

# Florent PLED

**Address** Université Gustave Eiffel  
Laboratoire Modélisation et Simulation  
Multi-Echelle (MSME) UMR 8208 CNRS  
5 bd Descartes, Champs-sur-Marne  
F-77 454 Marne-la-Vallée Cedex 2, France  
Lavoisier Building, Room B12

**Phone** +33 (0) 1 60 95 77 82  
**Cell** +33 (0) 6 10 94 83 91  
**Fax** +33 (0) 1 60 95 77 99  
**Email** [florent.pled@icloud.com](mailto:florent.pled@icloud.com)  
[florent.pled@univ-eiffel.fr](mailto:florent.pled@univ-eiffel.fr)

**Personal page** [pagespro.univ-gustave-eiffel.fr/florent-pled](http://pagespro.univ-gustave-eiffel.fr/florent-pled)  
**HAL iD** [cv.hal.science/florent-pled](http://cv.hal.science/florent-pled)  
**ORCID iD** [0000-0003-1389-6507](https://orcid.org/0000-0003-1389-6507)  
**Scopus iD** [37075804900](https://scopus.com/authid/detail.url?authorID=37075804900)  
**Nationality** French  
**Birthdate** September 7, 1984 (40 years old)  
**Birthplace** Clichy (92 110), France

**Assistant Professor**  
**Université Gustave Eiffel**  
**Laboratoire Modélisation et**  
**Simulation Multi-Echelle (MSME)**  
**UMR 8208 CNRS**



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## Education and training

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- 2013 - 2014** **Postdoctoral Fellow** in Mechanical Engineering  
Research Institute in Civil Engineering and Mechanics (GeM), Ecole Centrale Nantes, France
- 2009 - 2012** **Ph.D.** in Mechanical Engineering with first class honors  
ENS Cachan, Laboratory of Mechanics and Technology (LMT-Cachan), Cachan, France
- 2008 - 2009** **Master's Year 2: M.S.** in Mechanical Engineering (Advanced Techniques in Structural Computations) with first-class honors  
ENS Cachan / Pierre et Marie Curie (Paris VI) University, France
- 2007 - 2008** **Agrégation**, High-level french national competitive exam for Public Education  
Rank: 11th nationally
- 2006 - 2007** **Master's Year 1: M.S.** in Mechanical Engineering, Materials and Structures with upper second-class honors  
ENS Cachan / Pierre et Marie Curie (Paris VI) University, France
- 2005 - 2006** **Bachelor: B.S.** in Mechanical Engineering and Technology with upper second-class honors  
ENS Cachan / Pierre et Marie Curie (Paris VI) University, France
- 2005** Admission at Ecole Normale Supérieure de Cachan (ENS Cachan), a leading french institution to train teachers and researchers

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## Teaching and academic experience

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- Since 2014** **Assistant Professor at Laboratoire Modélisation et Simulation Multi-Echelle (MSME) UMR 8208, Université Gustave Eiffel, France** (192h per year)  
Probability theory and Statistics, Structural reliability in Mechanical and Civil Engineering, Numerical analysis, Numerical calculations for structural analysis, Strength of materials, Theory of beams, plates and shells
- 2012 - 2013** **Teaching assistant at Ecole Polytechnique** at Palaiseau, France (20h)  
Structural analysis using the Finite Element Method for linear and nonlinear materials
- 2009 - 2012** **Teaching assistant at ENS Cachan and Pierre et Marie Curie (Paris VI) University, France** (193h)  
Continuum Mechanics (Beam theory, Theorems of energetics), Computational Mechanics (Numerical engineering and design using computational tools, Finite Element Method, Algorithms for solving nonlinear problems), Applied Mathematics (Variational formulation), Verification (Global/goal-oriented error estimation methods)

- 2010 - 2012** Teaching assistant at Ecole Polytechnique Féminine (EPF) at Sceaux, France (60h)  
Wave Mechanics and Optics
- 2006 - 2009** Teaching assistant at Ecole Militaire de Paris / Enseignement Militaire Supérieur Scientifique et Technique (EMSST), Paris, France, option Engineering Sciences  
Preparation in Physics and Electrokinetics to the competitive entrance exam to the french military school
- 2006 - 2007** Oral examiner in “Classes Préparatoires aux Grandes Ecoles” (competitive examination for elite higher education institutes) option PC/PC\* (Physics, Chemistry) at Lycée Louis Pasteur, Neuilly, France (2 to 3h per week)
- 2008 - 2011** Intensive preparation in Physic Sciences to the competitive entrance exam to french engineering schools

