

University Academic Curriculum Vitae

Personal information

Name: **Niccolò Pretto**
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Education since leaving school

- 23/07/2010. Laurea triennale in Ingegneria Informatica - Class 9 (Università degli Studi di Padova)
- 06/03/2014. Laurea magistrale in Ingegneria Informatica - LM 32 (Università degli Studi di Padova)
- 14/02/2019. Dottorato in Ingegneria dell'Informazione, curriculum Scienza e Tecnologia dell'Informazione (Università degli Studi di Padova)
- 18/10/2020. Abilitazione all'esercizio della professione di Ingegnere dell'Informazione. *Esame di stato* passed in the II session 2015

Present appointment

- Ricercatore a tempo determinato junior (RTDa) – INFO-01/A
- 01/12/2022 – ongoing.
- Assistant Professor
- Free University of Bozen/Bolzano, Faculty of Engineering
- Research activity within the Media Interaction Lab in the field of human computer interaction and digital humanities: a) development of hardware and software components for new interfaces in different domains such as wearables, automotive, music etc.; b) new interfaces, algorithms, and standards for preserving, restoring, and valorizing historical audio recordings and multimedia installations.

Professional experience

Chronological list of all previous employments:

From / to	Job title	Name of academic Institution	Academic level	responsibilities
17/01/24 19/01/24	Part-Time Lecturer	University of Applied Science Upper Austria	Assistant professor	Teaching a module of the course "Mobile Device Technology 2"
28/09/22 30/11/22	Adjunct Professor	Department of information Engineering, University of Padova	Postdoc	Responsible of the course <i>Fondamenti di Informatica</i>
15/07/21 30/11/22	Associate Researcher CLARIN-ERIC: Development of a data center for archiving and storing linguistics data	Institute for Computational Linguistics "A. Zampolli", CNR	Postdoc	Development of a cloud platform for the preservation, restoration, description and cataloguing of digitized audio recordings

15/12/20 30/11/22	Assegnista Senior Type B <i>IT4aREC - Innovative Tools and Algorithms for preserving and Archiving Analogue Audio REcordings</i>	Department of information Engineering, University of Padova	Postdoc	<i>Principal investigator.</i> Design and development of algorithms and software for (a) validating digital preservation copies of historical audio recordings, (b) restoring and analyzing them (c) supporting the creation of archival units
01/09/20 14/12/20	Assegnista Junior Type A <i>FONTI 4.0 - Fruizione innovativa di fonti Orali digitalizzate mediante le Nuove Tecnologie dell'Industria creativa 4.0</i>	Department of information Engineering, University of Padova	Postdoc	Development and assessment of a "transcription chain" for automatizing the analysis and cataloguing of digitized oral sources
02/03/20 31/08/20	Assegnista Professionalizzante <i>- Archivio Vi. Vo.: Valorisation of the Archival Heritage - CLARIN-ERIC: Development of a data center for archiving and storing linguistics data</i>	Institute for Computational Linguistics "A. Zampolli", CNR	Postdoc	Development of a cloud platform for the preservation, restoration, description and cataloguing of digitized audio recordings
15/10/19 29/02/20	Borsista Models and IT applications for the exploitation of musical heritage	Department of information Engineering, University of Padova	Postdoc	Development of web application for accessing and describing digitized audio recordings
15/10/18 14/10/19	Assegnista Junior Type A Using Speech Archives: Model and Implementation	Department of information Engineering, University of Padova	Postdoc	Development of model and software for accessing oral archives
09/10/17 29/03/18	Visiting Researcher CompMusic (ERC project)	Music Technology Group of Universitat Pompeu Fabra, Barcelona	PhD Student	Creation of a corpus for Arab- Andalusian Music and development of algorithms for its analysis
01/10/15 30/09/18	PhD Student (Grant: Fondazione Cariparo) Cultural Context- Aware Models and IT Applications for the Exploitation of Musical Heritage	Department of information Engineering, University of Padova	PhD Student	Three main case studies related: a) software for the preservation of tape music, b) multimedia installation for musical heritage, c) analysis of Arab- Andalusian music

01/04/15 30/09/15	Assegnista Junior Type A Archaeology & Virtual Acoustics. A Pan flute from ancient Egypt	Department of Cultural Heritage, University of Padova	Pre-doc	Design and development of an interactive multimedia installation for playing and exploring the history of an ancient Pan flute
01/04/14 30/03/15	Assegnista Junior Type A Design and development of interactive mobile system for the access to digitized audio documents and artistic multimedia installation	Department of information Engineering, University of Padova	Pre-doc	Design and development of a skeuomorphic mobile application for accessing historical audio tape recordings

**Participation
in exhibitions**

12/09/2016. Presentation of the interactive multimedia installation [EX1] for the valorisation of an Ancient Pan Flute from Egypt. The installation is permanently exhibited at the Museum of Archaeological Sciences and Art (MSA), University of Padova. Numerous articles were published in local newspapers (see section “Publications about the applicant”). I contributed to design and develop the multimedia installation under the supervision of prof. Sergio Canazza. I collaborate with the designer Dr. Silvia Gasparotto (Design Department, University of San Marino) and I supervised 1 master’s and 3 bachelors’ students. The texts were provided by the prof. Paola Zanovello, Dr. Giulia Deotto and Dr. Alessandra Menegazzi (Department of Cultural Heritage, University of Padova).

18/07/2017. Inauguration of the Parco Multimediale delle Mura di Padova (PAMU) [EX2]. Series of multimedia installations and mobile/VR applications for valorizing the Renaissance walls of Padua. For more details, please refer to [J4] or visit the following URL: <http://www.parcoturapadova.it/>

**Experience in
academic
teaching**

Teaching abroad activity recognized as valid title for *Abilitazione scientifica nazionale - II fascia* in the application for the sector 01/B1 III quadrimestre 2023/25

PhD teaching and teaching abroad activities recognized as two valid titles for *Abilitazione scientifica nazionale - II fascia* in the application for the sector 09/H1 II quadrimestre 2023/25

Teaching activity of the last 5 years:

- 2024 - 2025. Assistant Professor (Ricercatore RTDa) - 12 hours Responsible of the modules “Empirical/experimental computer science research methods” (6 hours) and “Good scientific writing style” (6 hours), part of the course “Research Methods” (INF/01) of the National PhD in Artificial Intelligence and PhD in Computer Science of the Faculty of Engineering of the Free University of Bozen-Bolzano. Language: English.
- 2024 - 2025. Assistant Professor (Ricercatore RTDa) - 60 hours (6 CFU) - Responsible for “Engineering of Mobile Systems” module (INF/01) of the Mobile and Physical Systems course (12 CFU) in the Bachelor in Computer Science of the Faculty of Engineering of the Free University of Bozen-Bolzano. Language: English

