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1 Personal data, education, and professional experience

Last name: PERROT
First name: Camille
Date and place of birth: April 21, 1977, Clamart, France
Citizenship: French

Organization address: Université Gustave Eiffel
Laboratoire Modélisation et Simulation Multi Échelle, MSME UMR 8208 CNRS
5, boulevard Descartes ; 77454 Marne-la-Vallée Cedex 2
Tel : +33 (0)1 60 95 72 53
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E-mail: camille.perrot@univ-eiffel.fr

Education:
2014 – Habilitation thesis in mechanics
Université Paris-Est

2006 – Doctorat in Acoustics and PhD in mechanical engineering (coll. program)
INSA de Lyon (France) and Université de Sherbrooke (Québec, Canada)

2002 – Masters degree in Acoustics
École Doctorale Mécanique, Énergétique, Génie-Civil, Acoustique (MEGA), Lyon I

2001 – Maîtrise de Sciences et Techniques (MST) Mention Physique et Applications
Université des Sciences et Technologies, Lille I

1999 – Diplôme Universitaire de Technologie (DUT) Spécialité Mesures Physiques
Université des Sciences et Technologies, Lille I

Qualifications:
2007 – Qualifié par la CNU en Section 60 sur la liste des Maîtres de conférences
2016 – Qualifié par la CNU en Section 60 sur la liste des Professeurs des universités
(le 29/01/2016, n° qualification 16160187074; le 30/01/2020, n° qualification 20160187074)

Prof. Experience:
2022 – … Professor, université Gustave Eiffel (PR2)
2008 – … Assistant professor, université Gustave Eiffel (MCF CN).
2 Research interests and publications

2.1 Research interests
My current research activities belong to the fields of multi-scale physics, computational mechanics, structure-property-manufacturing relationships of materials, multifunctional materials, and micro(poro)mechanics of porous media. The research is based on fluid flow and transports phenomena within a large range of times and lengths scales. Works oriented towards multi-scale and multi-physics modeling, applicable to various aspects of engineering sciences. Emphasis of my research activities is on studying at the local scale (meso-, micro-, or submicroscopic depending on the case) a material or a system, the goal being to understand and predict its macroscopic behavior, where are situated applications in terms of engineering [thermal, applied fluid dynamics, poroelasticity, acoustics, biomechanics, micro- and nano- (electro) mechanical systems].

2.2 Bibliometric summary
Published papers and communications can be found in
- ScholarGoogle, go to the link: https://scholar.google.fr/citations?user=ynNjRf8AAAJ&hl=en
  Citations, 1375; h-index, 20; i10-index, 25 [access 2024/01/11]
- Web of science, author identifier ABE-2428-2020:
  Citations, 751; h-index, 16; publications, 28; citing articles, 383 (674, without self-citation) [access 2024/01/11]

Preprints of papers and communications can be found in Open Archive HAL, go to the link: http://msme.u-pem.fr/equipe-mecanique/les-publications-hal/halbib/perrot

2.3 Publications

2.3.1. Papers in referred journals


2.3.2. Papers under revision or in preparation


2.3.3. Chapters of books


2.3.4. Conferences given at the invitation of the organization committee in national or international congresses

[INV19] C. Perrot, What are the microstructural features having a significant effect at the upper scale in acoustic materials? Understanding the physics and guiding the manufacturing process, Symposium on the Acoustics of Poro-Elastic Materials (SAPEM), Keynote SAPEM2021, Purdue University, West Lafayette (Indiana), USA, March, 29 (2021) [video recording].


2.3.5. Referred communications in international or national conferences


[ACT26] D. Li, Z. Xiong, M. He, L. Gautron, C. Perrot, Sound absorption by a bimodal pore size distribution, 26th International Congress on Sound and Vibrations (ICSV-26), Ref. Number 32 (T08-SS02), Montréal, Canada, July, 7-11, 2019.


