Arthur Paté

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Education

French "Qualification aux fonctions de Maître de Conférences (sections 60 et 61)" obtained in Feb. 2022

2014 **PhD (honors) in Acoustics**, *Université Pierre et Marie Curie*, Paris, France.

2011 **MSc (honors) in Acoustics, Signal processing & Computer science applied to Music (ATIAM)**, *Université Pierre et Marie Curie*, Paris, France.

2009 **BSc (honors) in Engineering Science**, *Université Pierre et Marie Curie*, Paris, France.

2009 **BA (highest honors) in Music and Musicology**, *Université Paris Sorbonne*, Paris, France.

2007 **DEM (final diplom at French conservatories) (highest honors) in Classical Guitar**, *CNR*, Versailles, France.

2005 **DEM in Chamber music**, *ENMD*, Bourges, France.

2002 **DEM in Music theory**, *ENMD*, Bourges, France.

Research Experience

2017–... **Associate professor**, *Junia/ISEN – IEMN*, Lille, France.
Research in sound, vibrotactile, and multimodal perception; auditory and vibratory display.

2016–2017 **Post-doctoral research scientist**, *Lamont-Doherty Earth Observatory, Columbia University*, Palisades, NY, USA.
Auditory display and machine learning for exploring large databases of seismic signals; application to discriminating fracture processes in human-induced earthquakes

2015–2016 **Post-doctoral fellow**, *d'Alembert Inst. & Philharmonie de Paris/Musée de la Musique*, Paris, France.
Mechanical and perceptual characterization of the voicing process of harpsichords

2014–2015 **Post-doctoral fellow**, *Université de Cergy-Pontoise / MRTE Lab*, Cergy, France.
Perceptual investigation of the influence of temporal aspects of aircraft sound signatures on the unpleasantness ; signal processing and statistical analysis

2014 **Research fellow**, *d'Alembert Inst. & ISTeP*, Paris, France.
Sonification of seismic signals, perceptual tests, link with geological features and processes

2011–2014 **Ph.D. candidate**, *Université Pierre et Marie Curie / d'Alembert Inst.*, Paris, France.
Title: "Lutherie of the solid body electric guitar: mechanical and perceptual aspects". Work on the influence of the mechanical string/structure coupling on the sound of the electric guitar

2013 **Visiting researcher**, *McGill University*, Montréal, Canada.
Team CAML of the Music Technology department (G. Scavone). 6-week-long measurement campaign at a big industrial electric guitar manufacturer's

Teaching Experience

2017–... **Associate professor**, *Junia/ISEN – IEMN*, Lille, France.
Deputy Team Leader of the Acoustics Team (9 researchers, 6 Ph.D. students)
Coordinator of the "Music & Tech" curriculum (≈30 students)
Teaching at undergraduate and graduate level in acoustics, audio, computer music, physics, signal processing, as well as supervision of student projects. ≈ 220 hours yearly

2018 **Examiner**, *CNED (French center for remote learning)*, Chasseneuil, France.
Writing and correction of exams in Acoustics for 1st and 2nd-year students in Musicology

2016–2017 **Teaching assistant**, *Computer Music Center, Columbia University*, New York, USA.
Classes "Music Math and Mind" (main instructors: David Sulzer, Brad Garton) and "Sonic and Visual Representation of Natural Data" (main instructor: B. Holtzman), for MSc and PhD students. Covered topics: scientific computing, sonification, signal processing, musical theory.

2011–2014 **Teaching assistant**, *Université Pierre et Marie Curie*, Paris, France.
Seminars (64h) and practical work (144h) in acoustics, mechanics, signal processing, and scientific computing. Supervision of 6 student projects and 2 internships.