- 2023 - 2024. Assistant Professor (Ricercatore RTDa) - 12 hours Responsible of the modules “Empirical/experimental computer science research methods” (6 hours) and “Good scientific writing style” (6 hours), part of the course “Research Methods” (INF/01) of the National PhD in Artificial Intelligence and PhD in Computer Science of the Faculty of Engineering of the Free University of Bozen-Bolzano. Language: English.
- 2023 - 2024. Part-Time lecturer (Nebenberuflicher Lehrbeauftragter) - 12 hours - Module of the course “Mobile Device Technology 2” in the Bachelor in Mobile Computing of the University of Applied Science Upper Austria, School of Informatics, Communications and Media. Language: English.
- 2023 - 2024. Assistant Professor (Ricercatore RTDa) - 60 hours (6 CFU) - Responsible for “Engineering of Mobile Systems” module (INF/01) of the “Mobile and Physical Systems” course (12 CFU) in the Bachelor in Computer Science of the Faculty of Engineering of the Free University of Bozen-Bolzano. Language: English.
- 2023 - 2024. Assistant Professor (Ricercatore RTDa) - 9 hours (1.5 CFU) - Module of the course “Game theory explained with microcontrollers” (original title: “La teoria dei giochi spiegata con i microcontrollori” - INF/01, ING-INF/05, ING-INF/04) in the Studium Generale of the Free University of Bozen-Bolzano. Language of the course: Italian.
- 2022 - 2023. Assistant Professor (Ricercatore RTDa) - 60 hours (6 CFU) - Responsible for “Embedded Systems Design and Implementation” course (ING-INF/04) in the Master in Software Engineering (as a module of the “Systems Design and Implementation” course - 12 CFU) and Master in Industrial Mechanical Engineering (standalone course - 6 CFU) of the Faculty of Engineering of the Free University of Bozen-Bolzano. Language: English.
- 2022 - 2023. Adjunct Professor (Professore a Contratto) - 40 hours (5 CFU)¹ - Responsible of the course “Foundations of Computer Science (C)” (original title: Fondamenti di Informatica C - INF/01 and ING-INF/05) in the Bachelor Degree in Information Engineering, Computer Science Engineering and Electronic Engineering at the Department of Information Engineering of the University of Padova. Language: Italian. Average evaluation: a) Satisfaction: 8,06, b) Teaching: 8,11, c) Organization: 8,29
- 2021 - 2022. Teaching Assistant (Didattica Integrativa) - 16 hours - for the “Foundations of Computer Science” (original title: Fondamenti di Informatica - INF/01 and ING-INF/05) course in the Bachelor Degree in Information Engineering at the Department of Information Engineering of the University of Padova (Prof: Laura Bazzanella, Cinzia Pizzi, Andrea Loreggia). Language: Italian.
- 2019 - 2020. Teaching Assistant (Didattica Integrativa) - 20 hours - for the “Foundations of Computer Science” (original title: Fondamenti di informatica - INF/01 and ING-INF/05) course in the Bachelor Degree in Information Engineering at the Department of Information Engineering of the University of Padova (Prof: Laura Bazzanella, Sergio Canazza, Adriano Luchetta, Cinzia Pizzi). Language: Italian.
- 2019 - 2020. Seminar Teaching for the “Sound and Music Computing” (original title: Informatica Musicale - ING-INF/05) course in the Master's Degree in Information Engineering at the Department of Information Engineering of the University of Padova (Prof: Sergio Canazza, Giovanni De Poli, Antonio Rodà). Language: Italian

¹ The teaching activity (6 CFU) terminated before the end of the course because of the incompatibility with the new position at the Free University of Bozen-Bolzano.

- 2017 - 2020. Projects Tutor for the “Sound and Music Computing” (original title: Informatica Musicale - ING-INF/05) course in the Master's Degree in Information Engineering at the Department of Information Engineering of the University of Padova (Prof: Federico Avanzini, Sergio Canazza, Giovanni De Poli, Antonio Rodà).

Supervision activities of the last 5 years:

- 2025 - present. **Co-Supervisor** for **1 PhD's student** of the PhD in Experimental Research through Design, Art and Technologies at Faculty of Design of the Free University of Bozen-Bolzano. Field: Human-Computer Interaction.
- 2024 - present. **Co-Supervisor (Correlatore)** for **2 bachelor's** students (both currently active) at the Free University of Bozen-Bolzano. Fields: Human-Computer Interaction and Sound and Music Computing.
- 2023 - present. **Supervisor (Relatore)** for **4 bachelor's** students (2 currently active and 2 concluded) and **2 internships** at the Free University of Bozen-Bolzano. Fields: Human-Computer Interaction and Sound and Music Computing.
- 2020 - 2022. **Co-supervisor (Correlatore)** for **2 bachelor's** students and **3 master's** students at the University of Padova. Fields: sound and music computing, human computer interaction and digital humanities.

Summary of significant personal achievements in teaching:

During my teaching experience at the University of Padova, I had the possibility to work as Lab tutor, Teaching Assistant as well as responsible for the course “Fundamentals of computer science”. These three different roles, with different involvement of students, provided me with the opportunity to be aware of the needs and problems that students face during their first approach to computer science. This has been very useful to improve a course with 230 students, tackling the learning issues with innovative methodologies based on platforms such as Moodle, Wooclap as well as laboratories. The experience also provided me with the possibility to enhance the collaboration and organization of the new lab tutors and teaching assistants which I managed.

The transition from the University of Padova to the Free University of Bozen-Bolzano implied a deep change in the teaching approach. The smaller number of students in the class allowed me to follow the students more closely and organize practical activities as well as one-on-one discussions on the projects that they independently developed. I included within the course important seminars with industry stakeholders such as a Senior engineer of Spotify. This practical approach is very appreciated by the students: for the second years, I obtained an overall 8.5 score in the students' evaluation, and in the last year I received almost 97% of positive evaluations.

The co-supervision activities were also productive and appreciated by the students. During my experience at the University of Padova, Five Bachelor's students have chosen me as their co-supervisor for their Master's thesis. Four Master's students decided to continue to work on the thesis topic with a PhD or grants. The extended experience as co-supervisor provides a smooth transition towards the independent supervision of the students, which I started at the Free University of Bozen-Bolzano.

Other academic responsibilities

- 2025 - present. **Reviewer of international projects.** At the invitation of the Austrian Academy of Sciences (ÖAW - Vienna, Austria), I am serving as an expert for the evaluation of a project submitted to the Heritage 2.0 call (Total funding €4.5 million - maximum funding per individual project €550,000).