Camille Perrot
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2.3.6. Non-referred communications


2.3.7. PhD Thesis


2.3.8. Habilitation Thesis

[TH2] Camille Perrot, Modeling of multi-scale and multiphysical properties of acoustic materials. Université Paris-Est. Advisor: Pr. Guy Bonnet (UPEM, FR). Committee: Pr. K. Attenborough (Referee, The Open University, UK), Pr. S. Bolton (Perdue University, USA), Dr. HDR C. Boutin (Chair, ENTPE, FR), Pr. D. Duhamel (Invited, ENPC, FR), Pr. C. Geindreau (Referee, UJF, FR), Pr. P. Göransson (Referee, KTH, SW), Dr. D. Lafarge (Invited, Université du Maine, FR), Pr. R. Panneton (Université de Sherbrooke, CA), Pr. K. Sab (IFFSTTAR/ENPC, FR). 2014/12/11.

3 Teaching and students supervision

3.1 Courses taught

- Propagation of sound in porous media (graduate, taught in English).
- Transport phenomena in porous media (graduate, taught in English).
- Waves (graduate).
- Solid mechanics of deformable continuous media (undergraduate).
- Hydrodynamics (undergraduate, taught in English).
• Acoustics (undergraduate).
• Probability and statistics (undergraduate).
• Linear algebra and vector calculus (undergraduate).
• Fundamental of acoustics (graduate).
• Transport phenomena (undergraduate).

3.2 Supervised graduate and post-graduate students (MSc, PhD, Postdoc)

3.2.1 Postdoctoral fellows


[CP2] Navid NEMATI (Post-doc), Sound absorbing porous materials by using higher modes in acoustic metamaterials: theory and design, Co-advised with D. Duhamel (NAVIER laboratory) [50 %], 09/2016-08/2017, Financial support: Labex MMCD.


3.2.2 Supervised doctoral students

[TH9] Quang Vu TRAN, Locally heterogeneous three-dimensional fibrous media: Representative elementary volumes and calculation of elasto-acoustic properties, International joint PhD programme between Université Gustave Eiffel and Université de Sherbrooke advised by C. Perrot (100 %) and R. Panneton (100 %), 10-2020 – 09-2023. Financial support: National Technology Agency (ANRT), CIFRE industrial research agreement Ref. 2020/0122.

[TH8] Trung Hieu NGUYEN, Development of in situ foaming by chemical capture of the pore-forming agent (ISCCAP) of bio-sourced epoxy for elasto-acoustic and thermal insulation, Advised by M. Bornert (20 %), S. Brisard (20 %), F. Detrez (20 %), C. Perrot (20 %) and A. Rios (20 %), 10-


[TH2] Hoang Tuan LUU, Multi-scale modeling of acoustic dissipation in technical textiles made of natural hollow fibers, Joint PhD Program & Co-Tutelle France-Québec (Université Paris-Est, Université de Sherbrooke), Advisor C. Perrot [80%], co-advised with R. Panneton (Québec) [100%], V. Monchiet (France) [20%], 10/2013-09/2016. Financial support: CRSNG Canada (100%). 2016/12/12

3.2.3 Supervised master students

3.2.3.1 Université Paris-Est [master M2(MA*) or M1(Ma*)]


[MA11] Lei LEI, ‘Micro geometry, acoustical, and mecanical properties of foams,’ A collaborative research project funded by FAURECIA ; co-advised by Arnaud DUVAL (10 %), Jean-François RONDEAU (5 %), and Valérie MARCEL (5 %), Université Paris-Est, 2014. Current position: doctoral student at UTC (Ecobex research project, supervised by N. Dauchez).

[MA9] Hoang Tuan LUU, ‘Characterizing and implementing a foam micromechanics model,’ co-advised with Minh Tan HOANG (5 %) and Guy BONNET (15 %), Université Paris-Est, 2013. Current position: Joint PhD Program & Co-Tutelle France-Québec funded by CNRC (Canada).


[Ma2] Lei LEI, ‘Cellular morphology and elastic properties of poroelastic foams: Implementation of a parameterized local geometry model (degree of anisotropy, transverse and longitudinal cross-section variation, membrane thickness, closed pore content),’ co-advised with Minh Tan HOANG (5 %) and Guy BONNET (15 %), Université Paris-Est, 2013.


