherlands, November 4-8, 2019.
47. *Stavros Ntalampiras*, "Unsupervised Spectral Clustering of Music-Related Brain Activity", IEEE 15th Int. Conf. on Signal Image Technology and Internet-based Systems, November 26-29, 2019, Naples, Italy.
48. Michelangelo Acconciaco and *Stavros Ntalampiras*, "Acoustic Identification of Nocturnal Bird Species", Fifth International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'19), December 18-21, 2019, Trivandrum, Kerala, India (invited).
49. *Stavros Ntalampiras*, "Deep Learning of Attitude in Children's Emotional Speech", IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications, 22-24 June 2020, Tunis, Tunisia. **Winner of best regular paper award**
50. Federico Avanzini, Adriano Baratè, Goffredo Haus, Luca Andrea Ludovico, *Stavros Ntalampiras*, "Preservation, Promotion and New Perspectives of Opera Cultural Heritage: The Experience of LaScala Theatre", 22<sup>nd</sup> Int. Conference on Human-Computer Interaction, Copenhagen, Denmark, 19-24 July 2020.
51. Ilyas Potamitis, Iraklis Rigakis, Panagiotis Eliopoulos, *Stavros Ntalampiras*, Nicolaos-Alexandros Tatlas, and Stelios Potirakis, "Insect Surveillance meets IoT and Artificial Intelligence", XXVI International Congress of Entomology, Helsinki, Finland, 2021.
52. Axel Chemla Romeu Santos, Philippe Esling, and *Stavros Ntalampiras*, "Représentations variationnelles inversibles: une nouvelle approche pour la synthèse sonore", Journées d'Informatique Musicale 2020, Strasbourg, 25-27 May 2020.
53. *Stavros Ntalampiras*, Andrea Pezzuolo, Silvana Mattiello, Monica Battini, and Marta Brscic, "Automatic detection of indoor-housed cow vocalizations", 43rd International Conference on Telecommunications and Signal Processing, July 7-9, 2020, Milan, Italy.
54. Federico Simonetta, *Stavros Ntalampiras*, Federico Avanzini, "ASMD: An Automatic Framework for Compiling Multimodal Datasets", Sound and Music Computing Conference, 20-26 June 2020, Torino, Italy.
55. Marco Tiraboschi, Federico Avanzini and *Stavros Ntalampiras*, "Spectral Analysis for Modal Parameters Linear Estimate", Sound and Music Computing Conference, 20-26 June 2020, Torino, Italy.
56. Davide Andrea Mauro, Federico Avanzini, Adriano Barate, Luca Andrea Ludovico, *Stavros Ntalampiras*, Smilen Dimitrov, and Stefania Serafin, "16 years of Sound & Music Computing: A look into the history and trends of the conference and community", Sound and Music Computing Conf., 20-26 June 2020, Torino, Italy.
57. Michelangelo Acconciaco and *Stavros Ntalampiras*, "One-shot learning for acoustic identification of bird species in non-stationary environments", 25th International Conference on Pattern Recognition, January 10-15, 2021, Milan, Italy.
58. Luca Andrea Ludovico, Giorgio Presti, *Stavros Ntalampiras*, Silvana Mattiello, Simona Cannas and Monica Battini, "CatMeows: A Publicly-Available Dataset of Cat Vocalizations", International Conference on Multimedia Modeling, Prague, Czech Republic, January 25-27, 2021.
59. Simone Mastrangelo and *Stavros Ntalampiras*, "Automatic Acoustic Diagnosis of Heartbeats", International Conference on Signal Processing and Multimedia Applications, 6-8 July 2021.
60. *Stavros Ntalampiras*, Danylo Kosmin and Javier Sanchez, "Acoustic classification of individual cat vocalizations in evolving environments", IEEE International Conference on Telecommunications and Signal Processing, 26-28 July 2021.
61. Alessandra Saitta and *Stavros Ntalampiras*, "Language-agnostic speech anger identification", IEEE International Conference on Telecommunications and Signal Processing, 26-28 July 2021.



