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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 Echelle, MSME UMR 8208 CNRS
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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: 2008 – ... Assistant professor, université Gustave Eiffel (MCF CN).
2008 – 2011 Associate professor, Dpt. Mech. Eng., université de Sherbrooke
2007 – 2008 Postdoctoral researcher, Dpt. Mech. Eng., université de Sherbrooke

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
o ScholarGoogle, go to the link:

<https://scholar.google.fr/citations?user=ynNjRf8AAAAJ&hl=en>
Citations, 1190; h-index, 20; i10-index, 22 [access 2022/09/20]

o web of science, author identifier ABE-2428-2020:

Citations, 676; h-index, 14; publications, 29; citing articles, 346 (515, without self-citation) [access 2022/09/20]

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*

[ACL33] V. Langlois, C. T. Nguyen, C. Perrot, “High-frequency permeability of porous media with thin constrictions: II. Porous media containing thin holed membranes,” *Physics of Fluids* 34(7), 077120-11 (2022). DOI: 10.1063/5.0093672.

[ACL32] C. T. Nguyen, V. Langlois, J. Guilleminot, F. Detrez, A. Duval, M. Bornert, P. Aïmedieu, C. Perrot “Polydisperse solid foams: Multiscale modeling and simulations of elasto-acoustic properties including thin membrane effects,” *International Journal of Solids and Structures* 247, 111684-14 (2022). DOI: 10.1016/j.ijsolstr.2022.111684.

[ACL31] V. H. Trinh, J. Guilleminot, C. Perrot and V. D. Vu, “Learning acoustic responses from experiments: A multiscale-informed transfer learning approach,” *The Journal of the Acoustical Society of America* 151(4), 2587–2601 (2022). DOI: 10.1121/10.0010187.

- [ACL30] V. Langlois, C. T. Nguyen, F. Detrez, J. Guillemot, C. Perrot, “Permeability of polydisperse solid foams,” *Physical Review E* 105, 015101, 2022. DOI: 10.1103/PhysRevE.105.015101.
- [ACL29] V. H. Trinh, J. Guillemot, C. Perrot, “On the sensitivity of the design of composite sound absorbing structures,” *Materials & Design* 210, 110058 (2021). DOI: 10.1016/j.matdes.2021.110058.
- [ACL28] E. Renard, Q.-B. Nguyen; A. Rios de Anda; D.-L. Versace; V. Langlois; C. Perrot; V.-H. Nguyen; S. Naili, “Design of macroporous photo-cationically cured resorcinol-based epoxy resins coupled to a solid template technique,” *Journal of Polymer Research* 28(5), 159 (2021). DOI: 10.1007/s10965-021-02517-x.
- [ACL27] Q.-B. Nguyen, H. Vahabi, A. Rios de Anda, D. L. Versace, V. Langlois, C. Perrot, V. H. Nguyen, S. Naili, E. Renard, “Dual UV - thermal curing of biobased resorcinol epoxy resin-diatomite composites with improved acoustic performance and attractive flame retardancy behavior,” *Sustainable Chemistry* 2, 24-48 (2021). DOI: 10.3390/suschem2010003.
- [ACL26] Q. B. Nguyen, V. H. Nguyen, C. Perrot, A. Rios de Anda, E. Renard, S. Naili, “Multiscale approach to characterize effective mechanical, hydraulic and acoustic properties of a new bio-based porous material,” *Materials Today Communications* 26, 101938-16 (2021). DOI: 10.1016/j.mtcomm.2020.101938.
- [ACL25] E. Favier, N. Nemati, C. Perrot, Two-component versus three-component metasolids, *The Journal of the Acoustical Society of America* 148(5), 3065-3074 (2020). DOI: 10.1121/10.0002424.
- [ACL24] V. Langlois, A. Kaddami, O. Pitois, C. Perrot, Acoustics of monodisperse and open-cell foam: An experimental and numerical parametric study, *The Journal of the Acoustical Society of America* 148(3), 1767-1778, (2020). DOI: 10.1121/10.0001995.
- [ACL23] T. G. Zielinski, R. Venegas, C. Perrot, M. Cervenka, F. Chevillotte, K. Attenborough, Numerical benchmarks for microstructure-based modelling of sound absorbing rigid porous media, *Journal of Sound and Vibrations* 483, 115441-38 (2020). DOI: 10.1016/j.jsv.2020.115441. (<https://doi.org/10.1016/j.jsv.2020.115441>)
- [ACL22] V. Langlois, V. H. Trinh, C. Perrot, Electrical conductivity and tortuosity of solid foam: Effect of pore connections, *Physical Review E* 100, 013115-12 (2019). DOI: 10.1103/PhysRevE.100.013115.
- [ACL21] V. H. Trinh, V. Langlois, J. Guillemot, C. Perrot, Y. Khidas, O. Pitois, Tuning membrane content of sound absorbing cellular foams: Fabrication, experimental evidences and multi-scale numerical simulations, *Materials & Design* 162, 345-361 (2019). DOI: 10.1016/j.matdes.2018.11.023.
- [ACL20] M. He, C. Perrot, J. Guillemot, P. Leroy, G. Jacus, Multiscale prediction of acoustic properties for glass wools: Computational study and experimental validation, *Journal of the Acoustical Society of America* 143(6), 3283-3298 (2018). DOI: 10.1121/1.5040479
- [ACL19] V. Langlois, V. H. Trinh, C. Lusso, C. Perrot, X. Chateau, Y. Khidas, O. Pitois, Permeability of solid foam: Effect of pore connections, *Physical Review E* 97, 053111-10 (2018). DOI: 10.1103/PhysRevE.97.053111
- [ACL18] E. Favier, N. Nemati, C. Perrot, Q.-C. He, Generalized analytic model for rotational and anisotropic metasolids, *Journal of Physics Communications*. 2, 035035-17 (2018). DOI: 10.1088/2399-6528/aab5a5.
- [ACL17] V. H. Trinh, J. Guillemot, C. Perrot, On the construction of multiscale surrogates for design optimization of acoustical materials, *Acta Acustica united with Acustica*, 104(1), 1-4 (2018). DOI: 10.3813/AAA.919139.
- [ACL16] F. Chevillotte and C. Perrot, Effect of the three-dimensional microstructure on the sound absorption coefficient of foams: A parametric study, *Journal of the Acoustical Society of America*, 142(2), 1130–1140 (2017). DOI: 10.1121/1.4999058.
- [ACL15] H. T. Luu, R. Panneton, C. Perrot, Effective fiber diameter for modeling the acoustic properties of polydisperse fiber networks, *Journal of the Acoustical Society of America*, 141(2), EL96-EL101 (2017). DOI: 10.1121/1.4976114.
- [ACL14] H. T. Luu, C. Perrot, R. Panneton, Influence of porosity, fiber radius and fiber orientation on anisotropic transport properties of random fiber structures, *Acta Acustica united with Acustica* 103(6), 1050-1063 (2017). DOI: 10.3813/AAA.919134.