3.2.3.2 Université de Sherbrooke (maîtrise recherche)

4 Professional activities

4.1. Activities
- Member: Acoustical Society of America.
- Member: French Society of Acoustics.

4.2. Reviewer for referred papers in international journals (91)
- Acta Acustica united with Acustica (4). Associate Editors: D. Lafarge (2) [05-2008, and 07-2009], J. Sanchez-Dehesa (1) [08-2017],
- Advanced Composites and Hybrid Materials (1). Editor: John Zhanhu Guo [12-2023].
- Applied Acoustics (20). Associate Editor: G. Daigle (1) [06-2008]. Editor in Chief: K. Attenborough (8) [04-2009 to 08-2011], Associate Editor: K. M. Li (4) [01-2013, 06-2013, 07-2014, 05-2016], Associate Editor: B. Liu (1) [06-2013], Associate Editor: A. Moorhouse (1) [07-2015], Editor-in-Chief: Kai Ming Li (3) [06-2018, 09-2019, 12-2021]. Associate Editor: Nicole Kessissoglou (1) [09-2021]
- Applied Mathematical Modelling (1). Subject Editor: M. Philip Schwarz [04-2018].
- International Journal of Coal Geology (1). C. Ozgen Karacan [02-2016].
- Journal of the Acoustical Society of America Express Letters (4). Associate Editor: M. Stinson (1) [05-2009], Scott D. Sommerfeldt (1) [03-2013], A. Pierce (1) [04-2014], A. Norris [12-2017].
• Journal of Applied Physics (8). Associate Editors: Simon R. Phillpot (1) [03-2011], A. Mandelis (3) [05-2011, 05-2012, 04-2014, 08-2019], P. James Viccaro (2) [04-2013, and 09-2013], Christian Brosseau [10-2014].
• Materials Characterization (1). Associate Editor: Joanna McKittrick [05-2019].
• Mechanical Systems and Signal Processing (1). Editor in Chief Simon Braun [08-2011].

4.3. Serve on the jury of doctoral and master thesis

4.3.1. Jury of doctoral thesis


[JT1] Yacoubou SALISSOU, Master degree in physics from université de Sherbrooke (Québec, Canada), ‘Characterization of the acoustical properties of porous materials with open cells and having a rigid or limp frame,’ Advised by Raymond PANNETON (100 %), université de Sherbrooke, 2009. Funded by FQRNT and NSERC. Current position: R&D engineer at Pratt Whitney Canada.
4.3.2. Jury of master thesis


[JM2] Sébastien LABBE, Bachelor of engineering from université de Sherbrooke, ‘Improving sound absorption of porous media using an intrinsic active approach,’ Co-advised by Raymond PANNETON (75 %) and Camille PERROT (25 %), université de Sherbrooke, 2008. Funded by FQRNT. Current position: Research and Development Engineer at Metafoam Technologies Inc.

[JA1] Fabien CHEVILLOTTE, Bachelor of engineering from ECAM, ‘An acoustical study of porous materials with closed cells,’ co-advised by Raymond PANNETON (50 %) and Camille PERROT (50 %), Université de Sherbrooke, 2008. Current position: R&D Engineer at INSA de Lyon, then researcher at Matelys.