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## Research activities

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### Current research interests

- Uncertainty quantification in computational mechanics and engineering sciences
- Stochastic multiscale modeling of random heterogeneous materials
- Multiscale statistical inverse identification of probabilistic models, Computational stochastic homogenization
- Machine learning, Artificial neural networks
- Multiscale computational methods, Domain decomposition methods

### Postdoctoral Fellowship (2013 - 2014)

- Topic: Multiscale method with patches for the propagation of localized uncertainties in linear and non-linear stochastic models
- Project: ANR-12-MONU-0002 - ICARE - Generalized interfaces and non-intrusive coupling between R&D and standard software for computational mechanics
- Laboratory: GeM, Ecole Centrale Nantes, France
- Supervisors: A. Nouy, M. Chevreuil
- Keywords: Uncertainty quantification and propagation, Multiscale method, Stochastic parametric PDE's, Domain decomposition, Fictitious domain methods, Nonlinear stochastic models, Spectral stochastic methods, Sparse approximation, High-dimensional problems

### Ph.D. Thesis (2009 - 2012)

- Title: Towards a robust and effective strategy for the control of finite element computations in mechanical engineering
- Laboratory: LMT-Cachan, ENS Cachan / Pierre et Marie Curie (Paris VI) University, France
- Supervisors: P. Ladevèze, L. Chamoin
- Defended on: December 13, 2012 at Ecole Normale Supérieure de Cachan (ENS Cachan)
- Keywords: Verification, A posteriori error estimation, Finite element method, Constitutive relation error, Admissible fields, Goal-oriented error estimation, Guaranteed error bounds, Non-intrusive techniques, Saint-Venant's principle
- Committee:
- |                 |   |           |
|-----------------|---|-----------|
| Nicolas Moës    | Professor at Ecole Centrale Nantes                | President |
| Pedro Díez      | Professor at Universitat Politècnica de Catalunya | Reviewer  |
| Martin Vohralík | Senior researcher at INRIA Paris-Rocquencourt     | Reviewer  |
| Albert Alarcón  | Engineer at EDF R&D                               | Examiner  |
| Erwin Stein     | Professor at Leibniz Universität Hannover         | Examiner  |
| Ludovic Chamoin | Assistant professor at ENS Cachan                 | Advisor   |
| Pierre Ladevèze | Professor at ENS Cachan                           | Advisor   |

### Research internship during the 2nd year of Master (March - August 2009)

Topic: Comparison of methods for constructing admissible fields in the context of robust goal-oriented error estimation  
Laboratory: LMT-Cachan, France  
Advisors: L. Chamoin, E. Florentin

### Research internship during the 1st year of Master (April - August 2007)

Topic: Numerical simulation of the crushing of foam-filled aluminium tubes  
Laboratory: Deakin University, Geelong, Australia  
Advisor: W. Yan

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### Honors and Awards

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- Oct. 2023 - Sept. 2026** Individual award for teaching and research staff (RIPEC for “Prime Individuelle du Régime Indemnitaire des Personnels Enseignants et Chercheurs”) awarded by the Ministry of Higher Education, Research and Innovation, Réf. DP/AL/2023, Université Gustave Eiffel, amount:  $3 \times 4 \text{ k€} = 12 \text{ k€}$
- Oct. 2019 - Sept. 2023** Doctoral supervision and research excellence award (PEDR for “Prime d’Encadrement Doctoral et de Recherche”) awarded by the Ministry of Higher Education, Research and Innovation, Réf. CC/AL/SL/2019-85, Université Gustave Eiffel, amount:  $4 \times 4 \text{ k€} = 16 \text{ k€}$
- 2013** Eligible participant of the *3rd ECCOMAS PhD Olympiad* selected by the French Computational Structural Mechanics Association (CSMA), ECCOMAS local association (France), 3rd place for CSMA Best PhD Thesis

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### Publications

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#### Papers in Refereed Journals (12)