62. Davide Fantini, Federico Avanzini, *Stavros Ntalampiras* and Giorgio Presti, “HRTF Individualization Based on Anthropometric Measurements Extracted from 3D Head Meshes” International Conference on Immersive and 3D Audio 2021, Bologna, Italy, 8-10 Sept. 2021.
63. Maksim Kukushkin and *Stavros Ntalampiras*, “Automatic acoustic classification of feline sex”, AudioMostly 2021, Internet of Sounds Workshop, Trento, Italy, 1-3 Sept. 2021.
64. Federico Simonetta, *Stavros Ntalampiras*, Federico Avanzini, “Audio-to-Score Alignment Using Deep Automatic Music Transcription”, IEEE International Workshop on Multimedia Signal Processing 2021, Tampere, Finland, Oct. 6–8, 2021.
65. William Raccagni and *Stavros Ntalampiras*, “Acoustic Classification of Cat Breed Based on Time and Frequency Domain Features”, IEEE FRUCT 2021, Oulu, Finland 27-29 Oct. 2021.
66. Marco Colussi and *Stavros Ntalampiras*, “Interpreting urban sound classification in driving environment via Layer-wise Relevance Propagation”, arxiv 2021.
67. *Stavros Ntalampiras*, “Adversarial attacks against audio surveillance systems”, European Signal Processing Conference, Belgrade, Serbia, 29 Aug.-2 Sept., 2022.
68. *Stavros Ntalampiras*, “Learning relationships between audio signals based on reservoir networks”, IEEE International Joint Conference on Neural Networks, Padova, Italy, 18-23 July, 2022.
69. Stefania Celozzi, Monica Battini, *Stavros Ntalampiras*, Luca Andrea Ludovico, Giorgio Presti, Mael Vittorio Vena, Emanuela Prato Previde Albrisi Colombani, Silvana Mattiello, “Why do goats bleat?”, International Conference on Precision Dairy Farming 2022.
70. Michele Cozzatti, Federico Simonetta, and *Stavros Ntalampiras*, “Variational Autoencoders for Anomaly Detection in Respiratory Sounds”, Int. Conf. on Artificial Neural Networks 2022, Bristol, UK, 6-9 Sept. 2022.
71. Alessandro Maria Poirè, Federico Simonetta, and *Stavros Ntalampiras*, “Deep Feature Learning for Medical Acoustics”, International Conference on Artificial Neural Networks 2022, Bristol, UK, 6-9 Sept. 2022.
72. Federico Simonetta, *Stavros Ntalampiras*, Federico Avanzini, “Acoustics-specific Piano Velocity Estimation”, IEEE Int. Workshop on Multimedia Signal Processing 2022, Shanghai, China, 26-28 Sept. 2022.
73. Vincenzo Conversano and *Stavros Ntalampiras*, “Ensemble learning for cough-based subject-independent COVID-19 detection”, International Conference on Pattern Recognition Applications and Methods 2023, Lisbon, Portugal, 22-24 Feb. 2023.
74. Marco Nicolini, Federico Simonetta, and *Stavros Ntalampiras*, “Lightweight Audio-based Human Activity Classification using Transfer Learning”, International Conference on Pattern Recognition Applications and Methods 2023, Lisbon, Portugal, 22-24 Feb. 2023.
75. Marco Nicolini and *Stavros Ntalampiras*, “A hierarchical approach for multilingual speech emotion recognition”, International Conference on Pattern Recognition Applications and Methods 2023, Lisbon, Portugal, 22-24 Feb. 2023.
76. Irene Mantegazza and *Stavros Ntalampiras*, “Italian Speech Emotion Recognition”, IEEE International Conference on Digital Signal Processing 2023, 11-13 June, Island of Rhodes, Greece.
77. Davide Fantini, *Stavros Ntalampiras*, Giorgio Presti, and Federico Avanzini, “Toward a Novel Set of Pinna Anthropometric Features for Individualizing Head-Related Transfer Function”, Sound and Music Computing Conference 2024. 4–6 July, Porto, Portugal.
78. Federico Simonetta, Rishav Mondal, Luca Ludovico, and *Stavros Ntalampiras*, “Optical Music Recognition in Manuscripts from the Ricordi Archive”, AudioMostly 2024, 18-20 Sept. Milan, Italy.
79. Federico Simonetta, Francesca Certo, and *Stavros Ntalampiras*, “Joint Learning of Emotions Evoked by Music and Generalized Sounds”, AudioMostly 2024, 18-20 Sept. Milan, Italy.