- 2024 - present. **Committee Member** for evaluation of annual reports in the Ph.D. Program in Advanced Systems Engineering, Faculty of Engineering, and for the Ph.D. Program in Experimental Research through Design, Art and Technologies, Faculty of Design, of the Free University of Bozen-Bolzano Free University of Bozen-Bolzano.
- 2025. **Coordinator** of the project PROSOUNDS - Audio PROcessing and internet of SOUNDS, funded by the Euregio Mobility Fund (6.000 €), in collaboration with the University of Trento. PROSOUNDS Spring School is a series of multidisciplinary seminars in the field of audio processing and embedded systems applied to sound and music for PhD students.
- 2024. Member of the **Thesis Commission**, Bachelor of Computer Science, Master in Computational Data Science, Master in Software Engineering of the Free University of Bozen-Bolzano.
- I **co-organized two virtual courses** of the Archive Online Academy (AOA) financed by the Giorgio Cini Foundation (Venice):
 - Jun 2020 - Jul 2021. *Preservation of historical sound documents* (<https://www.cini.it/en/events/preservation-of-historical-sound-documents>), composed by 4 lectures and 3 virtual laboratories (50 enrolled people).
 - Sep 2021. *FONTI 4.0 – Preservation, transcription, and access of analog oral sources* (<https://www.cini.it/en/events/archive-online-academy-living-lab-how-to-manage-oral-sources>), composed by a workshop with national and international professors on digital humanities, language technology and oral sources fields, 4 lectures and 3 virtual laboratories (98 enrolled people).

Memberships **The Editorship activity has been evaluated as a valid title for the *Abilitazione scientifica nazionale - II fascia* in the application for the sector INF/01 III *quadrimestre 2023/25*.**

- 2024 – present. **Associate Editor** of the international and peer-reviewed ACM *Journal on Computing and Cultural Heritage* (dl.acm.org/journal/jocch) - Q2 Computer Science Applications, Information Systems, Computer Graphics and Computer-Aided Design, and Q1 in Conservation.
- 2024 – present. **Guest Editor** of the international and peer-reviewed journal *Heritage* (Q1 Archaeology and Q1 Conservation). On the 19th of March 2024, the special issue “Computational Methodologies Supporting the Preservation, Access and Re-use of Sound and Musical Cultural Heritage” was launched. The co-guest editor of this special issue is the prof. Sergio Canazza (University of Padova). Link: www.mdpi.com/journal/heritage/special_issues/RG87PD855U
- 2022 – 2024. **Topic Editor and Guest Associate Editor** of the international and peer-reviewed journal *Frontiers in Signal Processing* (indexed in Scopus and Web of Science Emerging Sources Citation Index - ESCI). On the 23rd of September 2022, the topic “Preservation and Exploitation of Audio Recordings: from Archives to Industries” was launched. This topic was completed on the 9th of July 2024. The other topic editors are Prof. Sergio Canazza (University of Padova), Prof. Emery Schubert (University of New South Wales, Sydney) and Prof. Marina Bosi (Stanford University). The reference to the editorial is [ED2]. Research topic link: www.frontiersin.org/research-topics/47296/preservation-and-exploitation-of-audio-recordings-from-archives-to-industries
- I am a **member** of the Association for Computing Machinery (**ACM**) and Institute of Electrical and Electronics Engineers (**IEEE**), and Audio Engineering Society (**AES**).

- 2018 – 2022. I was part of the **Italian Committee for Oral Sources** (Tavolo permanente per le fonti orali) that involves numerous Italian Central Institutions of the Ministry of Cultural Heritage (Direzione generale archivi, Istituto centrale per i beni sonori e audiovisivi, Istituto centrale per il catalogo e la documentazione), scientific associations, foundations, and universities and aims to define good practices for preserving and valorising oral sources [O1].
- 2021 – 2023. I was a **member** of the Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI) community (2021-23), where I was part of the **Communication Advisory Committee**.
- I worked as a **reviewer** for the following scientific journals and books:
 - IEEE Access
 - ACM Journal on Computing and Cultural Heritage
 - Multimedia Systems (Springer)
 - IEEE Robotics and Automation Letters
 - Applied Science (MDPI)
 - Umanistica Digitale
 - Magazén - International Journal for Digital and Public Humanities
 - CLARIN Book
 - Immagine. Note di storia del cinema.
- I was part of the **Program Committees** of the following conferences:
 - [PC1] ACM CHI conference on Human Factors in Computing Systems - 2024, 2025
 - [PC2] Sound and Music Computing Conference (SMC) – 2019-2025
 - [PC3] Workshop on Ubiquitous Music (UbiMus) – 2020-2023
 - [PC4] 8th International Conference, Culture and Computing (C&C) 2020, Held as Part of the 22nd HCI International Conference, HCII 2020, Copenhagen – 2020
 - [PC5] AudioMostly – 2020, 2023 - 2025
 - [PC6] Colloquio di Informatica Musicale (CIM) – 2016, 2018, 2020 and 2024
 - [PC7] International Community For Auditory Display Conference (ICAD) – 2025
 - [PC8] IEEE International Symposium on the Internet of Sounds (IS2) – 2025
- During the conference PC4, I was **Co-Chair** of the session: “Culture and Computing - Designing Cultural Heritage Explorations”.
- I also worked as a **reviewer** for the following conferences:
 - Conference on Information and Research Science Connecting to Digital and Library Science (IRCDL) – 2025
 - CLARIN Annual Conference, Pisa – 2020 and 2021
 - Convegno Associazione Italiana Scienze della Voce, AISV, Arezzo - 2019

Research and scholarships

The following title (participation in national and international research groups) has been evaluated as a valid title for the *Abilitazione scientifica nazionale - II fascia* in the application for the sector INF/01 VI quadrimestre 2023/25.

- I participated in the research activities of 5 different national and international groups:
 - **Centro di Sonologia Computazionale** of the Department of Information Engineering at the University of Padova (UNIPD), one of the oldest and most important laboratories in the sound and music computing field in Italy and worldwide.
 - **Language Resources and Infrastructures** Group of the Institute for Computational Linguistics A. Zampolli (ILC), National Research Council (ILC-CNR).

- **Music Technology Group** of the Pompeu Fabra University (UPF - Barcelona, SP), recognized as one of the main labs in the sound of music computing field worldwide.
- **Media Interaction Lab**, originally established in Austria (in 2004), and now part of the Free University of Bozen-Bolzano (UNIBZ). The lab has been conducting research in Human-Computer Interaction (HCI) and Ubiquitous Computing.
- **Materials and Devices for Smart Systems (MDSS)** group at the Free University of Bozen-Bolzano, conducting multidisciplinary research in the field of HCI and development of smart devices and sensors.

From the very beginning of my carrier, my research activity has been stood out for the high multidisciplinary. My research fields are sound and music computing, human computer interaction and digital humanities. My main topic is related to the computer science technologies applied to audio recordings and museum installations.

During the last 5 years I was involved in **9 research projects: 3 international and 6 national or within universities (1 as Principal Investigator)**. I also contributed to **7 funded infrastructure projects** funded by the Free University of Bozen-Bolzano where I am one of the proposal **team members**. I coordinated an **Euregio teaching project** and I am the **Principal Investigator of 2 industrial projects**. The following table shows all awarded grants as Principal Investigator, Co-investigator and funded projects where I am a Team Member (TM) in the proposal. The amount indicates the funding of the overall project.