- 2025** M. Noel, F. Pled, L. Chevalier, F. Wilquin. Parameter identification for phase-field modeling of brittle fracture in spruce wood. *Engineering Fracture Mechanics*, 2025. (submitted)
- 2022** L. Chevalier, F. Pled, L. Winkler, F. Wilquin, E. Launay. A multi-model approach for wooden furniture failure under mechanical load. *Mechanics & Industry*, 23, 28, 2022. DOI: [10.1051/meca/2022025](https://doi.org/10.1051/meca/2022025). HAL: [hal-03887864](https://hal.archives-ouvertes.fr/hal-03887864).  
F. Pled, C. Desceliers. Review and Recent Developments on the Perfectly Matched Layer (PML) Method for the Numerical Modeling and Simulation of Elastic Wave Propagation in Unbounded Domains. *Archives of Computational Methods in Engineering*, 29(1), 471-518, 2022. DOI: [10.1007/s11831-021-09581-y](https://doi.org/10.1007/s11831-021-09581-y). HAL: [hal-03196974](https://hal.archives-ouvertes.fr/hal-03196974).
- 2021** F. Pled, C. Desceliers, T. Zhang. A robust solution of a statistical inverse problem in multiscale computational mechanics using an artificial neural network. *Computer Methods in Applied Mechanics and Engineering*, 373, 113540, 2021. DOI: [10.1016/j.cma.2020.113540](https://doi.org/10.1016/j.cma.2020.113540). HAL: [hal-03000299](https://hal.archives-ouvertes.fr/hal-03000299). ArXiv: [2011.11761](https://arxiv.org/abs/2011.11761).
- 2020** T. Zhang, F. Pled, C. Desceliers. Robust Multiscale Identification of Apparent Elastic Properties at Mesoscale for Random Heterogeneous Materials with Multiscale Field Measurements. *Materials*, 13(12), 2826, 2020. DOI: [10.3390/ma13122826](https://doi.org/10.3390/ma13122826). HAL: [hal-02879369](https://hal.archives-ouvertes.fr/hal-02879369). ArXiv: [2006.14854](https://arxiv.org/abs/2006.14854).
- 2019** L. Chevalier, F. Pled, F. Zambou, E. Launay. Cyclic virtual test on wood furniture by Monte Carlo simulation: from compression behavior to connection modeling. *Mechanics & Industry*, 20(6), 606, 2019. DOI: [10.1051/meca/2019039](https://doi.org/10.1051/meca/2019039). HAL: [hal-02321441](https://hal.archives-ouvertes.fr/hal-02321441).
- 2018** A. Nouy, F. Pled. A multiscale method for semi-linear elliptic equations with localized uncertainties and nonlinearities. *Mathematical Modelling and Numerical Analysis*, 52(5), 1763-1802, 2018. DOI: [m2an/2018025](https://doi.org/10.1016/j.m2an.2018.02.005). HAL: [hal-01507489](https://hal.archives-ouvertes.fr/hal-01507489). ArXiv: [1704.05331](https://arxiv.org/abs/1704.05331).
- 2017** L. Chamoin, F. Pled, P-E. Allier, P. Ladevèze. A posteriori error estimation and adaptive strategy for PGD model reduction applied to parametrized linear parabolic problems. *Computer Methods in Applied Mechanics and Engineering*, 327, 118-146, 2017. DOI: [10.1016/j.cma.2017.08.047](https://doi.org/10.1016/j.cma.2017.08.047). HAL: [hal-01584532](https://hal.archives-ouvertes.fr/hal-01584532). ArXiv: [1801.07422](https://arxiv.org/abs/1801.07422).
- 2016** F. Hild, A. Bouterf, L. Chamoin, H. Leclerc, F. Mathieu, J. Neggers, F. Pled, Z. Tomičević, S. Roux. Toward 4D Mechanical Correlation. *Advanced Modeling and Simulation in Engineering Sciences*, 3(1), 1-26, 2016. DOI: [10.1186/s40323-016-0070-z](https://doi.org/10.1186/s40323-016-0070-z). HAL: [hal-01310582](https://hal.archives-ouvertes.fr/hal-01310582).

