

# Arthur Paté | Associate professor

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## Education

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

**Université Pierre et Marie Curie** **Paris, France**

*Ph.D., with honors* 2014

Acoustics

**Université Pierre et Marie Curie** **Paris, France**

*M.Sc., with honors* 2011

Acoustics, Signal processing & Computer science applied to Music (ATIAM)

**Université Pierre et Marie Curie** **Paris, France**

*B.Sc., with honors* 2009

Engineering Science

**Université Paris Sorbonne** **Paris, France**

*B.A., with highest honors* 2009

Music and Musicology

**CNR** **Versailles, France**

*DEM (final diplom at French conservatories), with highest honors* 2007

Classical Guitar

**ENMD** **Bourges, France**

*DEM* 2005

Chamber music

**ENMD** **Bourges, France**

*DEM* 2002

Music theory

## Research Experience

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**Junia/ISEN – IEMN** **Lille, France**

*Associate professor* 2017–ongoing

Research in multimodal perception (mostly sound and vibrotactile), auditory and vibratory display.

**Lamont-Doherty Earth Observatory, Columbia University** **Palisades, NY, USA**

*Post-doctoral research scientist* 2016–2017

Exploration of large data bases of seismic signal by means of auditory display and machine learning ; application to discriminating thermo-cracking, hydraulic fracturing, and frictional sliding in human-induced earthquakes

**d’Alembert Inst. & Philharmonie de Paris/Musée de la Musique** **Paris, France**

*Post-doctoral fellow* 2015–2016

Mechanical and perceptual characterization of the voicing process of harpsichords (geometry and material of the plectra)

**Université de Cergy-Pontoise / MRTE Lab** **Cergy, France**

*Post-doctoral fellow* 2014–2015

Perceptual investigation of the influence of temporal aspects (slope, duration, fluctuations) of aircraft sound signatures on the unpleasantness ; signal processing and statistical analysis

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

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

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

**d'Alembert Inst.** **Paris, France**  
*Research intern* 2011  
 Dissertation's title: "Vibroacoustic and perceptive study of electric guitars". Study of the influence of the neck/body junction of electric guitars, both on the vibratory behaviour and on perception

**Puce Muse** **Rungis, France**  
*Research intern* 2010  
 Development of new synthesizers and sound games for the platform "Méta-Mallette" (Max-based software for the production and control of music synthesizers with general public devices, mainly for educational purposes)

## Teaching Experience

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**Junia/ISEN – IEMN** **Lille, France**  
*Associate professor* 2017–ongoing  
 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 (≈ 6 groups/25 students + a dozen individual projects per semester), and the organization of conferences by external speakers

**Université de Technologie** **Compiègne, France**  
*Invited lecturer* 2024  
 1h lecture, Introduction to auditory display, taught to students at M.Sc. level

**Centrale** **Lille, France**  
*Invited lecturer* 2022–2023  
 12h lecture, Psychoacoustics, taught to students at M.Sc. level

**Sorbonne Université** **Paris, France**  
*Invited lecturer* 2019, 2021  
 2h seminar, introduction to research in acoustics, taught to students in the Acoustics curriculum at M.Sc. level

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

**Computer Music Center, Columbia University** **New York, USA**  
*Teaching assistant* 2017  
 Seminar given in the series "Music Math and Mind", main instructors: David Sulzer, Brad Garton

**Marie Curie ITN project Waves** **Marseille, France**  
*Invited lecturer* 2017  
 Short course (12h) "Sonification of wave(s) data", with B. Holtzman, covered topics: data sonification methods, sound synthesis, spatialization, visualization, design strategies for communication to the general public. Taught to junior and senior researchers in the fields of physics, acoustics, Earth science

**Computer Music Center, Columbia University** **New York, USA**  
*Teaching assistant* 2016

Class “Sonic and Visual Representation of Natural Data (in python)”, main instructor: B. Holtzman. Covered topics: importing and handling scientific data, sonification, visualization, Python, basics of musical theory. Taught to M.Sc. and Ph.D. students in music, arts, Earth science, computer science, physics

**Université Pierre et Marie Curie**

**Paris, France**

*Teaching assistant*

2011–2014

Seminars (64h) and practical work (144h) in acoustics, continuum mechanics, signal processing, Fourier/Laplace transform, scientific computing, room acoustics. Supervision of 6 student projects and 2 internships.