- [ACL13] H. T. Luu, C. Perrot, V. Monchiet, R. Panneton, Three-dimensional reconstruction of a random fibrous medium: Geometry, transport, and sound absorbing properties, *Journal of the Acoustical Society of America*, 141(6), 4768–4780 (2017). DOI: 10.1121/1.4989373 [Technical Area Pick for Engineering Acoustics: article chosen among all the articles from this technical field published in the past year in JASA].
- [ACL12] M. T. Hoang, G. Bonnet, H. T. Luu, C. Perrot, Linear elastic properties derivation from microstructures representative of transport parameters, *Journal of the Acoustical Society of America*, 135(6), 3172–3185 (2014). DOI: 10.1121/1.4872296.
- [ACL11] F. Chevillotte, C. Perrot, E. Guillon, A direct link between microstructure and acoustical macro-behavior of real double porosity foams, *Journal of the Acoustical Society of America*, 134(6), 4681–4690 (2013). DOI.org/10.1121/1.4824842.
- [ACL10] M. T. Hoang and C. Perrot, Identifying local characteristic lengths governing sound wave properties in solid foams, *Journal of Applied Physics*, 113, 084905 (2013).
- [ACL9] M. T. Hoang and C. Perrot, Solid films and transports in cellular foams, *Journal of Applied Physics*, 112, 054911-6 (2012).
- [ACL8] C. Perrot, F. Chevillotte, M. T. Hoang, G. Bonnet, F.-X. Bécot, L. Gautron, A. Duval, Microstructure, transport, and acoustic properties of open-cell foam samples: Experiments and three-dimensional numerical simulations, *Journal of Applied Physics*, 111(1), 014911-16 (2012). DOI.org/10.1063/1.3673523.
- [ACL7] F. Chevillotte, C. Perrot, R. Panneton, Microstructure based model for sound absorption predictions of perforated closed-cell metallic foams, *Journal of the Acoustical Society of America*, 128(4), 1766–1776 (2010).
- [ACL6] C. Perrot, F. Chevillotte, R. Panneton, J.-F. Allard and D. Lafarge, On the dynamic viscous permeability tensor symmetry, *Journal of the Acoustical Society of America*, 124(4), EL210-EL217 (2008).
- [ACL5] C. Perrot, F. Chevillotte and R. Panneton, Bottom-up approach for microstructure optimization of sound absorbing materials, *Journal of the Acoustical Society of America*, 124(2), 940-948 (2008). DOI.org/10.1121/1.2945115.
- [ACL4] C. Perrot, F. Chevillotte and R. Panneton, Dynamic viscous permeability of an open-cell aluminum foam: computations vs experiments, *Journal of Applied Physics*, 103(2), 024909-8 (2008). DOI.org/10.1063/1.2829774
- [ACL3] C. Perrot, R. Panneton and X. Olny, Computation of the dynamic thermal dissipation properties of porous media by Brownian motion simulation: Application to an open-cell aluminum foam, *Journal of Applied Physics* 102(7), 074917-13 (2007). DOI.org/10.1063/1.2786899.
- [ACL2] C. Perrot, R. Panneton and X. Olny, Periodic unit cell reconstruction of porous media: Application to open cell aluminum foams, *Journal of Applied Physics*, 101(11), 113538-11 (2007). DOI.org/10.1063/1.2745095
- [ACL1] N. N. Kolpakova, P. P. Syrnikov, A. O. Lebedev, P. Czarnecki, W. Nawrocik, C. Perrot, L. Szczepanska, 2–5 pyrochlore relaxor ferroelectric Cd₂Nb₂O₇ and its Fe²⁺/Fe³⁺ modifications, *Journal of Applied Physics* 90(12), 6332-6340 (2001).

2.3.2. Papers under revision or in preparation

- [ACL-P1] D. Li, Z. Xiong, M. He, C. T. Nguyen, L. Gautron, C. Perrot, A top-down approach combining experimental measurements with numerical homogenization to correlate transport phenomena with pore/throat size distributions.

2.3.3. Chapters of books

- [OS1] C. Perrot, F. Chevillotte, L. Jauouen, and M. T. Hoang, Acoustics properties and applications, in *Metal Foams: Fundamentals and Applications*, Edited by N. Dukhan, DEStech publications, Lancaster, PA, ISBN 978-1-60595-014-3, USA (2012).