- 2013** P. Ladevèze, F. Pled, L. Chamoin. New bounding techniques for goal-oriented error estimation applied to linear problems. *International Journal for Numerical Methods in Engineering*, 93(13), 1345-1380, 2013. DOI: [10.1002/nme.4423](https://doi.org/10.1002/nme.4423). HAL: [hal-01056891](https://hal.archives-ouvertes.fr/hal-01056891). ArXiv: [1704.06688](https://arxiv.org/abs/1704.06688).
- 2012** F. Pled, L. Chamoin, P. Ladevèze. An enhanced method with local energy minimization for the robust a posteriori construction of equilibrated stress fields in finite element analyses. *Computational Mechanics*, 49(3), 357-378, 2012. DOI: [10.1007/s00466-011-0645-y](https://doi.org/10.1007/s00466-011-0645-y). HAL: [hal-01056871](https://hal.archives-ouvertes.fr/hal-01056871). ArXiv: [1408.6143](https://arxiv.org/abs/1408.6143).
- 2011** F. Pled, L. Chamoin, P. Ladevèze. On the techniques for constructing admissible stress fields in model verification: Performances on engineering examples. *International Journal for Numerical Methods in Engineering*, 88(5), 409-441, 2011. DOI: [10.1002/nme.3180](https://doi.org/10.1002/nme.3180). HAL: [hal-01056705](https://hal.archives-ouvertes.fr/hal-01056705). ArXiv: [1704.06680](https://arxiv.org/abs/1704.06680).

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## Communications

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### Invited Lectures in International Conferences (1)

- 2013** **Invited lecture**, F. Pled, L. Chamoin, P. Ladevèze. Toward alternative bounding techniques for robust goal-oriented error estimation applied to linear problems. *2nd ECCOMAS Young Investigators Conference (YIC 2013)*, Bordeaux, France, September 2-6, 2013. HAL: [hal-01057085](https://hal.archives-ouvertes.fr/hal-01057085).

### Communications in International Conferences (40)

- 2025** (Upcoming) F. Pled, C. Desceliers. Statistical inverse identification of a stochastic phase-field model for brittle fracture in random heterogeneous elastic materials. *14th International Conference on Structural Safety & Reliability (ICOSSAR 2025)*, Los Angeles, California, U.S., June 1-6, 2025.
- 2024** F. Pled, C. Desceliers. On the Stochastic Modeling and Inverse Identification of a Phase-Field Fracture Model in Random Heterogeneous Elastic Materials Exhibiting Isotropic Symmetry Properties. *9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2024)*, Lisbon, Portugal, June 3-7, 2024. HAL: [hal-04613508](https://hal.archives-ouvertes.fr/hal-04613508).
- M. Noel, F. Pled, L. Chevalier, F. Wilquin. Identification of a Phase-Field Model for Brittle Fracture in Transversely Isotropic Elastic Materials with Application to Spruce Wood Specimens under Compression. *9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2024)*, Lisbon, Portugal, June 3-7, 2024. HAL: [hal-04613548](https://hal.archives-ouvertes.fr/hal-04613548).
- 2023** F. Pled, C. Desceliers. A data-driven statistical inverse identification method for phase field modeling of fracture in random heterogeneous elastic media. *Engineering Mechanics Institute Conference 2023 (EMI 2023)*, Atlanta, Georgia, U.S., June 6-9, 2023. HAL: [hal-04122931](https://hal.archives-ouvertes.fr/hal-04122931).
- 2022** F. Pled, C. Desceliers. A data-driven identification method based on neural networks for solving statistical inverse problems in computational mechanics. *13th International Conference on Structural Safety & Reliability (ICOSSAR 2021-2022)*, Shanghai, China, September 13-17, 2022. HAL: [hal-03774358](https://hal.archives-ouvertes.fr/hal-03774358).
- F. Pled, C. Desceliers. On the Design of Artificial Neural Networks for Solving Statistical Inverse Problems in Computational Biomechanics. *15th World Congress on Computational Mechanics (WCCM XV)*, Yokohama, Japan, July 31-August 5, 2022. HAL: [hal-03763600](https://hal.archives-ouvertes.fr/hal-03763600).
- I. Satgun, F. Pled, C. Desceliers. Identification of a Phase Field Model for Brittle Fracture in Random Heterogeneous Elastic Media. *15th World Congress on Computational Mechanics (WCCM XV)*, Yokohama, Japan, July 31-August 5, 2022. HAL: [hal-03763617](https://hal.archives-ouvertes.fr/hal-03763617).
- I. Satgun, F. Pled, C. Desceliers. Phase Field Model for Brittle Fracture in Random Heterogeneous Elastic Media: Forward Numerical Simulations and Sensitivity Analysis. *8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2022)*, Oslo, Norway, June 5-9, 2022. HAL: [hal-03712152](https://hal.archives-ouvertes.fr/hal-03712152).
- 2021** F. Pled, C. Desceliers. On the Solution of Statistical Inverse Problems using Machine Learning Methods based on Artificial Neural Networks. *16th U.S. National Congress on Computational Mechanics (USNCCM16)*, Chicago, Illinois, U.S., July 25-29, 2021. HAL: [hal-03277972](https://hal.archives-ouvertes.fr/hal-03277972).
- C. Desceliers, F. Pled. A probabilistic artificial neural network for a robust identification of the random apparent elasticity tensor field at mesoscale. *16th U.S. National Congress on Computational Mechanics (USNCCM16)*, Chicago, Illinois, U.S., July 25-29, 2021. HAL: [hal-03278148](https://hal.archives-ouvertes.fr/hal-03278148).
- F. Pled, C. Desceliers, A.H. Gandomi. An artificial neural network-based identification method applied to a random elasto-acoustic wave propagation problem in computational biomechanics. *4th International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2021)*, Athens, Greece, June 27-30, 2021. HAL: [hal-03253248](https://hal.archives-ouvertes.fr/hal-03253248).