**Private music lessons**

**Various locations**

*Music teacher*

2007–2015

Electric and classical guitar lessons, music theory, to a total of 11 students (children, teenagers, adults)

## Awards

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**CMMR conference**

**Marseille**

*Best demo award, France*

2019

Spatialized sonification and visualization of several seismic phenomena, see publication [D6]

**As supervisor or advisor**.....

**Internal award, Junia**

**Lille, France**

*Best student project*

2021

Supervised 5 students who developed a mobile app to simulate hearing and visual impairments

**Challenge Handicap et technologie**

**Lille, France**

*Favorite student project*

2018

Supervised 2 students who developed a device that detects a melody and displays it with 12 vibrators

**LDEO Research as Art competition, Category “Movie”**

**Palisades, NY, USA**

*Winner*

2017

Project by Ph.D. candidates Joshua Russell and Celia Eddy at Columbia University, visualization and sonification of the Earth’s resonant modes

## Grants and funding

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**Vibrating Shapes (project partner)**

*Follow-up of VITAMIN: augmented reality, vibrotactile actuation of musical instruments*

2022–2023

Funded by IRCICA – 9k€ – 3 labs involved

**“TOTEM” project (project leader)**

*Touch the music*

2022–2024

Funded by the Fondation de France – 73.5k€ – consortium of 1 lab/1 concert venue/1 association

**“HASAMé” project (project partner)**

*Haptic Surfaces enhanced by Metamaterials*

2021–2024

Funded by the French National Research Agency (ANR) – 546k€ – PI F. Giraud – 5 labs involved

**“Staccato” project (project partner)**

*Vibrotactile mediation for shared musical practice*

2020–2024

Funded by the French National Research Agency (ANR) – 722k€ – PI H. Genevois – 5 labs involved

**“VITAMIN” project (project co-leader)**

*Visual and tactile modifications of an instrument*

2020–2021

Funded by IRCICA – 9k€ – 2 labs involved

**“TOTEM” project (project leader)**

*Touch the music*

2018–2020

Funded by the European Agency Interreg FWVL – 30k€ – consortium of 1 lab/1 concert venue/1 start-up,

*Internship grant*

2023

Research grant from the French Society of Biomechanics (awarded to D. Chadeaux and A. Paté) – ≈6k€

*Doctoral grant*

2022–2025

Research grant from the Research group on sports and physical activities of CNRS (awarded to D. Chadeaux and A. Paté: Thomas Daney’s PhD) – ≈110k€

<i>Travel grant</i>	2014
participation in the WoodSciCraft symposium funded by European program COST	
<i>Travel grant</i>	2013
participation in the SMAC2013 conference funded by the French acoustical society (GSAM/SFA)	
<i>Doctoral grant</i>	2011–2014
Research grant from the French department of higher education and research (Arthur Paté's PhD)	

## Scholarly associations

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- French Acoustical Society (SFA):
  - Member since 2011
  - Elected member of the musical acoustics group (GSAM) 2021–2024
  - Elected member of the Northern France group (SRGNO) 2018–2024, scientific leader of this group 2021–2024
- “Sciences and Musicology” alumni (AASM) (association promoting this double-curriculum at Sorbonne Université)
  - Founding member
  - Elected member of the executive board 2009–2014

## Scientific outreach and dissemination

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<b>Junia/ISEN</b>	<b>Lille, France</b>
<i>Open House</i>	2017–ongoing
3 times yearly open house where I show various demos in the lab: sound spatialization, sonification, vibrating floor and devices, models of matematerials. . .	
<b>Université Catholique de Lille</b>	<b>Lille, France</b>
<i>Open Lab Days</i>	2019
Demo of sonified and spatialized seismic signals	
<b>Hayden Planetarium / American Museum of Natural History</b>	<b>New York, USA</b>
<i>Seismodome</i>	2017
Exhibition with sonification and spatialization of seismic signals (major earthquakes, free oscillations of the Earth, event catalog) for introducing the general public to seismology. See <a href="http://www.seismicsoundlab.org">www.seismicsoundlab.org</a>	
<b>LDEO/Columbia University</b>	<b>Palisades, NY, USA</b>
<i>Open House</i>	2016
Introduction to the basics of seismology using sounds: sound design, exhibition booth preparation, and oral presentation to the general public	
<b>laguitare.com</b>	<b>website <a href="http://www.laguitare.com">www.laguitare.com</a></b>
<i>Broadcast</i>	2015
Web-broadcast about the Les Paul guitar for this French website: dissemination of the results of my Ph.D	
<b>Université de Cergy-Pontoise</b>	<b>Cergy, France</b>
<i>“Allez Savoir !” magazine</i>	2015
Interview about my research on aircraft noise	