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](#)].
- [INV18] C. T. Nguyen, J. Guilleminot, F. Detrez, V. Langlois, M. Bornert, A Duval, C. Perrot (Invited paper), Micro-macro acoustic modeling of heterogeneous foams with nucleation perturbation, SAE Technical Paper 2020-01-1526 (**among the top 10 scoring papers**, allowed to present their work “live” in the online ISNVH event), Session SNVH104 - Sound Absorption and Insulation, The 11th International Styrian Noise, Vibration & Harshness Congress: The European Automotive Noise Conference, Graz, Austria, November 4 (2020). ISSN 0148-7191. DOI:10.4271/2020-01-1526.
- [INV17] C. Perrot (Invited presentation), Microstructure parameters influencing acoustical performance, UKAN Physical Acoustics SIG Workshop on 3D printing of porous sound absorbers, Webinar, The Open University, Milton Keynes, UK, Wednesday 22nd April 2020.
- [INV16] C. Perrot (Invited paper), Identification of representative volume elements of glass wool panels, DENORMS Cost Action CA15125 final event, Coimbra, Portugal, February 19-21 (2020).
- [INV15] Introduction to homogenisation theory and its application to porous materials design (Invited lecture), C. Perrot and L. Schwan, COST Action CA 15125, Training School 5, “Use and characterisation of new acoustic treatments and tools”, Budapest, Hungary, 16-18 December, 2019.
- [INV14] C. Perrot (Invited presentation), Multiscale prediction of acoustic properties: Application to mono-disperse and polydisperse fiber size distributions, COST Action CA 15125, Workshop 6, “Industrial days on new acoustic treatments, acoustic metamaterials and sonic crystals”, Athens, Greece, Feb 28-Mar 1, 2019.
- [INV13] C. Perrot (Invited paper), An overview of microstructural approaches for modelling and improving sound proofing properties of cellular foams: Developments and prospects, The 10th International Styrian Noise, Vibration & Harshness Congress: The European Automotive Noise Conference (SAE Technical Paper 2018-01-1564), Gratz, Austria, June 20-22 (2018). DOI:10.4271/2018-01-1564.
- [INV12] E. Favier, N. Nemati, C. Perrot, Q.-C. He (Invited paper), Rotational and anisotropic metasolids: A generalized analytic model, IUTAM Symposium on Acoustic/Elastic Metamaterials: Their Design and Applications, Beijing Institute of Technology, Beijing, China, June 5-8 (2018).
- [INV11] M. T. Hoang, C. Perrot, V. Marcel, J.-F. Rondeau (Invited paper), Microstructure morphological optimization of foam-based lightweight insulators, 9th edition of the Automotive NVH Comfort Conference, Le Mans, 19-20 October (2016) [winner of the Young Engineer award 2016– Society of Automotive Engineers (SIA)].
- [INV10] H. T. Luu, C. Perrot, V. Monchiet, R. Panneton (Invited paper), Sound waves and angular orientation in fibrous materials (ID 808), The International Conference on Noise and Vibration Engineering, pp. 12, KU Leuven, Leuven, Belgium, September 19-21 (2016).
- [INV9] H. T. Luu, C. Perrot, V. Monchiet, R. Panneton (Invited paper), Ondes sonores et orientation angulaire en milieu fibreux, Congrès Français d’Acoustique (CFA 2016 - Vishno), Université du Maine, Le Mans, France, 11-15 Avril (2016).
- [INV8] M. T. Hoang, G. Bonnet, H. T. Luu, C. Perrot (Invited paper), Linear elastic properties derivation from microstructures representative of transport parameters, One day international conference: Light-weighting and acoustical materials in vehicles, French Automotive Engineers Society and French Acoustical Society, UTC Compiègne, France, October 22 (2013).
- [INV7] A. Duval, M. T. Hoang, C. Perrot, V. Marcel, G. Bonnet (Invited paper), Chemistry-process morphology control of porous microstructures: A bottom-up acoustic optimization approach, One day international conference: Light-weighting and acoustical materials in vehicles, French Automotive Engineers Society and French Acoustical Society, UTC Compiègne, France, October 22 (2013).
- [INV6] M. T. Hoang, G. Bonnet, C. Perrot (Invited paper), Multi-scale acoustics of partially open cell poroelastic foams, 21st International Conference on Acoustics and 165th Meeting of the Acoustical Society of America (ICA 2013), Montréal, Québec, Canada, June, 2-7 (2013).

- [INV5] C. Perrot, M. T. Hoang (Invited paper), Identifying micro- and macro- characteristic lengths governing sound wave properties in cellular foams, European Conference on Acoustics (AIA-DAGA 2013 / EAA EUROREGIO), Merano, Italy, March, 18-21 (2013).
- [INV4] C. Perrot, M. T. Hoang, G. Bonnet, F. Chevillotte, A. Duval (Invited paper), Closure rate effects of membranes on the long-wavelengths acoustic properties of open-cell foams and cellular materials, 3rd Symposium on the Acoustics of Poro-Elastic Materials (Sapem), Ferrara, Italy, December, 14-16 (2011).
- [INV3] C. Perrot, M. T. Hoang, G. Bonnet, F. Chevillotte, F.-X. Bécot, L. Jaouen, A. Duval, J.-F. Rondeau, L. Gautron, R. Combes (Invited paper), Three-dimensional idealized unit-cell based method for computing acoustic properties of low-density reticulated foams, 8th European Conference on Noise Control (Euronoise2009), Edinburgh, Scotland, October, 26-28 (2009).
- [INV2] C. Perrot, F. Chevillotte, R. Panneton and X. Olny (Invited paper), Bottom-up approach for microstructure optimization of sound absorbing materials, International Congress on Acoustics (ICA 2007), Madrid, Spain, September, 2-7 (2007).
- [INV1] C. Perrot, R. Panneton and X. Olny (Invited paper), Linking microstructure with acoustic properties of open-cell foams, 4th Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan, Honolulu, USA, November-December, 28-2 (2006).

2.3.5. Referred communications in international or national conferences

- [ACT29] C. T. Nguyen, V. Langlois, J. Guillemot, F. Detrez, A. Duval, C. Perrot, Predicting permeability via statistical descriptors of morphology on polydisperse foams including membranes, Automotive NVH Comfort Le Mans 2021, October 13-14, 2021.
- [ACT28] B. Van Damme, A. Goetz, G. Hannema, A. Zemp, C. T. Nguyen, C. Perrot, Acoustic absorption properties of perforated gypsum, foams, pp.2887-2888, 10.48465/fa.2020.0445, hal-03235447, Forum Acusticum 2020, Dec. 7-11, 2020. <https://hal.archives-ouvertes.fr/hal-03235447/document>
- [ACT27] Etude numérique multi-échelle des relations structure-propriétés acoustiques d'une mousse à distribution étendue de tailles de pores, C. T. Nguyen, C. Perrot, F. Detrez, J. Guillemot, 24^{ème} Congrès Français de Mécanique (CFM 2019), pp. 12, Brest, France, 26-30 Août, 2019.
- [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.
- [ACT25] E. Favier, N. Nemati, C. Perrot, Q. C. He, Modèle analytique généralisé pour métasolides anisotropes et rotationnels (CFA2018/353), Congrès Français d'Acoustique (CFA 2018), Le Havre, France, Avril, 23-27, 2018.
- [ACT24] M. He, H. T. Luu, C. Perrot, R. Panneton, J. Guillemot, V. Monchiet, P. Leroy, G. Jacquas, Advances in the microstructure and transport properties of random fibrous materials, Symposium on the Acoustics of Poro-Elastic Materials (SAPEM), Ref. Number SAPEM2017/000047, Le Mans, France, December, 6-7-8, 2017.
- [ACT23] N. Nemati, C. Perrot, D. Duhamel, D. Lafarge, Y. E. Lee, N. Fang, Effective properties of phononic crystals in bragg regime, The 11th International Congress on Engineered Material Platforms for Novel Wave Phenomena (METAMATERIALS'2017), Marseille, France, August-September, 28-2, 2017.
- [ACT22] M. He, C. Perrot, J. Guillemot, Computational and experimental analysis of acoustic properties for random glass wools, The 46th International Congress and Exposition on Noise Control Engineering (Inter-Noise 2017), Hong-Kong, China, August, 27-30, 2017.
- [ACT21] V. H. Trinh, M. T. Hoang, C. Perrot, V. Langlois, Y. Khidas, O. Pitois, A systematic link between microstructure and acoustic properties of foams: A detailed study on the effect of membranes, The 6th Biot Conference on Poromechanics (BiotConf 2017), Paris, France, July, 9-13, 2017.
- [ACT20] H. T. Luu, C. Perrot, R. Panneton, Influence of porosity, fiber radius and fiber orientation on anisotropic transport properties of random fiber structures, 173rd Meeting of the Acoustical Society of America and the 8th Forum Acusticum (Acoustics '17 Boston), Boston MA, USA, June, 25-29, 2017.