#### **D. Citations and bibliometric analysis**

Up to date list at <http://scholar.google.com/citations-?user=Ktqy-0r0AAAAJ> and <https://www.scopus.com/authid/detail.uri?authorId=24830597800>

SCOPUS h-index: 24 and 1,758 citations in 1,382 documents (date 24/05/2024)

### **E. Technical Reports (indicative list)**

1. *Stavros Ntalampiras*, “MoveOn Deliverable D5.10.1: Overview on Speech Enhancement Algorithms,” October 2007.
2. Thomas Winkler, Todor Ganchev, Theodoros Kostoulas, Iosif Mporas, Alexandros Lazaridis, *Stavros Ntalampiras*, Atta Badii, Rick Adderley, Christian Bonkowski, “MoveOn Deliverable D5: Report on Audio databases, Noise processing environment, ASR and TTS modules”, December 2007.
3. *Stavros Ntalampiras* et al., “Usage scenarios, functional specifications and hardware components”, Prometheus deliverable 2.2, March 2009.
4. *Stavros Ntalampiras* et al., “Multimodal database description, data collection and annotation tasks”, Prometheus deliverable 2.3, March 2009.
5. *Stavros Ntalampiras* et al., “A modular dynamic model for interdependencies assessment of critical infrastructures”, Scientific and Policy Reports of the European Commission, 2014.

### **F. Miscellaneous**

1. *Stavros Ntalampiras*, A short overview of Activity Theory, available at [Θεωρία Δραστηριοτήτων](#) (in Greek)
2. Seminar “Let’s Network”, lectures about computer and transportation networks, Budapest, Hungary, Budapest’s University of Technology and Economics (11-24 August 2006, attendee).
3. Seminar “From papyrus to postcards”, Stockholm’s Royal Institute of Technology, KTH (8-17 June 2007, attendee).
4. Seminar “The electrifying truth about piezoelectrics”, Denmark, Copenhagen’s Technical University of Denmark, DTU (21-29 July 2007, attendee).
5. Coauthor of the proposal for the project “AMIBIO – Automatic Monitoring of Biodiversity”, (1/2/2010-30/6/2013) FP7 Life+, 1.800.000,00 Euros.chosen amongst the *best of the best* projects of the LIFE+ program.
6. O. Jahn, K. Riede, G. Lehmann, U. Marckmann, K.-L. Schuchmann, A. Weller, and *S. Ntalampiras*, “AUTOMATED BIODIVERSITY MONITORING AT HYMETTUS – GATHERING THE BASELINE INFORMATION”, newsletter for the AMIBIO project.
7. Seminar Matlab for generating C/C++ code, Mathworks, Torino, 28/5/2013 (attendee).
8. Seminar Joint Research Center seminar on 5G — the next generation of wireless communications, Ispra, Italy, 12/2/2015 (attendee).
9. Distributed Energy Resources and Grid Modernization, IEEE Smart Grid Webinar, 14/12/2015 (attendee).
10. Grid Architecture: Discipline, Methods, Developments, IEEE Smart Grid Webinar, 23/6/2016 (attendee).
11. Smart Grid Research at Nations Renewable Energy Laboratory's Energy Systems Integration Facility, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, 16/7/2015 (attendee).
12. Yannis Soupionis, Luca Galbusera, *Stavros Ntalampiras*, Christos Siaterlis Georgios Giannopoulos, “Assessing interdependencies of energy and ICT infrastructure on realistic topologies using experimental facilities and high level models”, Forschung und Innovation – Herausforderungen durch die Energiewende, 10.12.2013, Vienna, Austria (invited).
13. *Stavros Ntalampiras*, “A fAult chaRacterization sysTeM basEd on Machine learnIng technologieS (ARTEMIS)”, accepted research project proposal for the Politecnico di Milano International Fellowships, Department of Electronics, Information and Bioengineering, 1/4/2015-31/3/2017, 105.000 euros.
14. Research Group presentation@OpenHouse, Politecnico di Milano, Department of Electronics, Information, and Bioengineering, 1 October 2015.
15. Research Group presentation@OpenHouse, Politecnico di Milano, Department of Electronics, Information, and Bioengineering, 27 September 2016.
16. Author of the CACTUS – Climate-Aware CharacTerization of mobile service USage proposal (accepted at the Data for Climate Action Challenge - <http://dataforclimateaction.org/>)
17. Referenced@Geekwire for the Data Science Consulting for Akvelon and the MeowTalk application <https://www.geekwire.com/2020/meowtalk-app-that-translates-cat-sounds-is-pet-project-for-former-alexa-engineer/> (3/11/2020).