## Languages

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**French:** Native

**English:** Fluent *B2 level of the French universities (CLES) in 2010, followed by various research stays in the USA*

**German:** Fluent *B2 level obtained in 2008 as I was an Erasmus student at the Universität Wien (Vienna, Austria)*

**Others:** *I happened to take Dutch (1 year), Serbo-Croatian (1 year), and French Sign Language lessons (1 year, level A1.2 reached)*

## Computer skills

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**Music:** Pure Data, Max/MSP/Jitter, RTcmix, Lily-Scientific **Computing:** Python, Octave, Matlab, Staspond, Finale, Audacity — basics of: Sox, Protools, tistica, Tanagra, Statgraphics, Uniwin, R (basics) Nuendo, Reaper

**Acoustics and mechanics:** LEA, Cast3m, Modan **Office:** Latex, LibreOffice, MS Office, Inkscape

**OS:** Linux (mostly), Windows and Mac OS (basics) **Others:** HTML, C/C++ (basics)

## Supervision of students

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### Ph.D. Theses

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- Paul Cambourian (2019–2022), co-supervision with J. Vasseur (Université de Lille, France)
- Quentin Consigny (2020–2023), co-supervision with J.-L. Le Carrou & H. Genevois (Sorbonne Université, Paris, France)
- Thomas Daney (2022–defense expected 2025), co-supervision with J.-L. Le Carrou (Sorbonne Université, Paris, France) & D. Chadefaux (Univ. Sorbonne Paris Nord, Paris, France)

### Research internships

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**21** students at M.Sc. or B.Sc. level supervised or co-supervised: Rémi Blandin (2013), Elsa Jauffret (2014), Gretta Ngotteni (2018), Manon Guillou (2018), Audrey Gréciet (2019), Salamata Baldé (2020), Valentin Mouton (2020), Boris Légal (2020), Oscar Gal (2021), Léa Kaczmarek (2021), Maxime Petel (2022), Nesrine Belhassen (2022), Nathan Ouvrai (2022), Vianney Blaise (2022), Romain Caron (2023), Florian Duval (2023), Nathan Forier-David (2023), Florian Marie (2023), Loan Tricaud (2023), Clément Xu (2023), Paul Bouchareinc (2023).

## Committees, reviewing activities, organization of events

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### Reviews for journals and conferences

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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, Scientific Reports, Journal on Multimodal User Interfaces, Journal de Recherche en Éducation Musicale, Evergreen, Arts, Food Quality and Preference

Conferences: International Conference on Auditory Display (ICAD), International Workshop on Haptic and Audio Interface Design (HAID), Stockholm Musical Acoustics Conference (SMAC)

### Review for theses

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External reviewer for:

- 1 Ph.D. thesis (Lei Fu, 2019, McGill University)
- 1 MSc. thesis (Mathias Kirkegaard, 2021, McGill University)

External advisor for:

- 1 Ph.D. thesis mid-term committee (Lara Boisseleau, 2023+2024, Univ. Toulouse J. Jaurès)

### Selection committees

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- Internal member for the recruitment of 1 Lecturer in Physics, ISEN, (2019)
- Internal member for the recruitment of 1 Associate Professor in Experimental Acoustics, Junia/ISEN, (2020)
- External member for the recruitment of 1 Associate Professor in Sciences of Sound, PRISM/Aix-Marseille Univ., (2024)

### Organization of scientific events

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- Co-organizer of JEGNA (SFA, 1-day conference for young and student acousticians, Lille, 2025)
- Support for Exact-4 (SFA, 3-day workshop on experimental acoustics, Lille, 2021)

## Publications and talks

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### Books

[B1] *Sensory Experiences: Exploring meaning and the senses*. D. Dubois, C. Cance, M. Coler, A. Paté, C. Guastavino. Amsterdam (NL): John Benjamins Publishing (2021).