- [ACT19] C. Perrot, F. Chevillotte, Effect of the three-dimensional microstructure on the normal incidence sound absorption coefficient of foams: A parametric study, The International Congress on Acoustics (ICA 2016), Buenos Aires, Argentina, September, 5-9, 2016.
- [ACT18] F. Chevillotte, C. Perrot, Effet de la microstructure tridimensionnelle sur l'absorption sonore de mousses: Une étude paramétrique, Congrès Français d'Acoustique (CFA 2016), Le Mans, France, Avril, 11-15, 2016.
- [ACT17] P. Kerdudou, J.-B. Chéné, G. Jacqus, C. Perrot, S. Berger, P. Leroy, A semi-empirical approach to link macroscopic parameters to microstructure of fibrous materials, The 44th International Congress and Exposition on Noise Control Engineering (Inter-Noise2015), San Francisco, CA, USA, August, 9-12, 2015.
- [ACT16] C. Perrot, A. Duval, M. T. Hoang, V. Marcel, Developing acoustically effective foams via cellular structure, Symposium on the Acoustics of Poro-Elastic Materials (SAPEM), Stockholm, Sweden, December, 16-17-18, 2014.
- [ACT15] A. Duval, M. T. Hoang, V. Marcel, C. Perrot, Development of acoustically effective foams: a new micro-macro optimization method, VDI-Conference Polyurethan 2012 (Polyurethan 2012), Nürtingen, Germany, November, 7-8, 2012.
- [ACT14] C. Perrot, M. T. Hoang, G. Bonnet, F. Chevillotte, and A. Duval, Membranes in the 3D cellular solid model provide the micro-/macro scaling for the long-wavelength acoustics of real foam samples, The 23rd International Congress of Theoretical and Applied Mechanics (ICTAM 2012), Beijing, China, August, 19-24, 2012.
- [ACT13] C. Perrot, F. Chevillotte, M. T. Hoang, G. Bonnet, F.-X. Bécot, L. Gautron, A. Duval, Microstructure, transport, and acoustic properties of open-cell foam samples, The 18th International Congress on Sound and Vibration (ICSV 18), Rio de Janeiro, Brazil, July, 10-14, 2011.
- [ACT12] T. L. Vu, C. Perrot, G. Lauriat, G. Bonnet, Étude numérique de l'effet de glissement sur la perméabilité de milieux poreux formés par des réseaux périodiques de micro sphères, 10^{èmes} Journées d'Études sur les Milieux Poreux (JEMP 2010), Nancy, 20-21 octobre 2010.
- [ACT11] C. Perrot, M. T. Hoang, G. Bonnet, F. Chevillotte, F.-X. Bécot, L. Jaouen, L. Gautron, R. Combes, A. Duval, J.-F. Rondeau, Microstructure – acoustic properties relationships: Application to membrane and bimodal pore-size distribution effects, International Conference on Noise and Vibration Engineering (ISMA 2010), Leuven, Belgium, September, 20-22, 2010.
- [ACT10] F. Chevillotte, C. Perrot, R. Panneton, Microstructure based model for sound absorption predictions of perforated closed-cell metallic foams, The 17th International Congress on Sound and Vibration (ICSV 17), Cairo, Egypt, July, 18-22, 2010.
- [ACT9] F. Chevillotte, C. Sandier, C. Perrot, Contrôle de l'absorption sonore d'un matériau poreux par addition d'une couche résistive, 10^{ème} Congrès Français d'Acoustique, Lyon, France, Avril, 12-16, 2010.
- [ACT8] C. Perrot, F. Chevillotte and R. Panneton, Checking of an optimal sound absorbing structure, Symposium on the Acoustics of Poro-Elastic Materials (SAPEM 2008), Bradford, UK, December, 17-18-19, 2008.
- [ACT7] C. Perrot, F. Chevillotte and R. Panneton, Optimal sound absorbing and manufacturable two-dimensional, hexagonal-like porous structure, 155th Meeting of the Acoustical Society of America, Paris, France, June-July, 29-4, 2008.
- [ACT6] C. Perrot, F. Chevillotte, and R. Panneton, Symmetry of the viscous permeability tensor in porous media, Canadian Acoustic Association annual conference, Montreal, Canada, October, 9-12, 2007.
- [ACT5] C. Perrot, R. Panneton, and X. Olny, Periodic Unit Cell Reconstruction of Porous Media: Acoustic Properties of an Open Cell Aluminum Foam, 8^{èmes} Journées d'Études sur les Milieux Poreux (JEMP 2007), Lyon, France, Octobre, 24-25, 2007.
- [ACT4] C. Perrot, R. Panneton, and X. Olny, Periodic unit cell reconstruction of porous media: Acoustic properties of an open cell aluminum foam, in Porous Metals and Metallic Foams, Proceedings of the Fifth International Conference on Porous Metals and Metallic Foams, Montreal, Canada, September, 5-7, 2007 [Edited by: L.-P. Lefebvre, J. Banhart and D. C. Dunand, National Research Council of Canada, ISBN 978-1-932078-28-2, July 2008, 541 pages].
- [ACT3] C. Perrot, R. Panneton, and X. Olny, Computation of the dynamic bulk modulus of acoustic foams, Proceedings of the Symposium on the Acoustics of Poro-Elastic Materials (SAPEM), Lyon, France, December, 7-9, 2005.

- [ACT2] X. Olny, F. Sgard, C. Perrot, R. Panneton, Microscopic and mesoscopic approaches for describing and building sound absorbing porous materials, Proceedings of the 2nd TUL-ENTPE Workshop, Szklarska Poreba, Poland, March, 3-6, 2004, pp. 187-206.
- [ACT1] C. Perrot, R. Panneton, X. Olny, R. Bouchard, Mesostructural approach for characterising macroscopic parameters of open cell foams with computed microtomography, European Acoustical Association Research Symposium on Surface Acoustics, Salford, UK, Semptember, 2003.