## Memberships

1. Technical Chamber of Greece, TEE, 2. Hellenic Artificial Intelligence Society, EETN, 3. Institute of Electrical and Electronics Engineers, IEEE, 4. International Speech Communication Association, ISCA, 5. Association for Computing Machinery, ACM.

## Organization roles (Conferences, Workshops, etc.)

[**Summary:** TPC member for ~100 international conferences including world-class events such as European Conference on Artificial Intelligence, IEEE International Joint Conference on Neural Networks, IEEE International Conference on Acoustics, Speech, & Signal Processing, European Signal Processing Conference, INTERSPEECH, etc.]

1. Local organization committee member European Conference on Artificial Intelligence 2008 (ECAI 2008).
2. TPC member for Artificial Intelligence Applications and Innovations 2014, 2nd International Workshop on Learning strategies and data Processing in nonStationary environments.
3. TPC member for International Conference on Electronic Design 2014 (ICED'14).
4. TPC member for 2015 IEEE International Circuits and Systems Symposium.
5. TPC member for 2015 Symposium on "Intelligence for Cyber-physical and Embedded Systems" at IEEE Symposium Series in Computational Intelligence 2015, 7 – 10 December 2015, Cape Town, South Africa.
6. TPC for 2015 IEEE Student Conference on Research and Development (SCOREd 2015).
7. TPC for PECON 2016, 2016 IEEE International Conference on Power and Energy.
8. TPC for IEEE Industrial Electronics and Applications Conference 2016.
9. TPC for Advanced Research on Circuits and Systems International Conference 2016.
10. TPC member for 2016 Symposium on "Intelligence for Cyber-physical and Embedded Systems" at IEEE Symposium Series in Computational Intelligence 2016, 6 – 9 December 2016, Athens, Greece.
11. TPC for 2016 International Conference on Electrical, Electronic, Communication and Control Engineering.
12. TPC for International Conference on Speech and Computer 2017-today.
13. TPC for 2016 IEEE Asia-Pacific Conference on Applied Electromagnetics.
14. TPC for International Conference on Computer Science and Application Engineering 2017.
15. TPC for AsiaSim 2017.
16. TPC for the Third International Symposium on Emerging Topics in Circuits and Systems 2017.
17. TPC for IEEE TENSYP 2017, 19. TPC for IEEE IEACON 2017.
18. TPC for the 3<sup>rd</sup> Int. Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'17).
19. PC member of Applications of Intelligent Systems, APPIS 2018.
20. Chair of the Session entitled "Ontologies on Big Data" at the INNS Conference on Big Data 2016.
21. TPC for EANN 2017.
22. TPC for 2017 IEEE Asia Pacific Conf. on Postgraduate Research in Microelectronics and Electronics.
23. TPC member of the 14th IFIP Artificial Intelligence Applications and Innovations.
24. TPC member for 2018 IEEE International Conf. on INnovations in Intelligent SysTems and Applications.
25. TPC for Special Sessions: a) Concept Drift, Domain Adaptation and Learning in Dynamic Environments, and b) Deep Neural Audio Processing IJCNN 2018.
27. PC of 19th International Conference on Engineering Applications of Neural Networks.
28. TPC for the 4th Int. Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'18).
29. PC member of AIAI 2018, 31. PC member of IEEE (SMC) INISTA 2018.
30. TPC for the IEEE Shared task on Detecting Malicious Domain names (DMD 2018).
31. Program Committee member of 27th International Conference on ANNs (ICANN 2018).
32. TPC for International Conference on Neural Information Processing (ICONIP 2018).
33. TPC for 18th International Conference on Computer Analysis of Images and Patterns.
34. TPC for 2018 IEEE International Conference on Power and Energy (PECon).
35. International Program Committee member of Applications of Intelligent Systems, APPIS 2019.
36. PC member for Artificial Intelligence Applications and Innovations 2019.
37. Scientific and Local Organizing Committee of the First International Workshop on Multilayer Music Representation and Processing 2019.
38. PC member of EANN 2019.
39. International Program Committee of IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA 2019), July 3-5, 2019 in Sofia, Bulgaria.
40. Program committee of SMC2019.