### Book chapters (peer reviewed)

[BC11] *Perceptual Evaluation of the Quantization Level of a Vibrotactile Signal*. Q. Consigny, A. Paté, J.-L. Le Carrou. In *Haptic and Audio Interaction Design*, C. Saitis, I. Farkhatdinov, S. Papetti. Cham (CH): Springer (2022).

[BC10] *TOuch ThE Music: Displaying live Music into Vibrations*. A. Paté, N. d'Alessandro, A. Gréciet, C. Bruggeman. In *Haptic and Audio Interaction Design*, C. Saitis, I. Farkhatdinov, S. Papetti. Cham (CH): Springer (2022).

[BC9] *Chapter 1 — The five senses and the cognitivist approach of perception*. D. Dubois, C. Cance, M. Coler, A. Paté. In [B1] (2021).

[BC8] *Chapter 6 — Exploring and talking about music*. A. Paté, P. Gaillard. In [B1] (2021).

[BC7] *Chapter 9 — From perception to sensory experiences: A paradigm shift?*, D. Dubois, C. Cance, M. Coler, A. Paté, C. Guastavino. In [B1] (2021).

[BC6] *Chapter 10 — Questioning sensory experience*. D. Dubois, C. Cance, M. Coler, A. Paté, C. Guastavino. In [B1] (2021).

[BC5] *Chapter 12 — From stimulations to stimuli construction and selection*. D. Dubois, C. Cance, A. Paté, M. Coler. In [B1] (2021).

[BC4] *Chapter 13 — Procedures and outcomes*. D. Dubois, C. Cance, A. Paté. In [B1] (2021).

[BC3] *Chapter 15 — The Free Sorting Task: Procedure and data analysis*. A. Paté, D. Dubois, C. Guastavino. In [B1] (2021).

[BC2] *An acoustician's approach of the solid body electric guitar*. A. Paté, J.-L. Le Carrou, B. Fabre. In *Quand la guitare s'électrise – When the guitar goes electric*, P. Bruguère, P. Gonin, B. Navarret (Eds.). Paris (FR): Cité de la Musique.

[BC1] *FA-RE-MI (Faire parler les instruments de musique du patrimoine): Making Historical Musical Instruments Speak*. S. Vaiedelich, H. Boutin, A. Paté, A. Givois, B. Fabre, S. Le Conte, J.-L. Le Carrou. In *Wooden Musical Instruments – Different Forms of Knowledge / Book of End of WoodMusIcK COST Action FP1302*, M. A. Pérez and E. Marconi (Eds). Pp. 325–341. Paris (FR): Cité de la Musique Publishing (2018)

### Theses

[T2] *Ph.D. Thesis: Lutherie de la guitare électrique solid body : aspects mécaniques et perceptifs*. Supervision: J.-L. Le Carrou, B. Fabre. Jury: C. Guastavino, F. Gautier, É. Parizet, V. Doutaut, L. Gagliardini, V. Martin, J.-L. Le Carrou, B. Fabre (2014).

[T1] *M.Sc. Thesis: Étude vibroacoustique et perceptive de guitares électriques*. Supervision: J.-L. Le Carrou, B. Navarret, D. Dubois (2011).

### Peer-reviewed articles

[A18] *Vibrotactile thresholds on the wrist for vibrations normal to the skin*. Q. Consigny, N. Ouvrai, A. Paté, C. Fritz, J.-L. Le Carrou. *IEEE Transactions on Haptics* 16(4):628–633 (2023).

[A17] *Perception of sound changes induced by a phononic crystal*. A. Paté, N. Côté, C. Croëne, J. Vasseur, A.-C. Hladky-Hennion. *Acta Acustica* 6(42) (2022).

[A16] *Vocabulary to speak about touch: analysis of the discourse of electric guitar players*. P. Cambourian, A. Paté, C. Cance, B. Navarret, J. Vasseur. *Acta Acustica* 6(2) (2022).

[A15] *Pairing a beer with a soundtrack: Is it guided by geographical identity?* M. Vandenberghe-Descamps, A. Paté, S. Chollet. *Food Quality and Preference* 96 (2021).