Date granted	Award Holder(s)	Funding Body	Title	Amount received
2025	PI	Digital Innovation Hub South Tyrol (PNRR)	TBI-KIM: Test Before Invest service for KIM Keep In Mind	60.000,00€
2025	PI	Digital Innovation Hub South Tyrol (PNRR)	KIMO: Orientation service for KIM Keep In Mind	5.000,00€
2020-2022	PI	B Senior Initiative, Department of Information Engineering, University of Padova	IT4aREC	60.000,00€
2025	PI	Euregio Mobility Fund	Audio PROcessing and internet of SOUNDS (ProSounds)	6.000,00€
2024-2026	Co-PI	Innovation Playground, a playground for prototyping smart surfaces	ERDF 2021-2027	629.557,34€
2024-2025	TM	Young Researchers Call iNest Consortium	Embodied data lab	60.000,00€
2024-2025	TM	Infrastructure call UNIBZ	Electronic materials and devices on 3D and unconventional SURFACES	64.292,74€
2024-2025	TM	Infrastructure call UNIBZ	Confocal laser scanning surface analyser	106.206,48€
2024-2025	TM	Infrastructure call UNIBZ	Multilingual Speech Production Database	149.908,64€
2024-2025	TM	Infrastructure call UNIBZ	Immersive SOUnd Lab (iSOUL)	103.761,00€
2023-2024	TM	Infrastructure call UNIBZ	stylUs ThIn filM mEtrology (UTILE)	75.892,00€
2023-2024	TM	Infrastructure call UNIBZ	Optical microscope/macroscope with high focus depth for the characterisation of 3D surfaces	105.825,00€
2023-2024	TM	Infrastructure call UNIBZ	Smart Textile Lab (STL)	199.096,00€

The other projects where I was involved, but not part of the submission team are:

- (national project) Models and IT applications for the exploitation of musical heritage, funded by the University of Padova.
- (national project) Archivio Vi.Vo., funded by Toscana Region.
- (national project) CLARIN-IT.
- (international project) FONTI 4.0 - Fruizione innovativa di fonti Orali digitalizzate mediante le Nuove Tecnologie dell'Industria creativa 4.0, funded by FSE funds.
- (international project) MPAL - Moving Picture, Audio and Data Coding by Artificial Intelligence.
- (international project) Electric Mobility in L-Category Vehicles for all generations (EMotion), funded by the Austrian Climate and Energy Fund – “Zero Emission Mobility” programme - ~3.0 million.

Here is the description of some of the main research projects of the last 5 years. The industrial projects are described in the third mission section.

- (National) Embodied Data Lab.
The project, funded by Young researchers call of the iNest Consortium (www.consorzioinest.it), aims to develop interactive data-driven installations that enable bodily experiences through science and design in the context of Tourism, Culture and Creative Industries.
- (National) IT4aREC – Innovative Tools and Algorithms for preserving and Archiving Analogue Audio RECORDINGS
I am the principal investigator of the IT4aREC project. It aims to design innovative algorithms and to develop new software tools for (a) validating digital preservation copies, (b) restoring and analyzing preservation copies, (c) supporting the creation of archival units available to researchers and/or common audience and (d) evaluating the suitability of blockchain technologies for long-term preservation of audio recordings. It is highly multidisciplinary and involves several national and international collaborations. The main achievements are the restoration workflow and filters for compensating speed and equalization errors occurred during the digitization of audio open-reel tapes as well as for their validation [J10]. I collaborated with several national and international researchers and professionals, such as prof. Emery Schubert (University of New South Wales, AU) and Dr. Kurt James Warner (Izotope Inc., US). At the moment, I am working on the automatic detection of irregularities in the video of the tape acquired during the digitization of an audio tape.
- (National) Archivio Vi.Vo.
Archivio Vi.Vo. is an Italian project financed by the Region of Tuscany, aiming to: (i) explore methods for long-term preservation and secure access to oral sources, and (ii) develop an infrastructure under the CLARIN-IT umbrella, offering several services for scholars from different domains interested in oral sources [BC3]. In this project, I developed the methodology, and I am co-supervising the development of a platform for the preservation and access to oral sources collaborating with prof. Silvia Calamai (University of Siena and Principal Investigator of the project), Dr. Monica Monachini (Institute of Computational Linguistics, CNR, Pisa and coordinator of CLARIN-IT), Dr. Maria Francesca Stamuli (Soprintendenza archivistica e bibliografica della Toscana). This platform is deployed in the Italian Gruppo per l'Armonizzazione delle Reti della Ricerca (GARR) infrastructure as service in the European Common Language Resources and Technology Infrastructure (CLARIN). The algorithms and tools of IT4aREC will be integrated in the platform.
- (International) FONTI 4.0 - Fruizione innovativa di fonti Orali digitalizzate mediante le Nuove Tecnologie dell'Industria creativa 4.0
The project FONTI 4.0 is funded by the Veneto Region through the European Social Funding. The goal is to automatize the extraction of information from analog oral sources through an automatic transcription

chain. The steps of the project are: (1) detecting and correcting errors that could occur during the digitized recordings (equalization and speed errors), (2) transcribing the content through existing commercial software, (3) analyzing the transcribed text to identify information such as date, location, important names, etc., and (4) developing an interface for searching and playing digitized oral sources. In this project I am co-supervising the development of the overall transcription chain for automatically analyzing the contents of historical oral sources [C19]. This project adopted algorithms of IT4aREC for the restoration of digitized recordings. I am actively collaborated with prof. Frederic Kaplan (head of Digital Humanities Laboratory of École Polytechnique Fédérale de Lausanne - EPFL), Dr. Alain Dufaux (Cultural Heritage & Innovation Center, EPFL, CH) and Fondazione Giorgio Cini, Venezia.

- (International) MPAI - Moving Picture, Audio and Data Coding by Artificial Intelligence
From 2021 to 2023, I was a member of the Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI) community (mpai.community) aiming at Artificial Intelligence (AI) enabled digital data compression specifications. I am part of the Context-based Audio Enhancement (CAE) and Multimodal Conversation (MMC) standard groups, mainly working at the Audio Recording Preservation (ARP) standardization, which realized a standard this is under evaluation by IEEE P3302 [O2], [J12]. The community involves researchers and companies all around the world, but the most valuable collaborators are Leonardo Chiariglione (co-founder of Moving Picture Experts Group - MPEG - and MPAI president) and prof. Marina Bosi (University of Stanford, US).
- (Infrastructure) Immersive SOUND Lab (iSOUL)
I am a team member in numerous infrastructure projects at the UNIBZ. The most important for my research, where I put an important effort, is the development of a new Immersive Sound Lab in collaboration with colleagues in acoustics, HCI, and linguistics. The aim is to create a new space for interdisciplinary research on audio in its different forms (music, speech, soundscape, etc.), opening a new research field at UNIBZ.