41. Technical program committee for 2019 IEEE Regional Symposium on Micro and Nanoelectronics.
42. TPC for Deep Neural Audio Processing IJCNN 2019.
43. TPC for Computer Analysis of Image and Patterns 2019.
44. TPC for the Fifth Int. Symposium on Signal Processing and Intelligent Recognition Systems.
45. Technical Program Committee for 2019 IEEE 11th International Conference on Engineering Education.
46. International Program Committee member of Applications of Intelligent Systems, APPIS 2020.
47. TPC for 2019 International Conference on Electrical, Electronic, Communication and Control Engineering.
48. PC member for Artificial Intelligence Applications and Innovations 2019 and Engineering Applications of Neural Networks 2019.
49. TPC for Bulletin of Electrical Engineering and Informatics, BEEI 2020.
50. TPC for 2020 International Conference on INovations in Intelligent SysTems and Applications.
51. Program Committee member for the 8th Int. Conf. on Mining Intelligence & Knowledge Exploration 2020.
52. Member of Int. Program Committee of 1st Int. SS on Computer Supported Music Education, 2020.
53. TPC for 2020 1st Conference on Internet of Things and Embedded Intelligence.
54. Program Committee of 22nd International Conference on Speech and Computer 2020.
55. TPC for 2020 IEEE International Conference on Power and Energy.
56. TPC member for CoCoNet'20, 4th International Conference on Computing and Network Communications.
57. Programme Committee member for DAFx2020-today.
58. Technical Program Committee for 6<sup>th</sup> Int. Symp. on Signal Proc. and Intelligent Recognition Systems 2020.
59. Program Committee member for International Conference on Neural Information Processing 2020.
60. Program Committee member for 27th IEEE Conference of Open Innovations Association FRUCT 2020.
61. Member of International Program Committee of 2nd International Special Session on Computer Supported Music Education, CSME 2021.
62. Program Committee member for 28th IEEE Conference of Open Innovations Association FRUCT 2021.
63. Program Committee member of Conference on Novelties in Intelligent Systems 2021.
64. Member of the Program Committee of the 22<sup>nd</sup> Engineering Applications of Neural Networks) 18th (Artificial Intelligence Applications and Innovations) Joined International Conference, 2021.
65. Program Committee member for 29th IEEE Conference of Open Innovations Association FRUCT 2021.
66. Program Committee member of the 1<sup>st</sup> International Conf. on Novelties in Intelligent Digital Systems 2021.
67. TPC for 2021 IEEE Asia Pacific Conference on Circuits and Systems.
68. Program Committee of Audio Mostly 2021.
69. Program Committee member for 30th IEEE Conference of Open Innovations Association FRUCT 2021.
70. TPC for 2021 44<sup>th</sup> IEEE International Conference on Telecommunications and Signal Processing (TSP).
71. TPC for the 28th International Conference on Neural Information Processing 2021.
72. TPC for 2021 IEEE Industrial Electronics and Applications Conference.
73. Program Committee for 8th International Conf. on Mining Intelligence & Knowledge Exploration 2021.
74. Program Committee member for 31st IEEE Conference of Open Innovations Association FRUCT 2021.
75. Program Committee member for Sound and Music Computing Conference 2022.
76. PC Member for 18th International Conf. on Artificial Intelligence Applications and Innovations 2022.
77. International Program Committee of 2nd International SS on Computer Supported Music Education 2022.
78. Program Committee member for 31st IEEE Conference of Open Innovations Association FRUCT 2022.
79. Program Committee of the 32nd IEEE Conference of Open Innovations Association FRUCT 2022.
80. Program Committee of the 29th International Conference on Neural Information Processing 2022.
81. Program Committee for the 3rd International SS on Computer Supported Music Education 2023.
82. Program Committee for the 3rd International Conf. on Novel and Intelligent Digital Systems 2023, 2024.
83. Program Committee of the 32nd IEEE Conference of Open Innovations Association FRUCT 2023.
84. Program Committee member for Sound and Music Computing Conference 2023.
85. International Program Committee of 2nd Int. SS on Computer Supported Music Education 2023.
86. Scientific and Local Org. Committee of the 2nd Int. Workshop on Multilayer Music Representation and Processing 2023.
87. International Program Committee of 4th International Symposium on the Internet of Sounds 2023.
88. IEEE International Committee for the Coordination and Standardisation of Speech Databases and Assessment Techniques 2023.