[A14] *Combining audio and visual displays to highlight temporal and spatial seismic patterns*. A. Paté, G. Farge, B. Holtzman, A. Barth, P. Poli, L. Boschi, L. Karlstrom. *Journal on Multimodal User Interfaces* (2021).

[A13] *Sonification and animation of multivariate data to illuminate dynamics of geyser eruptions*. A. Barth, L. Karlstrom, B. Holtzman, A. Paté, A. Nayak. *Computer Music Journal* 44(1):17-34 (2020).

- [A12] *Influence of the player on the dynamics of the electric guitar.* J.-L. Le Carrou, A. Paté, B. Chomette. *The Journal of the Acoustical Society of America* 146(5):3123–3130 (2019)
- [A11] *Machine learning reveals cyclic changes in seismic source spectra in Geysers geothermal field.* B. Holtzman, A. Paté, J. Paisley, F. Waldhauser, D. Repetto. *Science Advances* 2018–4:eaao2929 (2018)
- [A10] *On the perception of audified seismograms.* L. Boschi, L. Delcor, J.-L. Le Carrou, C. Fritz, A. Paté, B. Holtzman. *Seismological Research Letters* 88(5):1279–1289 (2017)
- [A9] *Perception of Harpsichord Plectra Voicing.* A. Paté, A. Givois, S. Le Conte, J.-L. Le Carrou, M. Castellengo, S. Vaiedelich. *Acta Acustica united with Acustica* 103(4):685–704 (2017)
- [A8] *Influence of plectrum shape and jack velocity on the sound of the harpsichord: an experimental study.* A. Paté, J.-L. Le Carrou, A. Givois, A. Roy. *The Journal of the Acoustical Society of America* 141(3):1523–1534 (2017)
- [A7] *Auditory display of seismic data: On the use of experts' categorizations and verbal descriptions as heuristics for geoscience.* A. Paté, L. Boschi, D. Dubois, J.-L. Le Carrou, B. Holtzman. *The Journal of the Acoustical Society of America* 141(3):2143–2162 (2017)
- [A6] *Perceived unpleasantness of aircraft flyover noise: influence of temporal parameters.* A. Paté, C. Lavandier, A. Minard, I. Le Griffon. *Acta Acustica united with Acustica* 103(1):34–47 (2017)
- [A5] *Categorization of seismic sources by auditory display: A blind test.* A. Paté, L. Boschi, J.-L. Le Carrou, B. Holtzman. *International journal of human-computer studies* 85:57–67 (2016)
- [A4] *Modal parameter variability in industrial electric guitar making: Manufacturing process, wood variability, and lutherie decisions.* A. Paté, J.-L. Le Carrou, B. Fabre. *Applied Acoustics* 96:118–131 (2015)
- [A3] *Evolution of the modal behaviour of nominally identical electric guitars during the making process.* A. Paté, J.-L. Le Carrou, F. Teissier, B. Fabre. *Acta Acustica united with Acustica* 101(3):567–580 (2015)
- [A2] *Influence of the electric guitar's fingerboard wood on guitarists' perception.* A. Paté, J.-L. Le Carrou, B. Navarret, D. Dubois, B. Fabre. *Acta Acustica united with Acustica* 101(2):347–359 (2015)
- [A1] *Predicting the decay time of solid body electric guitar tones.* A. Paté, J.-L. Le Carrou, B. Fabre. *The Journal of the Acoustical Society of America* 135(5):3045–3055 (2014)

#### Other articles.....

- [OA2] *Earth Is Noisy. Why Should Its Data Be Silent?.* L. Karlstrom, B. Holtzman, A. Barth, J. Crozier, A. Paté. *EOS* (2023).
- [OA1] *Sonification pour l'exploration et l'analyse de données – Résultats récents et perspectives via l'exemple de la sismologie.* A. Paté, L. Boschi, L. Delcor, B. Holtzman, D. Dubois, J.-L. Le Carrou, C. Fritz. *Acoustique et Technique* 88 (2018)