Publications The overall scientific production consists of **49 contributions**: 13 peer-reviewed international journal articles, 24 peer-reviewed papers on national and international conference proceedings, 2 books, 3 book chapters, 2 editorials, the PhD thesis, an international standard, a national guideline and 2 exhibitions.

- Books – Authored

[B2] A. Artusi, A. Basso, M. Bosi, S. Canazza, L. Chiariglione, M. Choi, F. Columbano, M. Burkay Çöteli, N. Dalla Pozza, R. Dini, M. Guarise, H. Hacıhabiboğlu, R. Iacoviello, C. Jia, J. Kang, P. Kudumakis, V. Lazzaroli, M. Mazzaglia, G. Perboli, N. Pretto, P. Ribeca, M. Rosano, M. Seligman. Verso un uso pervasivo ed affidabile dell'intelligenza artificiale. Come gli standard possono mettere una grande tecnologia al servizio dell'umanità. Amazon Publishing, 2022. ISBN-13: 979-8835395675. URL: www.amazon.com/Verso-pervasivo-affidabile-dellintelligenza-artificiale/dp/B0B4D6FFTR

[B1] A. Artusi, A. Basso, M. Bosi, S. Canazza, L. Chiariglione, M. Choi, F. Columbano, M. Burkay Çöteli, N. Dalla Pozza, R. Dini, M. Guarise, H. Hacıhabiboğlu, R. Iacoviello, C. Jia, J. Kang, P. Kudumakis, V. Lazzaroli, M. Mazzaglia, G. Perboli, N. Pretto, P. Ribeca, M. Rosano, M. Seligman. Towards Pervasive and Trustworthy Artificial Intelligence. How standards can put a great technology at the service of humankind. Amazon Publishing, December 2021. ISBN-13: 979-8786573368. URL: www.amazon.com/Towards-Pervasive-Trustworthy-Artificial-Intelligence/dp/B09NRKX74F

- Books – Edited

/

- Chapters in books

[BC3] S. Calamai, D. Piccardi, N. Pretto, G. Candeo, M. F. Stamuli, and M. Monachini. Not just paper: enhancement of archive cultural heritage. In *CLARIN book*, edited by D. Fišer and A. Witt, DeGruyter, 2022. doi: 10.1515/9783110767377-025

[BC2] V. Burini, S. Canazza, and N. Pretto. Archivi di musica elettroacustica: dalla conservazione all'accesso. In *I documenti Sonori. Voce, suono, musica in archivi e raccolte*, Archivi e biblioteche in Piemonte - Direzione Promozione della Cultura, Turismo e Sport della Regione Piemonte, Torino, Italy, 2021. URL: dei.unipd.it/~prettoni/paper/BuriniEtAl.Archivi.pdf

[BC1] A. Russo, M. Kassel, S. Canazza, and N. Pretto. Active Preservation of Luciano Berio's Audio Documents. In *Mitteilungen der Paul Sacher Stiftung*, 32:20-25, ISSN 1015-0536, Basel, April 2019. URL: paul-sacher-stiftung.ch/dam/jcr:d2fda27b-ae19-4b5f-8b27-dc598bba9164/mitteilungen-pss-32-alessandro-russo-matthias-kassel-sergio-canazza-niccolo-pretto.pdf

- Conference papers

[C24] M. Menendez-Blanco, N. Pretto, G. Grillini, G. Nicastro, F. Condorelli, K. Mischer, T. Traxler. Assessing Meaning in Embodied Interactive Installations. In *Proceedings of 16th Biannual Conference of the Italian SIGCHI Chapter (CHIItaly)*, Salerno, 2025. (accepted – expected publication date: 6 october 2025)

[C23] Z. Çınar, A. Russo, M. Spanio, N. Pretto, S. Canazza. Filming the sound: Anomaly Detection on Audio Tape Recordings using Computer Vision Algorithms. In *Proceedings of 3rd Workshop on Artificial Intelligence for Cultural Heritage*, co-located with the *23rd International Conference of the Italian Association for Artificial Intelligence (AIxIA 2024)*, Bozen, 2024. URL: https://ceur-ws.org/Vol-3865/13_paper.pdf

[C22] K. F. Mwaita, A. Carrasco-Pena, N. Pretto, T. Preindl, A. Pointner, N. Munzenrieder, and M. Haller. Capacitive Thin-Film User Interfaces on Stones. In *Proceedings of 2024 IEEE International Flexible Electronics Technology Conference (IFETC)*, Bologna, 2024. doi: 10.1109/IFETC61155.2024.10771857

[C21] M. Bosi, S. Canazza, A. Russo Pretto, N. Pretto and L. Chiariglione. An MPAA/IEEE International Standard for Audio: Overview of CAE Audio Recording Preservation (ARP) Technology. In *Proceedings of AES International Conference on Audio Archiving, Preservation & Restoration*, Culpeper, Virginia, US, 2023. URL: www.aes.org/e-lib/browse.cfm?elib=22136

[C20] F. Carnovalini, A. Rodà, N. Pretto, and S. Canazza. We have other paintings as well! Recommending non-popular cultural heritage in museum visits. *Extended Intelligence for Cultural Engagement (EXICE)*, Bologna, 2023. doi: 10.5281/zenodo.7973666.

[C19] R. B. Luzietti, N. Pretto, F. Kaplan, A. Dufaux, and S. Canazza. FONTI 4.0: evaluating speech-to-text automatic transcription of digitized historical oral sources. Eighth Italian Conference on Computational Linguistics, Milan, 2022. URL: <http://ceur-ws.org/Vol-3033/paper45.pdf>

[C18] L. Chiariglione, A. Basso, P. Ribeca, M. Bosi, *N. Pretto*, G. Chollet, M. Guarise, M. Choi, F. Yassa, R. Iacoviello, A. Artusi, F. Banterle, G. Saccardi, A. Fiandrotti, G. Ballocca, M. Mazzaglia, M. Rosano, and S. Moskowitz. AI-based media coding and beyond. In proceedings of IBC conference, virtual, 2021. URL:

https://www.dei.unipd.it/~prettoni/paper/2021_ibc_mpai_published.pdf

[C17] *N. Pretto*, N. Dalla Pozza, A. Padoan, A. Chmiel, K. J. Werner, A. Micalizzi, E. Schubert, A. Rodà, S. Milani, and S. Canazza. A workflow and novel digital filters for compensating speed and equalization errors on digitized audio open-reel tapes. In Proceedings of Audio Mostly - AM21, 2021. Trento, Italy. doi: <https://doi.org/10.1145/3478384.3478409>

[C16] M. Bosi, *N. Pretto*, M. Guarise, and S. Canazza. Sound and music computing using AI: Designing a standard. in Proceedings of the 18th Sound and Music Computing Conference - SMC21, Virtual Edition, 2021. doi: <https://doi.org/10.5281/zenodo.5045003>