2007–2015 **Music teacher**, *Private music lessons*, Various locations.
Electric & classical guitar, music theory, to a total of 11 students (children, teenagers, adults)

Grants and funding

2022–2023 **Vibrating Shapes**, *(project co-leader)*.
Funded by IRCICA – 9k€ – 3 labs involved

2022–2024 **Touch the music**, *"TOTEM" project (project leader)*.
Funded by the Fondation de France – 55k€ – 1 lab + 1 concert venue + 1 association

2021–2024 **Haptic Surfaces enhanced by Metamaterials**, *"HASAMé" project (project partner)*.
Funded by the French National Research Agency (ANR) – 546k€ – PI F. Giraud – 5 labs involved

2020–2024 **Vibrotactile mediation for shared musical practice**, *"Staccato" project (project partner)*.
Funded by the French National Research Agency (ANR) – 722k€ – PI H. Genevois – I act as a local scientific leader in this collaborative project between 5 labs

2020–2021 **Visual and tactile modifications of an instrument**, *"VITAMIN" project (project co-leader)*.
Funded by IRCICA – 9k€ – 2 labs involved

2018–2020 **Touch the music**, *"TOTEM" project (project leader)*.
Funded by the European Agency Interreg FWVL – 30k€ – 1 lab + 1 concert venue + 1 start-up

Activities for the scientific community, scientific outreach

Peer-reviewing for journals Journal of the Acoustical Society of America, Acta Acustica, Applied Sciences, Applied Acoustics, Noise Control Engineering Journal, IEEE transactions on Haptics, Noise Control Engineering Journal, International Journal of Environmental Research and Public Health, Journal of Science and Medicine in Sport

Peer-reviewing for conferences International Conference on Auditory Display (ICAD), International Workshop on Haptic and Audio Interface Design (HAID)

Review of theses External reviewer for 1 PhD thesis (2019, McGill University) and 1 MSc thesis (2021, McGill University)

Scholarly associations Member of the French Acoustical Society (SFA) since 2011, elected member of the musical acoustics group (GSAM) 2021–2023, Elected member of the Northern France group (SRGNO) 2018–2023, scientific leader of the SRGNO group 2021–2023.

Scientific outreach Open House days at Junia/ISEN (3 times yearly since 2017); Seismodome exhibition at the Hayden Planetarium / American Museum of Natural History, New York, USA: sonification of seismic signals for introducting the general public to seismology (2017)

Languages

French: Native **English**: Fluent (B2, various research stays in the USA) **German**: Fluent (B2 in 2008, 6 months as a student at the Universität Wien, Austria) **Basics of** Dutch, Serbo-Croatian, and French Sign Language lessons (A1.2).

Computer skills

Music: Pure Data, Max/MSP, RTcmix, Lilypond, Finale, Audacity, Sox, Protools, Nuendo, Reaper (basics)
Scientific Computing: Python, Octave, Matlab, Statistica, Tanagra, Statgraphics, Uniwin, R (basics)
Acoustics and mechanics: LEA, Cast3m, Modan **Office**: Latex, LibreOffice, MS Office, Inkscape
OS: Linux, Windows and Mac OS (basics) **Others**: HTML, C/C++ (basics)

Supervision of students

2 PhD theses Paul Cambourian (since Oct. 2019, co-supervision with J. Vasseur, Université de Lille, France), Quentin Consigny (since Oct. 2020), co-supervision with J.-L. Le Carrou & H. Genevois, Sorbonne Université, Paris, France).

10 Research internships Elsa Jauffret, Manon Guillou, Salamata Baldé (BSc); Rémi Blandin, Gretta Ngotteni, Audrey Gréciet, Valentin Moutin, Boris Légal, Oscar Gal, Léa Kaczmarek (MSc).

Publications and talks

- 1 book, 9 book chapters
- 16 articles in peer-reviewed journals
- 14 articles in conference proceedings (12 in international conferences)
- 9 talks in conferences without proceedings (9 in international conferences)
- 1 scientific outreach article, 11 invited talks in seminars/workshops

Interests and hobbies

Music Electric guitar in various bands: progressive rock, jazz, metal, post-rock, folk ; Guitar and computer in experimental and improvised electro-acoustical music bands

Voluntary work Former and/or current member of cooperative supermarkets in Paris, New York, Lille ; member of fundraising citizen associations for social and solidarity economy, financing alternative projects with strong emphasis on the social, ecological and local aspects ; advisory member of a platform aiming at developing open and ethical information media.

Others Hiking, biking, reading, movies