#### Conferences with proceedings.....

- [C23] *Acoustic analysis of racket-ball impact in Padel.* T. Daney, A. Paté, D. Chadeaux, J.-L. Le Carrou. *ISEA 2024 - The Engineering of Sport 15*, Loughborough, UK, (2024).
- [C22] *Perception of Audified Acoustic Emissions from Microscopic Samples.* F. Duval, C. Xu, C. Lavandier, A. Paté, D. Ugi, P. Ispánovity, S. Kalacska. *Internoise, Nantes, FR* (2024).
- [C21] *Transmission of vibration from the instrument to the fingers during guitar playing.* R. Caron, N. Forier David, A. Paté, D. Chadeaux. *Congress of the French Biomechanics Society (SB)*, Grenoble, FR (2023).
- [C20] *Vibrotactile thresholds on the wrist for vibrations normal to the skin.* Q. Consigny, N. Ouvrai, A. Paté, C. Fritz, J.-L. Le Carrou. *World Haptics Conference, Delft, NL* (2023).
- [C19] *Perceptual Evaluation of the Quantization Level of a Vibrotactile Signal.* Q. Consigny, A. Paté, J.-L. Le Carrou. *International Workshop on Haptic & Audio Interaction Design, London, UK* (2022).
- [C18] *TOuch ThE Music: Displaying Live Music into Vibration.* A. Paté, N. d'Alessandro, A. Gréciet, C. Bruggeman. *International Workshop on Haptic & Audio Interaction Design, London, UK* (2022).
- [C17] *Vibrating shapes: Design and evolution of a spatial augmented reality interface for actuated instruments.* Ç. Arslan, F. Berthaut, A. Beuchey, P. Cambourian, A. Paté. *International Conference on New Interfaces for Musical Expression, Auckland, New-Zealand* (2022).
- [C16] *Caractérisation par l'étude de l'impédance électrique d'un transducteur électro-dynamique mécaniquement chargé par différents matériaux.* Q. Consigny, A. Paté, J.-L. Le Carrou, H. Genevois. *Congrès Français d'Acoustique, Marseille, France* (2022)

- [C15] *Évaluation perceptive du niveau de quantification d'un signal vibrotactile*. Q. Consigny, A. Paté, J.-L. Le Carrou. Congrès Français d'Acoustique, Marseille, France (2022)
- [C14] *Understanding the vibrotactile feedback of the electric guitar: Methodology for a physical and perceptual study*. P. Cambourian, O. Gal, A. Paté, S. Benacchio, J. Vasseur. Proceedings of Audiomostly, Trento (IT) (2021)
- [C13] *Investigating the vocabulary used by electric guitar players to speak about touch*. P. Cambourian, A. Paté, C. Cance, B. Navarret, J. Vasseur. Proceedings of Forum Acusticum, Lyon (FR) (2020)
- [C12] *Human and Machine Listening of Seismic Data*. A. Paté, B. Holtzman, F. Waldhauser, D. Repetto, J. Paisley. ICAD (International Conference on Auditory Display), Penn State University (USA) (2017)
- [C11] *Harpichord voicing: The player's auditive and tactile perception*. A. Paté, A. Givois, J.-L. Le Carrou, S. Le Conte, S. Vaiedelich. ISMRA (International Symposium on Musical and Room Acoustics), La Plata (AR) (2016)
- [C10] *Un dispositif de mesure des caractéristiques géométriques et mécaniques de becs de clavecin (A measurement apparatus for geometrical and mechanical characteristics of harpsichord plectra)*. Arthur Givois, Arthur Paté, J.-L. Le Carrou, Sandie Le Conte, Stéphane Vaiedelich. Congrès français d'Acoustique (French Congress on Acoustics), Le Mans, France, pp. 1785-1791 (2016)
- [C9] *Influence of temporal aspects of aircraft sound signature on perceived unpleasantness*. A. Paté, C. Lavandier, A. Minard. Internoise, pp. 1805-1816 (2015)
- [C8] *Can auditory display help us categorize seismic signals?* L. Boschi, A. Paté, Ben Holtzman, J.-L. Le Carrou. ICAD (International Conference on Auditory Display), Graz, Austria (2015)
- [C7] *Modal parameter variability in industrial electric guitar manufacturing*. A. Paté, J.-L. Le Carrou, B. Fabre. ISMA/USD (Uncertainty in Structural Dynamics), Leuven, Belgium (2014)
- [C6] *Influence of the instrumentalist on the electric guitar vibratory behaviour*. J.-L. Le Carrou, B. Chomette, A. Paté. ISMA (International Symposium on Musical Acoustics), Le Mans, France, pp. 413-417 (2014)
- [C5] *Monitoring of the making process of a handcrafted electric guitar*. A. Paté, J.-L. Le Carrou, F. Teissier, B. Fabre. ISMA (International Symposium on Musical Acoustics), Le Mans, France (2014)
- [C4] *Influence de la touche de la guitare électrique : analyses perceptive et vibratoire*. A. Paté, J.-L. Le Carrou, B. Navarret, D. Dubois, B. Fabre. Congrès français d'Acoustique (French Congress on Acoustics), Poitiers, France, pp. 1129-1134 (2014)
- [C3] *Ebony vs. rosewood: experimental investigation about the influence of the fingerboard on the sound of a solid body electric guitar*. A. Paté, J.-L. Le Carrou, B. Fabre. SMAC (Stockholm Musical Acoustics Conference), pp. 182-187 (2013)
- [C2] *A vibro-acoustical and perceptive study of the neck-to-body junction of a solid-body electric guitar*. A. Paté, J.-L. Le Carrou, B. Navarret, D. Dubois, B. Fabre. Acoustics, Nantes, France (2012)
- [C1] *About the electric guitar: a cross-disciplinary context for an acoustical study*. A. Paté, B. Navarret, R. Dumoulin, J.-L. Le Carrou, B. Fabre, V. Doutaut. Acoustics, Nantes, France (2012)