[C15] S. Calamai, *N. Pretto*, M.F. Stamuli, D. Piccardi, G. Candeo, S. Bianchi, and M. Monachini. Community-Based Survey and Oral Archive Infrastructure in the Archivio Vi.Vo. Project. Selected Papers from the CLARIN Annual Conference 2020, 2021. URL:

<https://ecp.ep.liu.se/index.php/clarin/article/view/7/7>

[C14] M. Monachini, M.F. Stamuli, S. Calamai, *N. Pretto*, and S. Bianchi. The grey-side of audio archives. Conference of 22nd International Conference on Grey Literature: Applications of Grey Literature for Science and Society – GL, 2020, Virtual Edition. URL:

http://www.dei.unipd.it/~prettoni/paper/2020_GL2020_grey_published.pdf

[C13] S. Calamai, *N. Pretto*, M. Monachini, M.F. Stamuli, S. Bianchi, and P. Bonazzoli. Building a home for Italian audio archives. Proceedings of CLARIN Annual Conference, 2020. Eds. C. Navarretta and M. Eskevich. Virtual Edition. URL:

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[C12] VN. Vitale, M. Olivieri, A. Origlia, *N. Pretto*, A. Rodà, and F. Cutugno. Acoustic Experiences for Cultural Heritage Sites: A Pilot Experiment on Spontaneous Visitors? Interest. In Culture and Computing. HCII, 2020. Lecture Notes in Computer Science, vol 12215. Springer, Cham. doi: https://doi.org/10.1007/978-3-030-50267-6_23

[C11] *N. Pretto*, A. Russo, F. Bressan, V. Burini, A. Rodà, and S. Canazza. Active preservation of analogue audio documents: A summary of the last seven years of digitization at CSC, in Proceedings of the 17th Sound and Music Computing Conference - SMC20, Torino, 2020. doi:

<https://doi.org/10.5281/zenodo.3898905>.

[C10] A. Russo, *N. Pretto*, A. Rodà, and S. Canazza. L'informatica per la gestione e la conservazione di informazioni acustiche (musica e voce). In Proceedings of Associazione Italiana Scienze della Voce - Studi AISV, 2019. URL: [dei.unipd.it/~prettoni/paper/RussoAISV.pdf](http://www.dei.unipd.it/~prettoni/paper/RussoAISV.pdf)

[C9] S. Canazza, C. Fantozzi, *N. Pretto*, A. Rodà, A. Chmiel, and E. Schubert. Quelle voci poco fa: l'intelligenza artificiale a contrastare l'eclisse delle memorie sonore. 1st Convegno Nazionale CINI sull'Intelligenza Artificiale (Ital-IA), Rome, 2019. URL: ital-ia.it/submission/74/paper

[C8] M. Mandanici, F. Altieri, *N. Pretto*, M. Munaro, S. Canazza, and E. Menegatti. The Good or Bad? Game: Stimulating Listening Skills through Playful Engagement. In Proceedings of the 4th EAI International Conference on Smart Objects and Technologies for Social Good, pages 177-182, Bologna, 2018. ACM. ISBN: 978-1-4503-6581-9. doi: <https://doi.org/10.1145/3284869.3284917>

[C7] R. Caro Repetto, N. Pretto, A. Chaachoo, B. Bozkurt, and X. Serra. An open corpus for the computational research of Arab-Andalusian music. In Proceedings of the 5th International Conference on Digital Libraries for Musicology (DLfM '18), pages 78-86, Paris, 2018. ACM. ISBN 978-1-4503-6522-2. doi: <https://doi.org/10.1145/3273024.3273025>

[C6] N. Pretto, B. Bozkurt, R. Caro Repetto, and X. Serra. Nawba recognition for Arab-Andalusian music using templates from music scores. In Proceedings of 15th Sound and Music Computing Conference (SMC'18), pages 405-410, Limassol, Cyprus, 2018. doi: <https://doi.org/10.5281/zenodo.1257388>

[C5] E. Micheloni, N. Pretto, and S. Canazza. A step toward AI tools for quality control and musicological analysis of digitized analogue recordings: recognition of audio tape equalizations. In Proceedings of the 11th International Workshop on Artificial Intelligence for Cultural Heritage (AI*CH'17), pages 17-24, Bari, 2017. URL: ceur-ws.org/Vol-2034/paper_3.pdf

[C4] E. Micheloni, N. Pretto, F. Avanzini, S. Canazza, and A. Rodà. Installazioni interattive per la valorizzazione di strumenti musicali antichi: il flauto di Pan del Museo di scienze archeologiche e d'arte dell'Università degli studi di Padova. In Extending interactivity. Atti del XXI CIM Colloquio di Informatica Musicale (CIM'16), pages 203-208, Cagliari, 2016. URL cim.lim.di.unimi.it/2016_CIM_XXI_Atti.pdf

[C3] F. Avanzini, S. Canazza, G. De Poli, C. Fantozzi, E. Micheloni, N. Pretto, A. Rodà, S. Gasparotto, and G. Salemi. Virtual reconstruction of an ancient Greek pan flute. In Proceedings of the 13th International Sound and Music Computing Conference (SMC'16), Hamburg, Germany, 2016. doi: [10.5281/zenodo.851179](https://doi.org/10.5281/zenodo.851179)

[C2] F. Avanzini, S. Canazza, G. De Poli, C. Fantozzi, N. Pretto, A. Rodà, I. Angelini, C. Bettineschi, G. Deotto, E. Faresin, A. Menegazzi, G. Molin, G. Salemi, and P. Zanovello. 2015. Archaeology and virtual acoustics. a pan flute from ancient Egypt. In Proceedings of 12th International Sound and Music Computing Conference (SMC'15), pages 31-36, Maynooth, Ireland, 2015. doi: [10.5281/zenodo.851067](https://doi.org/10.5281/zenodo.851067)

[C1] N. Pretto, and S. Canazza. REWIND: Simulazione di un'esperienza d'ascolto storicamente fedele di dischi fonografici digitalizzati. In Proceedings of the XX Colloquium of Musical Informatics, (CIM'14), pages 29-34, Roma, 2014. URL: cim.lim.di.unimi.it/2014_CIM_XX_Atti.pdf

- Journal articles in refereed academic journals (with DOI whenever possible)

*[J13] P. Lugoda, E. S. Oliveros-Mata, K. Marasinghe, R. Bhaumik, N. Pretto, C. Oliveira, T. Dias, T. Hughes-Riley, M. Haller, N. Münzenrieder and D. Makarov. Submersible touchless interactivity in conformable textiles enabled by highly selective overbraided magnetoresistive sensors. *Communications Engineering* 4, 33 (2025). doi: [10.1038/s44172-025-00373-x](https://doi.org/10.1038/s44172-025-00373-x)