## **Reviewing - Journals**

1. Pattern Recognition Letters, Elsevier.

2. IET Signal Processing.
3. IEEE Transactions on Audio, Speech and Language Processing.
4. IEEE Transactions on Multimedia.
5. Knowledge-based Systems Journal, Elsevier.
6. Archives of Acoustics.
7. Computers in Industry, Elsevier.
8. British Journal of Mathematics & Computer Science.
9. Journal of Audio Engineering Society.
10. IEEE Signal Processing Letters.
11. Digital Signal Processing, Elsevier.
12. Ecological Informatics, Elsevier.
13. IEEE Transactions on Systems, Man and Cybernetics: Systems.
14. Artificial Intelligence Review, Springer
15. Neural Networks, Elsevier.
16. Reliability Engineering & System Safety, Elsevier.
17. IEEE Transactions on Neural Networks and Learning Systems.
18. IEEE Transactions on Industrial Informatics.
19. International Journal of Electrical Power & Energy Systems, Elsevier.
20. IET Computer Vision.
21. Expert Systems with Applications, Elsevier.
22. Neurocomputing, Elsevier.
23. Progress in Nuclear Energy, Elsevier.
24. Interdisciplinary Sciences: Computational Life Sciences, Springer.
25. IEEE Computational Intelligence Magazine.
26. IEEE Systems Journal.
27. IEEE Intelligent Transportation Systems Magazine.
28. Special issue "Intelligent Audio Processing, Semantics, and Interaction", of JAES.
29. Sensors, MDPI.
30. Applied Soft Computing, Elsevier.
31. Measurement, Elsevier.
32. IEEE Transactions on Industrial Electronics.
33. Data Mining and Knowledge Discovery, Springer.
34. Computational Intelligence and Neuroscience, Hindawi.
35. KSII Transactions on Internet and Information Systems.
36. Handbook on Neural Computation, Elsevier.
37. Applied Sciences, MDPI.
38. IEEE Access Journal.
39. IEEE Systems Journal.
40. Journal of the Acoustical Society of America.
41. IET Healthcare Technology Letters.
42. IEEE Transactions on Emerging Topics in Computational Intelligence.
43. Special Issue on Computational Intelligence for End-to-End Audio Processing, IEEE Transactions on Emerging Topics in Computational Intelligence.
44. Journal of Industrial Information Integration.
45. IEEE Transactions on Information Forensics and Security.
46. IEEE Transactions on Reliability.
47. IEEE Journal of Biomedical and Health Informatics.
48. IET Control Theory & Applications.
49. Neural Computing and Applications, Springer.
50. Elsevier Book Proposal entitled Human-Computer Interaction.
51. EURASIP Journal on Audio, Speech, and Music Processing
52. Information, MDPI.
53. Ad-Hoc Networks, Elsevier.
54. IAES International Journal of Robotics and Automation.
55. Big Data Research, Springer.
56. Applied Mathematical Modelling, Elsevier.

57. Speech Communication, Elsevier.
58. Scientific Reports, Nature.
59. Nature Machine Intelligence.
60. Open Computing, World Scientific.
61. Visual Computing for Industry, Biomedicine, and Art, Springer.
62. IEEE Communication Magazine.