- F. Pled, C. Desceliers, T. Zhang. Statistical inverse problem for the mesoscale model of apparent elasticity properties by training an artificial neural network. *4th International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2021)*, Athens, Greece, June 27-30, 2021. HAL: [hal-03277962](https://hal.archives-ouvertes.fr/hal-03277962).
- F. Pled, C. Desceliers, A.H. Gandomi. Robust identification of geometrical and mechanical properties using artificial neural networks for cortical bone damage prediction. *14th World Congress on Computational Mechanics (WCCM XIV)*, Paris, France, January 11-15, 2021. HAL: [hal-03253340](https://hal.archives-ouvertes.fr/hal-03253340).
- C. Desceliers, F. Pled, T. Zhang. Artificial neural network for a robust identification of apparent elasticity properties at mesoscale with limited experimental measurements. *14th World Congress on Computational Mechanics (WCCM XIV)*, Paris, France, January 11-15, 2021. HAL: [hal-03253340](https://hal.archives-ouvertes.fr/hal-03253340).
- 2020** F. Pled, C. Desceliers, A.H. Gandomi. Machine learning based on neural networks for the inverse identification of probability distributions - Application to the axial transmission technique for the ultrasonic characterization of damaged cortical bone properties. *XI International Conference on Structural Dynamics (EURODYN 2020)*, Athens, Greece, November 23-26, 2020. HAL: [hal-03638124](https://hal.archives-ouvertes.fr/hal-03638124).
- 2019** F. Pled, C. Desceliers, A.H. Gandomi, C. Soize. Neural network prediction of cortical bone damage using a stochastic computational mechanical model. *3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2019)*, Hersonissos, Crete Island, Greece, June 24-26, 2019. HAL: [hal-02175561](https://hal.archives-ouvertes.fr/hal-02175561).
- T. Zhang, C. Desceliers, F. Pled. Experimental identification of mesoscopic elasticity tensor field for heterogeneous materials with complex microstructure using multiscale experimental imaging measurements. *3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2019)*, Hersonissos, Crete Island, Greece, June 24-26, 2019. HAL: [hal-02176038](https://hal.archives-ouvertes.fr/hal-02176038).
- 2018** F. Pled, M. Chevreuil, A. Nouy. Multiscale Method with Patches for the Solution of Linear Parabolic Equations with Localized Uncertainties. *13th World Congress on Computational Mechanics (WCCM XIII)*, New York City, U.S., July 22-27, 2018. HAL: [hal-01856965](https://hal.archives-ouvertes.fr/hal-01856965).
- Z. Chen, F. Pled, L. Chevalier, E. Launay. Identification of the elastic properties of particle boards and stochastic simulation of wood-based furniture. *6th European Conference on Computational Mechanics (ECCM VI)*, Glasgow, UK, June 11-15, 2018. HAL: [hal-01817009](https://hal.archives-ouvertes.fr/hal-01817009).
- T. Zhang, F. Pled, C. Desceliers. Multiscale identification of apparent elastic properties at meso-scale for materials with complex microstructure using experimental measurements. *6th European Conference on Computational Mechanics (ECCM VI)*, Glasgow, UK, June 11-15, 2018. HAL: [hal-01817010](https://hal.archives-ouvertes.fr/hal-01817010).
- 2017** L. Chamoin, F. Pled, P-E. Allier, P. Ladevèze. Certification of PGD reduced models using a posteriori error estimation and adaptive strategies. *4th International Workshop on Reduced Basis, POD and PGD Model Reduction Techniques (MORTech 2017)*, Seville, Spain, November 8-10, 2017. HAL: [hal-01633412](https://hal.archives-ouvertes.fr/hal-01633412).
- F. Pled, M. Chevreuil, A. Nouy. A multiscale method with patches for the propagation of localized uncertainties in structural dynamics. *2nd International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2017)*, Rhodes Island, Greece, June 15-17, 2017. HAL: [hal-01541080](https://hal.archives-ouvertes.fr/hal-01541080).
- Z. Chen, F. Pled, L. Chevalier, H. Maklouf, E. Launay. Identification of the Mechanical Properties of Particle Boards and Stochastic Simulation of the Behavior of Furniture. *Computational Methods in Wood Mechanics - from Material Properties to Timber Structures (CompWood 2017)*, Vienna, Austria, June 7-9, 2017. HAL: [hal-01541075](https://hal.archives-ouvertes.fr/hal-01541075).
- 2016** V. Sansalone, D. Gagliardi, S. Naili, C. Desceliers, F. Pled, L. Teresi, S. Gabriele. Image-based multiscale modeling of bone elasticity: how to make the most out of uncertainty? *12th World Congress on Computational Mechanics (WCCM XII)*, Seoul, South Korea, July 24-29, 2016. HAL: [hal-01306408](https://hal.archives-ouvertes.fr/hal-01306408).
- F. Pled, L. Chamoin, P-E. Allier, P. Ladevèze. On the control of PGD reduced-order approximations: error estimation and adaptivity. *7th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2016)*, Hersonissos, Crete Island, Greece, June 5-10, 2016. HAL: [hal-01306402](https://hal.archives-ouvertes.fr/hal-01306402).
- F. Hild, A. Bouterf, L. Chamoin, H. Leclerc, F. Mathieu, J. Neggers, F. Pled, Z. Tomičević, S. Roux. Putting Mechanical Content in DVC: Toward 4D Mechanical Correlation. *Workshop New Challenges in Computational Mechanics (NCCM 2016)*, Ecole Normale Supérieure de Cachan, Cachan, France, May 23-25, 2016. HAL: [hal-01324423](https://hal.archives-ouvertes.fr/hal-01324423).
- 2015** F. Pled, M. Chevreuil, A. Nouy. Multiscale coupling approach for solving high-dimensional stochastic problems featuring localized uncertainties and non-linearities. *eXtended Discretization MethodS (X-DMS 2015)*, Ferrara, Italy, September 9-11, 2015. HAL: [hal-01306394](https://hal.archives-ouvertes.fr/hal-01306394).