*[J12] M. Bosi, S. Canazza, N. Pretto, A. Russo, and M. Spanio. From Tape to Code: An international AI-based standard for audio cultural heritage preservation Don't play that song for me (if it's not preserved with ARP!). *IEEE Access*, vol. 12, pp. 152544-152558, 2024. doi: [10.1109/ACCESS.2024.3474529](https://doi.org/10.1109/ACCESS.2024.3474529)

*[J11] A. Fiordelmondo, S. Canazza, and N. Pretto. Reactivating and preserving interactive multimedia artworks: An analogue performance from the Seventies. *ACM Journal on Computing and Cultural Heritage* (JOCCH). 17(2), article 27, 2024. doi: [10.1145/3647995](https://doi.org/10.1145/3647995)

*[J10] N. Pretto, N. Dalla Pozza, A. Padoan, A. Chmiel, K. J. Werner, A. Micalizzi, E. Schubert, A. Roda, S. Milani, and S. Canazza. A Workflow and Digital Filters for Correcting Speed and Equalization Errors on Digitized Audio Open-Reel Magnetic Tapes. *Journal of the Audio Engineering Society* 70(6), 495-509, 2022. URL: <http://www.aes.org/e-lib/browse.cfm?elib=21798>

[J9] A. Basso, P. Ribeca, M. Bosi, N. Pretto, G. Chollet, M. Guarise, M. Choi, L. Chiariglione, R. Iacoviello, F. Banterle, A. Artusi, F. Gissi, A. Fiandrotti, G. Ballocca, M. Mazzaglia, and S. Moskowitz. AI-Based Media Coding Standards. *SMPTE Motion Imaging Journal*, 131 (4), 10-20, 2022, doi: 10.5594/JMI.2022.3160793

[J8] S. Canazza, E. Schubert, A. Chmiel, N. Pretto, and A. Rodà. The magnetic urtext: Restoration as music interpretation. *Frontiers in Psychology* 13:844009, 2022. doi: 10.3389/fpsyg.2022.844009

[J7] N. Pretto, E. Micheloni, A. Chmiel, N. Dalla Pozza, D. Marinello, E. Schubert, and S. Canazza. Multimedia Archives: New Digital Filters to Correct Equalization Errors on Digitized Audio Tapes. *Advances in Multimedia*, Hindawi, 2021. doi: 10.1155/2021/5410218

*[J6] N. Pretto, E. Micheloni, S. Gasparotto, C. Fantozzi, G. De Poli, and S. Canazza. Technology-enhanced interaction with cultural heritage: an antique Pan flute from Egypt. *ACM Journal on Computing and Cultural Heritage (JOCCH)* 13 (2), 1-20, 2020. doi: 10.1145/3355395

*[J5] N. Pretto, C. Fantozzi, E. Micheloni, V. Burini, and S. Canazza. Computing Methodologies Supporting Preservation of Electroacoustic Music from Analog Magnetic Tape. *Computer Music Journal*, 42(4):59-74, 2019. ISSN: 0148-9267. doi: 10.1162/comj_a_00487

[J4] E. De Feo, E. A. Venier, A. Russo, M. Breschigliaro, and N. Pretto. PAMU: A Multimedia Park to Enhance the Renaissance Walls of Padua. *DISEGNARECON* 11 (21), 2018 7-1-7.19. URL: disegnarecon.univaq.it/ojs/index.php/disegnarecon/article/view/459/334

[J3] S. Verde, N. Pretto, S. Milani, and S. Canazza. Stay true to the sound of history: Philology, phylogenetics and information engineering in musicology. *Applied Sciences*, 8(2), 2018. ISSN 2076-3417. doi: 10.3390/app8020226

*[J2] C. Fantozzi, F. Bressan, N. Pretto, and S. Canazza. Tape music archives: from preservation to access. *International Journal on Digital Libraries*, 18(3):233-249, September 2017. ISSN 1432-1300. doi: 10.1007/s00799-017-0208-8

*[J1] S. Canazza, C. Fantozzi, and N. Pretto. Accessing tape music documents on mobile devices. *ACM Transactions Multimedia Computing Communications and Applications (TOMM)*, 12 (1s):20:1-20:20, October 2015. ISSN 1551-6857. doi: 10.1145/2808200

- Journal articles in professional journals

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- Official reports (whole or part)

[O2] L. Chiariglione, Y. Abu Arab, M. Bosi, S. Canazza, M. Burkay Çöteli, N. Dalla Pozza, M. Guarise, H. Hacıhabiboğlu, N. Pretto, P. Ribeca, M. Seligman, and F. Yassa. Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI) Technical Specification Context-based Audio Enhancement (CAE). Last standard version: 1.4, 2022. URL: mpai.community/standards/mpai-cae/

[O1] S. Calamai, A. Casellato, M. F. Stamuli, P. Cavallari, G. Contini, L. D'Aleo, S. Filippin, A. Fischetti, S. Magrini, M. Monachini, A. Mulè, E. Musumeci, P. Orsini, D. Piccardi, G. Piperno, N. Pretto, M. Procaccia, D. Robotti, E. Salvalaggio, C. Scognamiglio, S. Zanisi. Vademecum per il trattamento delle fonti orali, URL: www.icar.beniculturali.it/fileadmin/risorse/Eventi_2021/Vademecum_02.11.21_ultima_versione.pdf

- Other publications - Editorial

[ED2] S. Canazza, N. Pretto, M. Bosi, and E. Schubert. Preservation and Exploitation of Audio Recordings: from Archives to Industries. *Frontiers in Signal Processing*, 2024. doi: 10.3389/frsip.2024.1444405

[ED1] S. Canazza, G. De Poli, N. Pretto, A. Rodà, and A. Vidolin. University of Padova - Centro di Sonologia Computazionale (CSC). In *Proceedings of the 18th Sound and Music Computing Conference - SMC21*, pp. xxv–xxvi, Virtual Edition, 2021. doi: 10.5281/zenodo.5113511

- Other publications - Thesis

[TH1] N. Pretto. Cultural Context-Aware Models and IT Applications for the Exploitation of Musical Heritage. Department of Information Engineering, University of Padova, 2019. URL: dei.unipd.it/~prettoni/paper/prezzo_niccolo_tesi_ridotta.pdf

- Exhibitions

[EX2] Parco Multimediale delle Mura di Padova (PAMU). Series of multimedia installations and mobile/VR applications for valorizing the Renaissance walls of Padua. For more details, please refer to [J4] or visit the following URL: <http://www.parcocomurapadova.it/>

[EX1] Interactive multimedia installation for the valorisation of an ancient Pan flute. The installation is permanently exhibited in the Museum of Archaeological Sciences and Art (MSA), University of Padova. The peculiarity of this installation is the possibility to play a virtual Pan flute by blowing in the 14 holes of the installation representing the pipes of the musical instrument or through a touch interface. For more details, please refer to [J6]

**Publications
about the
applicant**

- Publications related to [J13]:
12.03.2025. Alto Adige Innovazione (web). Sensori magnetici nei tessuti: il futuro dell'interazione touchless. Intervista a Michael Haller
10.03.2025. Tech Explorist (web). A washable touchless technology to 'revolutionise' electronic textiles.
07.03.2025. Technology Network (web). Wearable Knit Sleeve Lets You Control Electronics With a Wave of Your Fingers.
03.03.2025. AzoSensors. Scientists Develop Washable Smart Fabrics That Sense Magnetic Fields.
26.02.2025. Tech Xplore (web). Washable touchless technology could transform electronic textiles.