4.3.3. Thesis committees


4.4. University services
• Member of the promotion committee in Sections 60-61 as part of the internal promotion campaign (repyramiding) 2023 at Université de Toulon (UTLN).
• Expert for Paris-Est Sup (community of universities) to assess the admissibility of a request for registration authorization to the habilitation thesis, 2023.
• Member of the Scientific Evaluation committee of the High Council for Evaluation of Research and Higher Education (HCERES), LAUM CNRS UMR 6613 (Ref. HCERES DER-PUR220022532, Committee: CMDER-220009359 - P6-LE MANS U-LAUM-ST5), 2021.
• Member of the jury of the students’ competition ‘My thesis in 180 seconds’, University Paris-Est, 2018.
• Responsible for the acoustical-mechanical part of the multi-physics couplings within the national research network GDR CNRS MECAFIB (ex-GDR CNRS 3MF), 2018-…. .
• Responsible for the Communication of the laboratory MSME UMR 8208 CNRS, 2023-…. .
• Correspondent CNRS Innovation for the MSME laboratory, 2017-…. .
• Correspondent CNRS Communication for the MSME laboratory (CoCom DR01), 2023-…. .
• Member of thematic groups of the French Acoustical Society (Physical Acoustics, Noise Control and Vibrations), Jan. 2023- Dec. 2024.
• Head of the master’s program specialized in project engineering at Université Paris-Est Marne-la-Vallée, September 2013-December 2015.
• Co-Responsible for the academic program in Civil Engineering at ESIEE-Paris, International relations coordinator, Jan. 2023- till date.
• Responsible for the first academic year at the ESIEE-MLV school of engineering (major in civil engineering), 2010- till date.
• Member of the selection committee for part-time associate teaching position in civil engineering at Université Gustave Eiffel (PAST section 60 n°0529), 2023.
• Member of the selection committee for an assistant professor position in mechanical and civil engineering at Université Paris-Est Marne-la-Vallée (MCF section 60 n°4216), 2019.
• Member of the selection committee for an assistant professor position in mechanical and civil engineering at Université Paris-Est Marne-la-Vallée (MCF section 60 n°4105), 2014.
• Member of the selection committee for an assistant professor position in vibrations, acoustics, and materials at Université de Bourgogne (MCF section 60 n°4187), 2013.
• Member of the ‘permanent’ selection committee (sections 60-62), Université Paris-Est Marne-la-Vallée, 2013- 2016.
• Member of the selection committee for an assistant professor position in mechanical and civil engineering at Université Paris-Est Marne-la-Vallée (MCF section 60-62), 2012.
• Member of the selection committee for a Temporary lecturer and research assistant (ATER) position, section 60-62, Université Paris-Est Marne-la-Vallée, 2011.
• Member of the selection committee for an assistant professeur position in Vibroacoustics and materials, Institut supérieur de mécanique de Paris (MCF section 60 n°0019), 2011.
• Reviewer for the National Fund for Scientific and Technological Development (FONDECYT - CHILE), 2019 (1), 2020 (1).
• Reviewer for Fonds de recherche du Québec – Nature et technologies (FRQNT), 2018.
• Reviewer for Canada Foundation of Innovation (CFI), John R. Evans Leaders Fund, 2017.
• Reviewer for French Committee for the Evaluation of Academic and Scientific Cooperation with Brazil (COFECUB), 2016.
• Reviewer for the French National Research Agency (ANR), 2015.
• Reviewer for the French National Research Agency (ANR), 2013.
• Reviewer for the ECOS-Sud program from the French Ministries of Foreign and European Affairs, and of Higher Education and Research, 2012.

• Member of the Scientific Committee, 2022 Mechanics meetings in the Ile-de-France region (RFM 2022), “Improvements or technological breakthroughs: How the mechanics of materials, structures, processes can contribute to the environmental transition?”, Ile-de-France mechanics federation (F2M), 12-13 May 2022, ENSAM, France.
• Member of the Scientific Committee, Symposium on the Acoustics of Poro-Elastic Materials (SAPEM 2020+1), Purdue University, West Lafayette (Indiana), USA, March 30 to April 1st (2021).
• Co-chairman of the ‘NS4 - Materials for Noise Control’ session at the ICA2016.
• Co-chairman of the ‘FS01 Acoustics’ session at the ICTAM2012.
• Chairman of the ‘Acoustic Materials Special Session’ at the Canadian Acoustic Association (CAA) annual conference, 2007.

• Manager responsible for updating the information relative on the group of mechanics’ web page, 2008-2010.
• Research Assistant, Research chair on innovation in research training [Microprogram of graduate studies to enhance research and innovation management skills (Chair holder: J. Nicolas)], 2007-2008.