- F. Pled, M. Chevreuil, A. Nouy. Multiscale method with patches for the solution of non-linear stochastic problems with localized uncertainties and non-linearities. *1st International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2015)*, Hersonissos, Crete Island, Greece, May 25-27, 2015. HAL: [hal-01155606](#).
- 2014** F. Pled, L. Chamoin, P. Ladevèze. On the verification of PGD reduced-order models. *11th World Congress on Computational Mechanics (WCCM XI) - 5th European Conference on Computational Mechanics (ECCM V)*, Barcelona, Spain, July 20-25, 2014. HAL: [hal-01057092](#).
- 2013** L. Chamoin, P. Ladevèze, F. Pled. Goal-oriented control of PGD-based simulations. *12th U.S. National Congress on Computational Mechanics (USNCCM12)*, Raleigh, North Carolina, U.S., July 22-25, 2013. HAL: [hal-01057248](#).
- F. Pled, M. Chevreuil, A. Nouy. Multiscale method with patches for the propagation of localized uncertainties in stochastic models. A. Gravouil, Y. Renard, A. Combescure, eds: *International Conference on Extended Finite Element Methods (XFEM 2013)*, Lyon, France, September 11-13, 2013. HAL: [hal-01057088](#).
- Invited lecture**, F. Pled, L. Chamoin, P. Ladevèze. Toward alternative bounding techniques for robust goal-oriented error estimation applied to linear problems. *2nd ECCOMAS Young Investigators Conference (YIC 2013)*, Bordeaux, France, September 2-6, 2013. HAL: [hal-01057085](#).
- L. Chamoin, P. Ladevèze, F. Pled. Recent advances in the control of PGD-based approximations. J. P. Moitinho de Almeida, P. Díez, C. Tiago, N. Parés, eds: *6th International Conference on Adaptive Modeling and Simulation (ADMOS 2013)*, Lisbon, Portugal, June 3-5, 2013. HAL: [hal-01057247](#).
- F. Pled, L. Chamoin, P. Ladevèze. New bounding techniques for goal-oriented error estimation in FE simulations. J. P. Moitinho de Almeida, P. Díez, C. Tiago, N. Parés, eds: *6th International Conference on Adaptive Modeling and Simulation (ADMOS 2013)*, Lisbon, Portugal, June 3-5, 2013. HAL: [hal-01056926](#).
- 2012** L. Chamoin, P. Ladevèze, F. Pled. Robust control of PGD-based reduced models. *International Workshop on Virtual Materials (IWVM 2012)*, Beijing, China, September 11, 2012. HAL: [hal-01057246](#).
- L. Chamoin, F. Pled, P. Ladevèze. Mechanics-based verification method - application to computational models. *23rd International Congress of Theoretical And Applied Mechanics (ICTAM 2012)*, Beijing, China, August 19-24, 2012. HAL: [hal-01057245](#).
- L. Chamoin, P. Ladevèze, F. Pled. Goal-oriented control of finite element models: recent advances and performances on 3D industrial applications. *11th Biennial Conference on Engineering Systems Design and Analysis (ESDA ASME 2012)*, Nantes, France, July 2-4, 2012. HAL: [hal-01057238](#).
- F. Pled, L. Chamoin, P. Ladevèze. New advances in robust goal-oriented error estimation for FE simulations. *10th World Congress on Computational Mechanics (WCCM X)*, São Paulo, Brazil, July 8-13, 2012. HAL: [hal-01056927](#).
- 2011** F. Pled, L. Chamoin, P. Ladevèze. Construction of admissible fields and goal-oriented error estimation: Performances on engineering examples. D. Aubry and P. Díez, eds: *5th International Conference on Adaptive Modeling and Simulation (ADMOS 2011)*, Paris, France, June 6-8, 2011. HAL: [hal-01056921](#).
- 2007** F. Pled, W. Yan, Y. Yamada, C. Wen. Crushing Modes of Aluminium Tubes under Axial Compression. M. Veidt, F. Albermani, B. Daniel, J. Griffiths, D. Hargreaves, R. McAree, P. Meehan, A. Tan, eds: *5th Australasian Congress on Applied Mechanics (ACAM 2007)*, Brisbane, Australia, December 10-12, 2007. *Proceedings of the 5th Australasian Congress on Applied Mechanics (ACAM 2007)*, 1, 178-183, 2007, Engineers Australia. HAL: [hal-01056929](#). ArXiv: [1408.5390](#).