2.3.6. *Non-referred communications*

- [COM19] Towards manufacturing-structure-property relationships: Estimating the transport properties of acoustical fibrous media from reconstruction techniques, C. Perrot, Seminar given at Saint-Gobain Research (SGR), Aubervilliers, France, May 23, 2019.
- [COM18] C. Perrot, Effect of microstructure on the bulk properties of disordered fibrous media, Seminar of the Marcus Wallenberg Laboratory for Sound and Vibration Research (MWL), Stockholm, Sweden, Mai, 2018.
- [COM17] H. T. Luu, C. Perrot, V. Monchiet, R. Panneton, Sound waves and angular orientation in fibrous materials, Workshop on multi-scale mechanics of fibrous media, Paris, France, December, 2015.
- [COM16] C. Perrot, Modeling of multi-scale and multiphysical properties of acoustic materials, Séminaire Roberval, université de Technologie Compiègne, Compiègne, France, June, 2015.
- [COM15] C. Perrot, Multi-scale acoustics of cellular foam samples, Workshop on multi-scale mechanics of fibrous media, Nantes, France, June, 2014.
- [COM14] M. T. Hoang, G. Bonnet, C. Perrot, Multi-scale acoustics of partially open-cell poroelastic foams: Linear elastic properties derivation from microstructures representative of transport parameters, Acoustics 2013 New Delhi, New Delhi, India, November, 10-15 (2013).
- [COM13] C. Perrot, Acoustic properties of solid foam samples, Seminar given at Saint-Gobain Research (SGR), Aubervilliers, France, September, 2013.
- [COM12] C. Perrot, Multi-scale acoustics of partially open cell poroelastic foams, Seminar given at université de Sherbrooke, Sherbrooke, Québec, Canada, Juin, 2013.
- [COM11] C. Perrot, Identifying micro- and macro- characteristic lengths governing sound wave properties in cellular foams, Workshop on multi-physics and multi-scale couplings in environmental geomechanics: Axis n°2, Numerical homogenization, Université Paris-Est Marne-la-Vallée, Champs-sur-Marne, January, 2013.
- [COM10] C. Perrot, A multi scale acoustics course in porous media, Institute of Acoustics, Chinese Academy of Sciences, Beijing, China, August, 27-31, 2012.
- [COM9] C. Perrot, A multi-scale approach by identification and optimization of cellular structures, Seminar given at Laboratoire Navier (UMR 8205 LCPC-ENPC-CNRS), Champs-sur-Marne, June, 2011.
- [COM8] E. Guillon, G. Houvenaghel, C. Perrot, F. Chevillote, F.-X. Bécot, L. Jaouen, Multi-scale acoustic insulation modeling of lightweight partitions - an industrial case study, 3rd Symposium on the acoustics of poro-elastic materials (Sapem 2011), Ferrara, Italy, December, 14-16, 2011.
- [COM7] F. Chevillotte, C. Perrot, R. Panneton, Modèle microstructural pour la prédiction de l'absorption sonore de mousses métalliques perforées à cellules fermées, 10^{ème} Congrès Français d'Acoustique (CFA 2010), Lyon, Avril, 12-16, 2010.
- [COM5] C. Perrot, F. Chevillotte, Microstructures/properties/manufacturing of cellular materials: Application to the optimization of sound absorbers performances, Seminar given at Lafarge Centre de Recherches (LCR), L'Isle d'Abeau, February, 2010.
- [COM4] C. Perrot, F. Chevillotte, R. Panneton, G. Bonnet, A multi-scale and multi-physical approach for the determination of the acoustical macro-behavior of porous media: Application to the optimization of sound absorber performances, Seminar given at Unité de Mécanique de l'ENSTA ParisTech, Palaiseau, February, 2010.

- [COM3] C. Perrot, Micro-structure and acoustical macro-behavior of porous media, Seminar given at Équipe de Mécanique du laboratoire de Modélisation et Simulation Multi Echelle (MSME FRE 3160 CNRS), Université Paris-Est Marne-la-Vallée, Novembre, 2008.
- [COM2] C. Perrot, F. Chevillotte, M. Bashoor Zadeh, R. Panneton, and G. Baroud, Micro-structure and macro-transport behavior: Towards periodic unit cell reconstruction of vertebral trabecular bone structure, The 18th Interdisciplinary Research Conference on Injectable Biomaterials/Biomechanics for Minimally Invasive Clinical Applications (GRIBOI), Montréal, Canada, May, 5-8, 2008.
- [COM1] C. Perrot, R. Panneton R., X. Olny, R. Bouchard, Computation of the dynamic thermal properties of a three-dimensional unit cell of porous media by Brownian motion simulation, 75th Anniversary (147th) Meeting of the Acoustical Society of America, New York, USA, May, 24-28, 2004.

2.3.7. *PhD Thesis*

[TH1] Camille Perrot, Micro-structure and acoustical macro-behavior: Approach by reconstruction of a representative elementary cell (ISBN 978-0-494-30971-1). Joint PhD Program & Co-Tutelle France-Québec. Advisors: Pr. Panneton Raymond (Canada), Dr. Olny Xavier (co-advisor France), Pr. Guyader Jean-Louis (co-advisor France). Referees: Dr. G. Daigle et Pr. N. Atalla. Chair : Pr. J.-F. Allard. 01/2002 – 20/12/2006. Financial support: Research grant.

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).
- Waves (graduate).
- Solid mechanics of deformable continuous media (undergraduate).
- Hydrodynamics (undergraduate).
- 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

[CP4] Cong Truc NGUYEN, "OPTIM-HETEROGENEOUS" Optimization of locally heterogeneous elasto-acoustic foams, 01/02/2022-31/07/2023, Financial support: ANR-21-PRRD-0001-01 (France Relance REF CNRS : 247060 MSME/Trèves PSI).

[CP3] Navid NEMATI (Research Engineer), "Biophonic" Design and optimization of low-frequency and wide-band acoustic insulation based on biobased phononic crystals, In collaboration with Elie Favier and Agustin Rios (ICMPE CNRS laboratory), 01/07/2021-31/03/2022, Financial support: I-SITE FUTURE, Investment program for innovation from Université Gustave Eiffel and Ecole nationale des ponts et chaussées 2021 # 1 (ref. TTE, VP3 & volet Partenariats I-SITE, VP PTMS).

[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.

[CP1] Minh Tan HOANG, in collaboration with NAVIER Laboratory and Saint-Gobain Research, 01/2014-07/2015, Financial support: French National Research Agency (ANR) / Materials and Processes for High Performance Products (MatEtPro), Selected project: ProMAP, Future position : R&D Engineer at Faurecia Acoustics and Soft Trim Division (Mouzon, France).

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 %), 10-2020 – 09-2023. Financial support: French government grant managed by ANR within the framework of the National Program Investments for the Future, ANR-11-LABX-0022-01.

[TH7] Cong Truc NGUYEN, Acoustic foams with controlled distributions of pores and their inter-connections, Advised by C. Perrot (25%), F. Detrez (25%), V. Langlois (25%), J. Guillemot (25%),

12-2017 – 04-2021. Financial support: Financial support: ANRT (Cifre). <https://hal.archives-ouvertes.fr/tel-03260833v2>.

[TH6] Quoc-Bao NGUYEN, Elaboration of porous biosourced epoxy resins for civil engineering and characterization of physico-chemical, mechanical, acoustic and thermal properties, Advisors E. Renard [100%], Co-supervised by S. Naili, C. Perrot, V.H. Nguyen, E. Chénier, 09-2017 – 08-2020. Financial support: Labex MMCD.