5 Contracts, grants, and awards

5.1. Contracts

[CT10] C. Perrot, F. Detrez, M. Bornert, S. Brisard, A. Rios de Anda, “BioFoams Insulate” Bio-sourced Epoxy Foams for Thermal and Elasto-Acoustic Insulation, Postdoctoral grant co-financed by LabEx MMCD (Post-doc SP1_P2, CR 2 June 2022, 50%) and région Ile-de-France DIM MaTerRe (Project number 451476, ref. ESPCI 2023ALPD001, 50%), 120 k€, 24 months, 01/10/2023-30/09/2025.


[CT7] C. Perrot, Locally heterogeneous three-dimensional fibrous media: Representative elementary volumes and calculation of elasto-acoustic properties, Research collaboration agreement with FAURECIA (now Adler Pelzer) under ref. ANRT Cifre n° 2020-0122 (Ref. EIFFEL 2021-00120), 60 k€ HT et salaire doctorant chargé, 01/10/2020-30/09/2023.


Camille Perrot
Curriculum Vitae (CV) – January 2024
Université Gustave Eiffel
[CT2d] C. Perrot, F. Chevillotte, F.-X. Bécot, L. Jaouen, Comportement acoustique de gypses poreux. Étape 4 : Optimisation du VER bi-disperse, Projet de recherche partenariale avec la société LAFARGE (LCR) et Matelys-AcV (ref. 10LCR78), 0% de 9 625 €, 18/01/2012.

[CT2c] C. Perrot, F. Chevillotte, F.-X. Bécot, L. Jaouen, Comportement acoustique de gypses poreux. Étape 3 : Milieux poreux bi-disperses, identification et validation du VER, Projet de recherche partenariale avec la société LAFARGE (LCR) et Matelys-AcV (ref. 10LCR78), 35% de 10 030 €, 12/05/2011.

[CT2b] C. Perrot, F. Chevillotte, F.-X. Bécot, L. Jaouen, Comportement acoustique de gypses poreux. Étape 2 : Milieux poreux mono-disperses, Robustesse et optimisation du VER, Projet de recherche partenariale avec la société LAFARGE (LCR) et Matelys-AcV (ref. 10LCR78), 17.5% de 4 000 €, 24/10/2010.

[CT2a] C. Perrot, F. Chevillotte, F.-X. Bécot, L. Jaouen, Comportement acoustique de gypses poreux. Étape 1 – Milieux poreux mono-disperse, identification et validation du VER, Projet de recherche partenariale avec la société LAFARGE (LCR) et Matelys-AcV (ref. 10LCR78), 11% de 6 385 €, 06/10/2010.


5.2. Grants and Awards


[GR5] ‘Micro geometry, acoustical, and mechanical properties of foams,’ Collaborative research project (supported by Faurecia, candidate's remuneration paid during his service training), 5 × 1300 €, 2014.

[GR4] ‘Contribution to relations between microstructure and acoustic properties of real fibrous media,’ Collaborative research project (partially supported by Saint-Gobain ISOVER), 1800 €, 2010.

[GR3] ‘Acquisition and reconstruction of the three-dimensional local geometry of real porous media from non-destructive X-ray imaging techniques’, Grant obtained to conduct an international research collaboration with Université de Sherbrooke, Minh Tan Hoang, supported by ED SIE Université Paris-Est, 5 000 €, 2010.
[GR2] ‘Three-dimensional micro-acoustical modeling of open-cell foams,’ Collaborative research project (supported by Faurecia, candidate's remuneration paid during his service training), 5 × 1300 €, 2009.

[GR1] ‘Micro-macro modeling of the acoustic behavior of porous media using multi-scale simulation,’ Grant obtained to conduct an international research collaboration on with Université de Sherbrooke (Bonus Qualité Recherche de l’université Paris-Est Marne-la-Vallée, ref. BQR-FG-354), 2 000 €, 2009-2010.

[AW7] Université Gustave Eiffel, National individual bonus linked to the quality of activities and professional commitment under all statutory missions (educational investment, quality of educational investment, tasks of general interest), RIPEC C3, Réf. DP/AP/2023, 3 x 4 000 €, 01/10/2023-30/09/2026.