## Conferences without proceedings

- [D14] *Évaluation des raquettes de padel : lien entre perception et indicateurs biomécaniques/vibratoires*. T. Daney, D. Chadeaux, A. Paté, J.-L. Le Carrou. ACAPS, Grenoble, FR (2023).
- [D13] *Experiments in perception of spatio-temporal patterns and dynamics through combined sonic and visual representation of natural data*. B. Holtzman, A. Barth, L. Karlstrom, E. Beauce, J. Candler, A. Paté, D. Repetto, S. Cluett, L. Boschi, P. Poli, G. Farge, J. Russell, M. Pratt, K. Mair, B. House. AGU Fall Meeting, San Francisco, California, USA (2023).
- [D12] *VS: Improvising with Vibrating Virtual Entities*. S. Beaumont, I. Cruz, A. Paté, F. Berthaut. International Conference on New Interfaces for Musical Expression, Mexico City, MX (2023).
- [D11] *How to link the player's feel to a physical measure?* D. Chadeaux, T. Daney, A. Paté, J.-L. Le Carrou. European College of Sport Science, Paris, France (2023).
- [D10] *Data sonification and The Volcano Listening Project*. L. Karlstrom, B. Holtzman, A. Barth, J. Crozier, A. Paté. AGU Fall Meeting, San Francisco, California, USA (2022).
- [D9] *Audification and sonification of scientific data: listening to pressure records and meteorological data*. P. Henry, A. Paté. Marmara Workshop, Marseille (FR) (2022).



[D8] *Sonification of very low frequency signals: Listening to seafloor pressure and meteorological time series.* P. Henry, L. Kaczmarek, A. Paté. Virtual Geoscience Conference, Marseille (FR) (2021).

[D7] *Pairing a beer with a soundtrack, guided by geographical identity?* M. Vandenberghe-Descamps, S. Baldé, A. Paté, S. Chollet. 9th European Conference on Sensory and Consumer Research (Eurosense), Rotterdam (NL) (2020)

[D6] *Spatialized seismic soundscapes: exploring seismic data in virtual reality.* A. Paté, B. Holtzman, L. Boschi, G. Farge, A. Barth, S. Cluett, M. Pratt, J. Candler, D. Repetto, L. Karlstrom, J. Crozier, P. Poli, K. Okamoto, J. Nelson. CMMR (Conference on Multidisciplinary Music Research), Marseille (FR) (2019) **[Best Demo Award]**

[D5] *Bottom pressure record of resonant oscillations in the Sea of Marmara.* P. Henry, S. Özeren, N. Postacioğlu, C. Chevalier, N. Yakupoğlu, E. de Saint-Léger, O. Desprez de Gésincourt, Z. Çakir, M. Çağatay, A. Paté, L. Géli. EGU (European Geosciences Union) General Assembly, Vienna (AT) (2019)