### **Reviewing - Conferences**

1. European Conference on Artificial Intelligence 2018.
2. Review committee of International Multiconference on Computer Science and Information Technology, Computational Linguistics – Applications (CLA IMCSIT 2009-2011).
3. IEEE International Joint Conference on Neural Networks (2012-today).
4. International Symposium on Neural Networks 2012.
5. IEEE Conference on Control, Systems & Industrial Informatics 2012.
6. IEEE International Conference on Electronics Design, Systems and Applications (ICEDSA 2012).
7. International Conference on Neural Computation Theory and Applications 2012.
8. IEEE International Power and Energy Conference (PECON 2012).
9. IEEE Symposium Series on Computational Intelligence 2013.
10. ICICIP 2013: 4th International Conference on Intelligent Control and Information Processing.
11. IEEE Symposium on Industrial Electronics & Applications 2013.
12. 9th IFIP International Conference on Artificial Intelligence Applications and Innovations (AIAI 2013).
13. IEEE International Conference on Clean Energy & Technologies 2013.
14. IEEE International Conference on Electronics, Circuits, and Systems 2013.
15. IEEE Innovative Smart Grid Technologies Conference 2014.
16. Second International Conference on Advanced Micro and Nanocomposite for Engineering 2014.
27. IEEE Symposium Series on Computational Intelligence 2014.
28. IEEE International Conference on Power and Energy 2014.
29. International Conference on Information Society and Technology 2015.
30. IEEE Conference on Energy Conversion 2015.
31. 11th IFIP International Conference on Artificial Intelligence Applications and Innovations (AIAI 2015).
32. IEEE Conference on Energy Conversion (Cencon2015).
33. Special Session on Computational Intelligence Algorithms for Digital Audio Applications, IJCNN 2016.
34. IEEE World Congress on Computational Intelligence 2016.
35. SS on Concept Drift, Domain Adaptation and Learning in Dynamic Environments, IJCNN 2016.
36. International Conference on Speech and Computer 2016.
37. International Joint Conference on Computer, Electrical and Electronics Engineering 2017.
38. IEEE Student Conference on Research and Development.
39. 2017 International Conference on Control Theory and Its Application.
40. Computational Methods for Audio Analysis Special Session at 25th EUSIPCO 2017.
41. International Conference on Sound and Vibration 2017.
42. IEEE Regional Symposium on Micro and Nanoelectronics 2017.
43. 24th International Conference On Neural Information Processing.
44. International Conference on Electrical, Electronic, Communication and Control Engineering 2017.
45. IEEE Conference on Energy Conversion 2017,
46. IEEE 9th International Conference on Engineering Education 2017.
47. World Congress on Circuits and Systems Conference 2018.
48. IEEE PES Asia-Pacific Power and Energy Engineering Conference 2018.
49. IEEE World Congress on Computational Intelligence 2018.
50. Hellenic Conference on Artificial Intelligence, SETN 2018.
51. Sound and Music Computing Conference 2018.
52. International Conference On Creative and Innovative Technology in Education (i-CITE2018).
53. IEEE International Conference on Semiconductor Electronics 2018.
54. IEEE 10th International Conference on Engineering Education 2018.
55. International Conference on Electrical, Electronic, Communication and Control Engineering 2018.
56. Technical review committee for CENCON 2019 (2019 4th IEEE Conference on Energy Conversion).
57. Activities of International Speech Communication Association including Interspeech 2019-today.

58. Sound and Music Computing Conference 2020.
59. International Conference on Vocational Education and Training (ICOVET 2020).
60. IEEE International Conference on Audio, Speech and Signal Processing 2021-today.
61. IEEE International Conference on Multimedia and Expo 2021.
62. Sound and Music Computing Conference 2021-today,
63. European Signal Processing Conference 2021-today.
64. IEEE International Conference on Telecommunications and Signal Processing 2021.
65. IEEE International Conference on Multimedia and Expo 2022.
66. International Conference on Pattern Recognition 2022.
67. IEEE 46th International Conference on Telecommunications and Signal Processing 2023.
68. IEEE 25th International Workshop on Multimedia Signal Processing 2023.