[TH5] Dengke LI, Investigation of the low frequency sound absorption of thin porous materials and structures, Advisors Prof. B. Liu [3/4] (Institute of Acoustics, Chinese Academy of Sciences) and C. Perrot [1/4], 10/2016 – 12/2017. Financial support: Chinese Science Council - Ministry of Education (financial aid for excellent Ph.D students to study abroad).

[TH4] Van Hai TRINH, Effect of membrane content on the acoustical properties of three-dimensional monodisperse foams: Experimental, numerical and semi-analytical approaches, Advisor C. Perrot [30 %], Co-advised by J. Guillemot [30%] and V. Langlois [40%] 10/2015 – 07/2018. Financial support: Ministry of Education and Training – Vietnam International Education Development (888 €/month – 36 months); Anh Nghia and Investment Construction Company (668 €/month – 48 months).

[TH3] Mu HE, Multiscale prediction of acoustic properties for fibrous materials: Computational study and experimental validation, Advisor C. Perrot [70 %], co-advised by J. Guillemot [30%] 10/2014 – 04/2018. Financial support: ADEME (50 %), CSTB (25 %), Isover Saint Gobain Crir (25 %).

[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

[TH1] Minh Tan HOANG, Multi-scale and multi-physics modeling of the acoustical behavior of porous media : Application to the optimization of industrial foams, Co-advised with Guy Bonnet [20 %], 10/2009 – 12/2012. Financial support: ANRT (Cifre).

3.2.3 Supervised master students

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

[MA15] Ahmad DIAB, ‘Calculation of the permeability of porous media by numerical homogenization: FFT/FEM comparison,’ Co-advised with Vincent MONCHIET (50 %), Université Gustave Eiffel, 2022.

[MA14] Cong The NGUYEN, ‘Inverse identification of a multi-scale probabilistic model: Apparent fields of properties for porous materials,’ Co-advised with Christophe DESCELIERS (50 %), Université Paris-Est, 2020.

[MA13] Duc Manh NGUYEN, ‘Homogenization of the elasto-acoustic properties of cellular materials,’ Co-advised with Van Hai TRINH (25 %) and Benjamin MORIN (25%), Université Paris-Est, 2017.

[Ma6] Weizhi LUO, ‘Localized resonances: application to foams with spherical inclusions,’ Co-advised with Elie FAVIER (50 %), Université Paris-Est, 2016.

[MA12] Ziming XIONG, ‘Structure/properties/manufacturing relationships for foams: Application to milli-fluidic techniques,’ Co-advised with Van Hai TRINH (15 %), Université Paris-Est, 2016.

[Ma5] Ziming XIONG, ‘Modeling the geometry of foams with spherical inclusions,’ Co-advised with Mu HE (15 %), Université Paris-Est, 2015.

[Ma4] Rémi GARDES, ‘Stereology applied to the determination of the micro- and macro-geometric properties of porous media,’ Université Paris-Est, 2014.

[Ma3] Qiang ZAN, ‘Fiber orientation tensor and permeability of fibrous media,’ Co-advised with HOANG Minh Tan (15 %), Université Paris-Est, 2014.

[MA11] Lei LEI, ‘Micro geometry, acoustical, and mechanical 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).

[MA10] Pierre KERDUDOU, ‘Microstructure and acoustic properties of fibrous materials: A semi-empirical approach,’ A collaborative research project funded by CSTB, co-advised with Gary JACQUS (CSTB, 15 %), Pierre LEROY (ISOVER, 5 %), Conservatoire National des Arts et Métiers, 2014. Current position: in charge of the acoustical laboratory tests and engineer at CSTB (LABE).

[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).

[MA8] Minh Tu LE, ‘Identification and optimization of micromechanical models for real foam samples: Towards structure/property/manufacturing relations,’ co-advised with Minh Tan HOANG (5 %) and Guy BONNET (15 %), Université Paris-Est, 2013. Current position: lecturer in Vietnam.

[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.

[MA7] Thanh Quang BUI, ‘Transport and acoustic properties of metallic foams: Random geometry versus idealized periodic unit cell,’ co-advised with Guy BONNET (15 %) and Minh Tan HOANG (5 %), Université Paris-Est, 2011. Current position : doctoral student at LMA in Marseille.

[Ma1] Quang Anh VU, ‘Microstructure and acoustical macro-behavior of fibrous materials,’ co-advised with Minh Tan HOANG (20 %), Université Paris-Est, 2011.

[MA6] Anh Tuan TA, ‘Contribution to relations between microstructure and acoustic properties of real fibrous media,’ a collaborative research project partially funded by Saint-Gobain ISOVER, co-advised with Guy BONNET (20 %), Université Paris-Est, 2010. Current position: doctoral student and ATER at UTBM (M3M).

[MA5] Quoc Tuan TRINH, ‘Reconstruction of real porous media: Random geometry versus idealized periodic unit cell,’ co-advised with Guy BONNET (10 %), Dominique JEULIN (10 %) and Charles PEYREGA (40 %) [both at Mines Paris-Tech, Mathematical morphology group], Université Paris-Est, 2010. Current position: doctoral student at INSA de Strasbourg (GCE).

[MA4] Minh Tan HOANG, ‘Three-dimensional micro-acoustical modeling of open-cell foams, a collaborative research project funded by Faurecia, co-advised with Guy Bonnet (20 %), Université Paris-Est, 2009. Current position: doctoral student at Université Paris-Est and Faurecia (Cifre).

3.2.3.2 Université de Sherbrooke (maîtrise recherche)

[MA3] Ali HAMOUDI, ‘Inverse acoustical characterization of porous media,’ co-advised with Raymond PANNETON (75 %), Université de Sherbrooke, 2009.

[MA2] Sébastien LABBE, ‘Improving sound absorption of porous media using an intrinsic active approach,’ co-advised with Raymond Panneton (75 %), Université de Sherbrooke, 2008. Current position: Research and Development Engineer at Metafoam Technologies Inc.

[MA1] Fabien CHEVILLOTTE, ‘An acoustical study of porous materials with closed cells,’ co-advised with Raymond PANNETON (50 %), Université de Sherbrooke, 2008. Current position: R&D Engineer at INSA de Lyon, then researcher at Matelys.