#### Communications in National (French) Conferences (5)

- 2022** M. Noel, F. Pled, L. Chevalier, F. Wilquin, E. Launay. Modélisation de la fissuration dans les matériaux bois par la méthode des champs de phase : simulation numérique d'un essai de compression sur des échantillons en bois d'épicéa. *25ème Congrès Français de Mécanique (CFM 2022)*, Nantes, France, August 29-September 2, 2022. HAL: [hal-03774344](#).
- 2016** P. Gosselet, J-C. Passieux, A. Nouy, G. Legrain, F. Pled, S. Michel, M. Duval, M. Chevreuil, O. Allix, G. Guguin. Contributions académiques à l'ANR ICARE. *Conférence NAFEMS*, Paris, France, June 8-9, 2016. HAL: [hal-01349798](#).
- 2013** L. Chamoin, P. Ladevèze, F. Pled. Vérification et validation de modèles dédiées à des quantités d'intérêt. *11ème Colloque National en Calcul des Structures (CSMA 2013)*, Giens, France, May 13-17, 2013. HAL: [hal-01057232](#).
- F. Pled, M. Chevreuil, A. Nouy, E. Safatly. Méthode multi-échelle avec patchs pour la propagation d'incertitudes localisées dans les modèles stochastiques. *11ème Colloque National en Calcul des Structures (CSMA 2013)*, Giens, France, May 13-17, 2013. HAL: [hal-01056919](#).

- 2011** F. Pled, L. Chamoin, P. Ladevèze. Construction de champs admissibles pour le calcul d'erreur locale : application sur des exemples industriels. *20ème Congrès Français de Mécanique (CFM 2011)*, Besançon, France, August 29-September 2, 2011. HAL: [hal-01056918](https://hal.archives-ouvertes.fr/hal-01056918).