### **General/Session Chair, Workshop and Challenge Organizer in International Prestigious Conferences**

1. Workshop chair of “Intelligent Systems for Audio-based Monitoring”, Engineering Applications of Neural Networks 2017, 25-27 August 2017, Athens, Greece.
2. Chair of Session entitled “Classification and Pattern Recognition” held within the International Conference on Engineering Applications of Neural Networks 2017, 25-27 August 2017, Athens, Greece.
3. Chair of Session entitled “Applications” held within the International Workshop on Multilayer Music Representation and Processing 2019, 24-25 Jan. 2019, Milan, Italy.
4. Chair of Session entitled “Human Activity Recognition” held within the International Conference on Neural Information Processing 2020, Nov. 18-22, 2020, Bangkok, Thailand.
5. Chair of the Session entitled “Applications of audio and acoustics: Anomaly detection” held within the European Signal Processing Conference 2022, Aug. 29-Sept. 2, 2022, Belgrade, Serbia.
6. Chair of the Session entitled “Medical Acoustics” held within the International Conference on Artificial Neural Networks 2022, 6-9 September 2022, Bristol (UK).
7. Special Session Chair of “Multimodal Data Fusion for Natural Human-robot Interaction” held within the 2023 IEEE International Conference on Advanced Robotics and Mechatronics, July 8-10, 2023, Sanya, China.
8. Chair of Session entitled “Speech Processing” held within the IEEE International Conference on Digital Signal Processing 2023, 11-13 June 2023, Rhodes, Greece.
9. Chair of the Special Session entitled “Revolutionizing Interaction: Embodied Intelligence and the New Era of Human-Robot Collaboration” held within the IEEE 2023 WRC Symposium on Advanced Robotics and Automation, Aug. 19, 2023, Beijing, China.
10. Workshop Chair of “Revolutionizing Interaction: Embodied Intelligence and the New Era of Human-Robot Collaboration”, IEEE Intern. Conf. on Acoustics, Speech and Signal Processing 2024, Seoul, 19-24 April.
11. Main organizer of the IEEE Listener Acoustic Personalization Challenge in cooperation with Imperial College London, UK, Sorbonne Univ., Austrian Academy of Sciences, and University of Glasgow, EUSIPCO, Lyon, France, Aug. 26-30 2024.
12. General Chair of Association for Computing Machinery AudioMostly Conf., Milan, 18-20 Sept. 2024.

### **Media exposure and public engagement and outreach events**

1. Research Group presentation@OpenHouse, Politecnico di Milano, Department of Electronics, Information, and Bioengineering, 01/10/2015.
2. Press reference to J16, <http://biotechn.asia/2015/07/07/diagnosis-of-the-pathological-state-of-the-baby-from-its-cry/>, 7/7/2015.
3. Research Group presentation@OpenHouse, Politecnico di Milano, Department of Electronics, Information, and Bioengineering, 27/09/2016.
4. Interviewed by the Journal of the Audio Engineering Society for the issue of Oct. 2019 regarding the paper “Generalized Sound Recognition in Reverberant Environments” (22 October 2019).
5. Interviewed by Radiotelevisione Italiana (RAI) on the VOCAPRA project (23/12/2021).
6. Presentation@Milano Digital week, LIM presentation, University of Milan (2018, 2019).



7. Presentation of LIM at Fiera Internazionale della Musica, Milano (2018, 2019).
8. Organizer of Researcher's Night presentation of the Laboratorio di Informatica Musicale (2018, 2019).
9. Presentation of Laboratorio di Informatica Musicale @ OpenDay of the Department (2018-today).
10. Interviewed by the *New York Times* for the research conducted on bioacoustics using ML [J32, J40, C58, C60, C63, C65], <https://www.nytimes.com/2022/08/29/science/cats-pets-ommunication-artificial-intelligence.html> (24/8/2022).
11. Interviewed by the French magazine <https://www.epsiloon.com/> for the research conducted on computational bioacoustics (26/1/2023).
12. Press reference for the VOCAPRA project@ilGiorno (18/2/2023).
13. Press reference for the VOCAPRA project@Radio24 (21/2/2023).
14. Interviewed by Focus for the research conducted on bioacoustics (24/3/2023).
15. Interviewed by Radiotelevisione Italiana (RAI) for the results of the VOCAPRA project (18/5/2023).
16. Press reference for VOCAPRA at Wired (issue June 2023).

**Selected Events, Workshops and Special Issues organized by the IEEE CIS Task Force on Computational Audio Processing (updated list at <https://ieeeciscap.dii.univpm.it/>)**

- Co-organization of Task 4 in International Challenge DCASE2021 on Sound Event Detection and Separation in Domestic Environments
- Co-organization of Special sessions at IJCNN2020, EUSIPCO2020, IEEE MMSP2020, IJCNN2019, EUSIPCO2019, IEEE MMSP2019, IJCNN2018, EUSIPCO2018, IJCNN2017, EUSIPCO2017, IJCNN2016, MLSP2016
- Co-organization of Special Issue of the IEEE Transactions on Emerging Topics in Computational Intelligence on Computational Intelligence for End-to-End Audio Processing – 2017

Date

27/05/2024

Place

Milan