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 (90)

- Acta Acustica united with Acustica (4). Associate Editors: D. Lafarge (2) [05-2008, and 07-2009], J. Sanchez-Dehesa (1) [08-2017],
- 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].
- Applied Physics Letters (2). Associate Editors: D. Chen [12-2012], M.-L. Saboungi [07-2015].
- European Journal of Mechanics – A/Solids (1). Associate Editor : O. S. Hopperstad [05-2016].
- Europhysics Letters (1). Co-Editor: Hongru Ma [11-2007].
- International Journal of Coal Geology (1). C. Ozgen Karacan [02-2016].
- International Journal of Heat and Mass Transfer (1). Editor: W. J. Minkowycz [12-2011].
- International Journal of Mechanical Sciences (1). Ass. Editor: Weiqiu Chen [11-2021].
- International Journal of Solids and Structures (1). Editor : S. Kyriakides [05-2016].
- Journal of the Acoustical Society of America (20). Associate Editors: K. Attenborough [02-2008], P. Barbone [07-2010], R. D. Costley [04-2020], K. Horoshenkov [05-2008, 07-2011, 05-2013, 04-2015, 02-2016], K. M. Li [08-2012], James F. Lynch [11-2021], J. D. Maynard [11-2013], A. Norris [11-2014], O. Umnova [04-2019, 07-2022], F. Sgard [01-2013, 04-2014, 12-2014], Nail A. Gumerov [10-2019], C. J. Naify [03-2021], R. D. White [05-2022].
- 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].
- Journal of Physics D : Applied Physics (1). Publishing Editors : J. Sanders, D. Williams, A. Gough (1) [05-2015].
- Journal of Sound and Vibrations (13). Subject Editors: J. Astley [11-2018, 09-2020], Y. Aurégan [03-2013, 05-2018], J. Cheer [03-2020]; G. Degrande [07-2010, 12-2014], M. P. Cartmell [01-2013], D. Juvé [07-2015, 05-2016] ; R. E. Musafir [04-2018] ; B. Plumers [06-2019]; S. Félix [07-2019]; L. Huang [03-2020].

- Materials Characterization (1). Associate Editor: Joanna McKittrick [05-2019].
- Materials & Design (2). Asst Managing Editor : W. Zhai [12-2017, 09-2018].
- Mechanical Systems and Signal Processing (1). Editor in Chief Simon Braun [08-2011].
- Transport in Porous Media (6). Editor: J. Bear [10-2010, 06-2011, 11-2011] ; Associate Editor : A. H-D Cheng [04-2015, 06-2020] ; Associate Editor : P. Lichtner [11-2015].

4.3. Serve on the jury of doctoral and master thesis

4.3.1. Jury of doctoral thesis

[JT8] Carole CHARLES, ‘Relations between the structure of fibrous media and their thermal and mass transfer properties’, Co-advised by Gérard L. Vignoles and Cédric Descamps, Université de Bordeaux and Safran Ceramics, 2021. Funded by SAFRAN and ANRT. Member of the Grading Committee.

[JT7] Jean BOULVERT, ‘Acoustic treatments with controlled porosity for optimal attenuation’, Co-advised by Jean-Philippe Groby and Annie Ross, Université du Maine (France) and Polytechnique Montréal (Québec, Canada), 2020. Funded by SAFRAN and ANR (ANR-16-CHIN-0002). Referee. Current position: Postdoc at LAUM.

[JT6] Mathieu GABORIT, ‘Modelling strategies for thin imperfect interfaces and layers (ISBN 978-91-7873-356-9)’, Co-advised by Olivier Dazel and Peter Göransson, Université du Maine (France) and KTH Royal Institute of Technology (KTH), 2019. Funded Le Mans Acoustique. Member of the Grading Committee. Current position: Postdoc at KTH (MWL).

[JT5] Lei LEI, Master degree in Mechanics of materials and structures for civil engineering and transportation systems (Université Paris-Est, France), ‘Study of porous thermocompressed materials for the modeling of automotive acoustic screens,’ Co-advised by Nicolas Dauchez and Jean-Daniel Chazot, université de Technologie de Compiègne (UTC), 2018. Funded by the French state via the Single Inter-Ministry Fund (FUI) - EcOBx project. Current position: R&D engineer at TREVES. Referee.

[JT4] Juan Pablo Parra Martinez, Master degree in acoustics (France), ‘On multilayered system dynamics and waves in anisotropic poroelastic media (ISBN 978-91-7729-172-5),’ Co-advised by Olivier Dazel and Peter Göransson, université du Maine and KTH Royal Institute of Technology, 2016. Funded by the Center for ECO² Vehicle Design (Sweden). Appointed as ‘Opponent’ and Referee. Current position: Researcher at the Reaserch Institue of Sweden (RISE).

[JT3] Navid NEMATI, Master degree in theoretical physics (France), ‘Macroscopic theory of sound propagation in rigid-framed porous materials allowing for spatial dispersion: principle and validation,’ Co-advised by Yves Auregan and Denis Lafarge, université du Maine, 2012. Funded by the

Ministry of higher education and research. Current position: postdoctoral fellow at MIT, group of Nicolas Fang (acoustic metamaterials).

[JT2] Charles PEYREGA, Bachelor of engineering from CPE Lyon (France), ‘Prediction of the acoustic properties of heterogeneous fibrous materials from their 3D microstructure,’ Advised by Dominique Jeulin (100 %), Paris Institute of Technology, 2010. Funded by the French national research agency (projet Silent Wall). Current position: postdoctoral fellow at Mines ParisTech, then R&D engineer in remote sensing at CS Communication & Systèmes.

[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

[JM3] Ali HAMOUDI, Bachelor of engineering from ENSAM, ‘Inverse acoustical characterization of porous media,’ Co-advised by Raymond Panneton (75 %) and Camille Perrot (25 %), université de Sherbrooke, 2008. Funded by FQRNT. Current position: unknown.

[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

[CTH3] Appointed as opponent at a licentiate seminar of the licentiate’s thesis presented by Eva Lundberg, School of Engineering Sciences at the Royal Institute of Technology in Stockholm, ‘Micro-structure Modelling of Acoustics of Open Porous Materials,’ ISBN 978-91-7729-040-7, Advised by Peter Göransson, KTH, Wednesday June 15th 2016.

[CTH2] Louise ABOGAST, Master’s degree of rheology from Ecole Normale Supérieure and former student from Ecole Polytechnique, PhD student at université Paris-Est, ED SIE, ‘Understanding acoustic and mechanical properties of silica foams,’ Co-advised by Olivier Pitois (Navier laboratory) and Tamar Saison (Saint-Gobain Research), Members of the thesis committee: O. Pitois, Y. Khidas

(Navier laboratory), C. Perrot (MSME laboratory), T. Saison, M. Lamblet, H. Lannibois-Drean, S. Berger, J.-Y. Faou (Saint-Gobain Research), universit  Paris-Est, 2014. Financial support: ANRT (Cifre).