[D4] *Machine listening for earthquake source characterization: subtle spectral differences indicate changes in thermal-mechanical state in geothermal reservoirs.* B. Holtzman, F. Waldhauser, J. Paisley, A. Paté, P. Martínez-Garzón, G. Kwiatek, L. Boschi, N. van der Elst. AGU Fall Meeting, New Orleans (USA) (2018)

[D3] *Audio-based, unsupervised machine learning reveals cyclic changes in earthquake mechanisms in the Geysers geothermal field, California.* Ben Holtzman, Arthur Paté, John Paisley, Felix Waldhauser, Douglas Repetto, Lapo Boschi. AGU Fall Meeting, New Orleans (USA) (2017)

[D2] *SeismoDome: Sonic and visual representation of earthquakes and seismic waves in the planetarium.* B. Holtzman, J. Candler, D. Repetto, M. Pratt, A. Paté, M. Turk, L. Gualtieri, D. Peter, V. Trakinski, D. Ebel, J. Gossmann, N. Lem. AGU Fall Meeting, New Orleans (USA) (2017)

[D1] *Investigating multimodal perception during the musical performance: The case of harpsichord voicing.* A. Paté, A. Givois, J.-L. Le Carrou, M. Castellengo, S. Le Conte, S. Vaiedelich. Meetings of the Acoustical Society of America, Boston (USA) (2017)

## Oral communications and Posters.....

[OP5] (oral) *Schaeffer and Schafer: When musiciens promote scientific hypotheses on auditory experience.* C. Guastavino, A. Paté, P. Gaillard. Uncommon Senses 2, Montreal, Canada (2018)

[OP4] (oral) *Cyclic changes in micro-seismicity in the Geysers geothermal field, as revealed by Machine Listening.* B. Holtzman, A. Paté, J. Paisley, F. Waldhauser, D. Repetto. Lamont Data Science Symposium, Palisades, USA (2017)

[OP3] (poster) *Ebony & rosewood electric guitar fingerboards: do they really sound different?* A. Paté, J.-L. Le Carrou, B. Fabre. SMAC (Stockholm Musical Acoustics Conference) (2013)

[OP2] (poster) *Symmetrical vs. asymmetrical electric guitar: what change for sound?* A. Paté, JJCAAS, Rennes, France (2012)

[OP1] (poster) *Étude vibratoire et perceptive de guitares électriques.* A. Paté, JJCAAS, Rennes, France (2011)

## Invited talks and seminars.....

- Invited talk for the training of graduate students in the Marie Curie ITN project MultiTouch (PI Frédéric Giraud, L2EP and Polytech Lille, Lille, France) (2020)
- Invited talk for the Open Lab Days at Université Catholique de Lille (2019)
- Internal seminars at LIB/Sorbonne (2018), LDEO-SGT/Columbia (2017), Laboratoire de Géologie/ENS (2016), UME/ENSTA (2015), ISTeP/UPMC (2015), LVA/INSA-Lyon (2015)

## Others

### About my work, in the media (I am not the author!!).....

- *Forskning: Tonetræs betydning er overvurderet.* Andreas Staarup Madsen. Apache - magasinet for danske guitarister (June 2018)
- *Neck Joints, Science, and Sound Opinions.* Heiko Hoepfinger. Premier Guitar, pp. 112–114 (May 2017)

## Interests and hobbies

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**Music** Electric guitar in various bands: progressive rock, jazz, metal, post-rock, folk

Experimental and improvised electro-acoustical music with my guitar and its effects, as well as my Pure-Data-loaded computer

**Voluntary work** Former member of the cooperative supermarkets la Louve (Paris, France), Park Slope Food Coop (New York, USA), Superquiquin (Lille, France), where I served as an elected member of the board responsible for general assemblies.

Active in the French "CIGALES" network (fundraising citizen association for social and solidarity economy, financing alternative projects with strong emphasis on the social, ecological and local aspects, that are excluded from the more traditional funding systems): member and treasurer of one in Paris, member of another one in Lille ; I've been involved with the regional coordination on the selection of projects and the management of internal training programs in Paris.

I am also involved in the project "9 Milliards" ([www.9milliards.com](http://www.9milliards.com)), a platform aiming at empowering citizens for developing open and ethical information media

**Others** Hiking, biking, reading, movies