- Publications related to the FONTI 4.0 project [C19]:
31.07.2021. La Nuova di Venezia e Mestre. Dalle voci al testo, il futuro restituisce il pensiero degli intellettuali di ieri.

31.07.2021. Il Gazzettino. Ridare voce con la tecnologia ai grandi del passato.

- Publications related to the multimedia installation for the valorisation of an ancient Pan flute [EX1].

04.10.2018. Il Mattino di Padova. I segreti della “sonologia” raccontati ai nostri lettori.

13.09.2016. Corriere del Veneto. La ricostruzione. Svelato il suono di pan dopo duemila anni.

13.09.2016. Corriere di Verona. Svelato il suono di Pan dopo duemila anni.

13.09.2016. Padovaoggi.it (web). Archeologia e acustica virtuale: ecco come suona un flauto di 2000 anni fa.

12.09.2016. Corriere del Veneto (web). Così rinasce il flauto di pan.

12.09.2016. Il Mattino di Padova video. Padova, al Liviano il gioco del flauto di Pan.

Further data

Presentations at scientific conferences over past 3 years:

- 28/11/2024. Oral presentation (selected, National Conference) at the *3rd Workshop on Artificial Intelligence for Cultural Heritage*, co-located with the *23rd International Conference of the Italian Association for Artificial Intelligence (AIxIA 2024)* [C23]
- 30/06/2022. Poster presentation (selected, National Conference) at the Eighth Italian Conference on Computational Linguistics [C19].

In the previous years I presented my works in other 4 oral presentation (selected, International Conferences [C6], [C13] - National Conferences [C1] [C5]) and 3 poster presentation (selected, International Conferences [C2], [C11], [C16]).

On 22nd March 2021, I also participated as **invited speaker** in one of the seminars on forensic audio organized by the forensic group of the Italian association of voice science (AISV), titled: “L'audio forense: prospettive interdisciplinari”. (ENG: Forensic Audio: interdisciplinary perspectives). My talk title was: La digitalizzazione di fonti sonore: conservazione, analisi e accesso (ENG: The digitization of oral sources: preservation, analysis, access).

Presentation link (ITA):

https://www.youtube.com/watch?v=ndVUM4_wHTs&ab_channel=ForensicsGroupChannel

I also participated as speaker in the Archive Online Academy virtual courses:
a) 2021 - FONTI 4.0 – Preservation, transcription, and access of analog oral sources

Talk titles:

- Relation between the preservation copy and the archival unit
- Restoration laboratory on historical audio recordings
- Transcription laboratory
- Long term preservation and access

Website link: <https://www.cini.it/en/events/archive-online-academy-living-lab-how-to-manage-oral-sources>

b) 2020 - Preservation of historical sound documents

Talk title:

- Conservazione a lungo termine dei supporti analogici e delle digitalizzazioni (Long term preservation of analogue support and their digitization)

Website link: <https://www.cini.it/en/events/preservation-of-historical-sound-documents>

Entrepreneurship

- 2025 - Present. **Principal Investigator** of the tech transfer project “TBI-KIM: Test Before Invest service for KIM Keep In Mind” on Artificial Intelligence and speech technologies applied to multimedia services (60.000€). Company: KIM Keep in Mind srl. Funding: Digital Innovation Hub South Tyrol (PNRR).
- 2025 - Present. Responsible for the **Non-Disclosure Agreement** with the automotive company **Ferrari S.p.a.** for setting up new collaboration with UNIBZ.
- 2025. **Principal Investigator** of the tech transfer project “KIMO: Orientation service for KIM Keep In” on Artificial Intelligence and speech technologies applied to multimedia services (5.000€). Company: KIM Keep in Mind srl. Funding: Digital Innovation Hub South Tyrol (PNRR).
- 2024 - Present. **School visits** at the Media Interaction Lab.
- 2023 - 2024. Teaching in the **Studium Generale** course “Game theory explained with microcontrollers” (original title: La teoria dei giochi spiegata con i microcontrollori - INF/01, ING-INF/05, ING-INF/04) of the Free University of Bozen-Bolzano - 9 hours (1.5 CFU) Language: Italian.
- 2022 – 2024. As an external collaborator, I participated in the “Electric Mobility in L-Category Vehicles for all generations” (EMotion) project (funded by the Austrian Climate and Energy Fund – “Zero Emission Mobility” programme - ~3.0 million). The project aims to develop new clean and energy-efficient electric L-category vehicles. I collaborated with the Austrian company **KTM (Pierer Mobility AG)** to develop a new dashboard for the prototype of the vehicles that were developed.
- 2022. **Founder member** of MPAI Store Limited, a Company Limited by Guarantee (Company number SC740055), incorporated on the 2nd of August 2022 and registered in Dundee, Scotland (find-and-update.company-information.service.gov.uk/company/SC740055). It is a not-for-profit company with the mission to collect, verify, certify, and make available the Implementations of technical specifications developed by the Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI - mpai.community), under licence by MPAI.
- 2021 - 2023. Member of the Context-based Audio Enhancement (CAE) and Multimodal Conversation (MMC) standard groups of MPAI community. I have contributed to the development of the MPAI-CAE standard (mpai.community/standards/mpai-cae) [O2], which is a collection of four Use Cases specifying AI-based technologies for audio-related applications including entertainment, communication, post-production, teleconferencing, and restoration [J12]. This standard is adopted by IEEE Context-based Audio Enhancement Working Group (CAEWG) as **IEEE P3302-2022** - IEEE Standard Adoption of Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI) Technical Specification Context-based Audio Enhanced (CAE) Version 1.4 (iee.org/iee/3302/11006/).
- 2015 - 2020. **Technology transfer** activity collaborating with the spinoff AudiInnova s.r.l.
- 2015, 2016, 2019. Participation at **European night of researchers**.
- 2015. Dissemination seminars in **high school** Tito Livio (Padova).

Language competence Italian: native
English: C1 level certified in oral and written production and reading and listening comprehension by the Free University of Bozen-Bolzano (23 Jun 2023)
URL: openbadges.bestr.it/public/assertions/cnyxmwh_SvO8W9vsKbCkvg
Spanish: A1 (A1 course completed during the mobility period in Barcelona, Spain)

Il sottoscritto certifica che tutto quanto dichiarato in questo documento corrisponde a verità ai sensi degli artt. 46 e 47 del D.P.R. 445/2000.

Bolzano, 18/08/2025