[CTH1] Navid NEMATI, Master’s degrees of physical mechanics from universit  Paris 7 and theoretical physics from universit  Paris 6, PhD student at universit  du Maine, ED SPIGA, ‘Macroscopic theory of sound propagation in rigid-framed porous materials allowing for spatial dispersion: principle and validation,’ Co-advised by Y. Auregan and D. Lafarge, external examiner V. Pagneux, president’s committee C. Perrot, universit  du Maine, 2012. Funded by the Ministry of higher education and research.

4.4. University services

- 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-... .
- Correspondent CNRS Innovation for the MSME laboratory, 2017-... .
- Board member of the French Acoustical Society (Adviser), Jan. 2018 – Dec. 2019.
- Board member of the French Acoustical Society (General Secretary), Jan. 2016 – Dec. 2017.
- Head of the master’s program specialized in project engineering at Universit  Paris-Est Marne-la-Vall e, September 2013-December 2015.
- Responsible for the first academic year at the ESIP-MLV school of engineering (major in civil engineering), 2010- till date.

- Member of the selection committee for an assistant professor position in mechanical and civil engineering at Universit  Paris-Est Marne-la-Vall e (MCF section 60 n 4216), 2019.
- Member of the selection committee for an assistant professor position in mechanical and civil engineering at Universit  Paris-Est Marne-la-Vall e (MCF section 60 n 4105), 2014.
- Member of the selection committee for an assistant professor position in vibrations, acoustics, and materials at Universit  de Bourgogne (MCF section 60 n 4187), 2013.
- Member of the ‘permanent’ selection committee (sections  60-62), Universit  Paris-Est Marne-la-Vall e, 2013- 2016.
- Member of the selection committee for an assistant professor position in mechanical and civil engineering at Universit  Paris-Est Marne-la-Vall e (MCF section 60-62), 2012.
- Member of the selection committee for a Temporary lecturer and research assistant (ATER) position, section 60-62, Universit  Paris-Est Marne-la-Vall e, 2011.
- Member of the selection committee for an assistant professeur position in Vibroacoustics and materials, Institut sup rieur de m canique 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).
- Member of the COST Action CA15125 – Designs for Noise Reducing Materials and Structures (DENORMS – 2015-10-30). Group leader at the COST Action DENORMS: Workshop "Sandpit: New approaches to design of noise reducing materials and structures", 14-15th sept. 2017 in Novi Sad (RS) for the Group ‘Sound absorption by structured materials’.
- 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.
- Co-chairman of the mini-seminars of the Groupe d’Acoustique de l’Université de Sherbrooke (GAUS), 2007-2008.
- 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

[CT9] C. Perrot, “Optim-Heterogeneous” Optimization of locally heterogeneous elasto-acoustic foams, Research collaboration agreement between CNRS, Université Gustave Eiffel, Université Paris-Est Créteil and TREVES-PSI, France Relance ANR-21-PRRD-0001-01 (REF CNRS : 247060 MSME/Trèves PSI), 22 500 € et salaire post-doctorant chargé plus frais imagerie, 01/02/2022-31/07/2023.

[CT8] C. Perrot, “Biophonic” Design and optimization of low-frequency and wide-band acoustic insulation based on biobased phononic crystals, Research collaboration agreement with I-SITE FUTURE, Investment programme for innovation from Université Gustave Eiffel and Ecole nationale des ponts et chaussées 2021 # 1 (ref. TTE, VP3 & volet Partenariats I-SITE, VP PTMS), 49 000 €, 01/10/2021-30/09/2022.

[CT7] C. Perrot, Acoustic foams with controlled distributions of pores and their interconnections, Research collaboration agreement with FAURECIA under ref. ANRT Cifre n° 2020-0122 (Ref. EIFEL 2021-00120), 170 616 € (60 k€ HT et salaire doctorant chargé), 01/10/2020-30/09/2023.

[CT6] C. Perrot, Acoustic foams with controlled distributions of pores and their interconnections, Research collaboration agreement with TREVES under ref. ANRT Cifre n° 2017-1098, 170 616 €, 01/12/2017-30/11/2020.

[CT5] C. Perrot, D. Duhamel, Sound absorbing porous materials by using higher modes in acoustic metamaterials: theory and design, French National Research Agency (ANR) / Labex MMCD - Multi-Scale Modelling & Experimentation of Materials for Sustainable Construction, 43 000 €, 09/2016-08/2017.

[CT4] C. Perrot, G. Jacques, J.-B. Chéné, P. Leroy, S. Berger, Microstructure and acoustic properties of fibrous materials from a multi-scale predictive approach, ADEME research project ref. n° 5410 in collaboration with CSTB and Saint Gobain Isover Crir, 153 610 €, 2014-2018.

[CT3] O. Pitois, Y. Khidas, X. Château, L. Royon, C. Perrot, M. Joanicot, E. Mabrouk, Optimization of the functional properties of solid foams including spherical inclusions (ProMAP), ANR MATEPRO research project with the collaboration of IFSTTAR, Université Paris-Est Marne-la-Vallée, CNRS, Université Paris Diderot, Saint Gobain Research, 27% of 473 772 €, 2014-2017.

[CT2d] C. Perrot, F. Chevillotte, F.-X. Bécot, L. Jaouen, Comportement acoustique de gypses poreux. Etape 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. Etape 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. Etape 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.

[CT1] C. Perrot, Multi-scale and multi-physics modeling and simulation of the acoustical behavior of poroelastic media, Research collaboration agreement with FAURECIA under ref. ANRT Cifre n° 748/2009, 158 610 €, 19/10/2009-18/10/2012.

5.2. Grants and Awards

[GR6] ‘Identification of representative volume elements of glass wool panels: Coupling deterministic and stochastic approaches,’ Short Term Scientific Mission – STSM ref. n°42126, COST Action: CA15125, Host: Kungliga Tekniska högskolan, Stockholm, SE, 15/10/2018 - 26/10/2018, 2270 €, 2018.

[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.

[AW6] Université Paris-Est Marne-la-Vallée, Doctoral supervision and research excellence award (PEDR), Réf. CC/PW/AL/SL/SR/EXTERNE 2018-100, 4 × 4 000 €, 01/10/2018-30/09/2022.

[AW5] Université Paris-Est Marne-la-Vallée, Doctoral supervision and research excellence award (PEDR), Réf. SA/ER/AL 2014/9370, 4 × 4 000 €, 01/10/2014-30/09/2018.

[AW4] Université de Sherbrooke Awards Institutional Fellowships, 2 × 4 000 \$, 2002-2004.

[AW3] Mobility Grant Eurodoc from Rhône-Alpes region, 5 000 €, 2002 - 2005.

[AW2] Alcan Postgraduate Scholarship Awards, 2 × 20 000 \$, 2001 - 2003.

[AW1] CQRDA Postgraduate Scholarship Awards (PARU), 10 000 \$, 2001 - 2002.