## Communications in National and International Workshops, Seminars and Non-Refereed Conferences (12)

- 2023** M. Noel, L. Chevalier, F. Pled, F. Wilquin. Identification des paramètres d'un modèle de champ de phase pour la rupture fragile d'un échantillon d'épicéa. *7ème journée des doctorants du Laboratoire MSME*, Université Paris-Est Créteil, Créteil, France, November 3, 2023. HAL: [hal-04564067](https://hal.archives-ouvertes.fr/hal-04564067).
- 2021** F. Pled. La simulation numérique en sciences de l'ingénieur. *Conférence à l'occasion des Olympiades de Sciences de l'Ingénieur de l'académie de Versailles*, France, May 7, 2021 (virtual). URL: [www.upsti.fr/nos-evenements/olympiades-de-si](http://www.upsti.fr/nos-evenements/olympiades-de-si).
- I. Satgun, F. Pled, C. Desceliers. Phase field model for crack propagation in random elastic media. *Journée du Workshop du Labex MMCD on Multiscale analysis of fracture and damage*, Marne-la-Vallée, France, March 29, 2021.
- 2019** F. Pled. A Perfectly Matched Layer (PML) method for modeling the propagation of elastic waves in unbounded domains. *Journée scientifique de l'équipe Mécanique du MSME*, Marne-la-Vallée, France, February 4, 2019.
- 2018** F. Pled. A multiscale method for the propagation of localized uncertainties in linear parabolic equations. *Aerospace and Mechanical Engineering seminar*, Arizona State University (ASU), Tempe, AZ, U.S., August 17, 2018. URL: [semte.engineering.asu.edu/seminars/archive](http://semte.engineering.asu.edu/seminars/archive). HAL: [hal-01879275](https://hal.archives-ouvertes.fr/hal-01879275).
- Z. Chen, L. Chevalier, F. Pled, E. Launay. Caractérisation expérimentale et simulation stochastique du comportement des meubles à base de panneaux de particules. *7èmes journées du GDR 3544 Sciences du bois*, Bordeaux, France, November 20-22, 2018. HAL: [hal-01943529](https://hal.archives-ouvertes.fr/hal-01943529).
- 2017** F. Pled. A multiscale method with patches for the propagation of localized uncertainties in (semi-)linear elliptic and parabolic equations. *Séminaire du Laboratoire de Mécanique des Structures et des Systèmes Couplés (LMSSC)*, Conservatoire National des Arts et Métiers (CNAM), Paris, France, June 30, 2017. URL: [www.lmssc.cnam.fr/node/1345](http://www.lmssc.cnam.fr/node/1345). HAL: [hal-01552196](https://hal.archives-ouvertes.fr/hal-01552196).
- F. Pled, C. Desceliers, V. Sansalone. Sur la modélisation des incertitudes dans le calcul scientifique : application à la microstructure de l'os cortical. *Journée du MSME*, Novotel de Créteil le Lac, Créteil, France, June 9, 2017.
- 2016** Z. Chen, L. Chevalier, F. Pled, H. Maklouf, E. Launay. Identification des propriétés mécaniques de panneaux de particules et simulation stochastique du comportement de meubles. *5èmes journées du GDR 3544 Sciences du bois*, Bordeaux, France, November 8-10, 2016. HAL: [hal-01436963](https://hal.archives-ouvertes.fr/hal-01436963).
- 2015** F. Pled. Multiscale domain decomposition method for solving high-dimensional non-linear stochastic problems with localized uncertainties and non-linearities. *Séminaire du Laboratoire de Mécanique des Sols, Structures et Matériaux (MSSMat)*, Ecole Centrale-Supélec, Châtenay-Malabry, France, November 19, 2015. HAL: [hal-01308256](https://hal.archives-ouvertes.fr/hal-01308256).
- F. Pled. Méthode multi-échelle avec patches pour la résolution de problèmes stochastiques non-linéaires avec sources d'incertitudes et non-linéarités localisées. *Journée du MSME*, auditorium de l'ICMPE, Thiais, France, June 5, 2015.
- 2013** F. Pled, M. Chevreuril, A. Nouy, E. Safatly. A multiscale domain decomposition method for the solution of stochastic partial differential equations with localized uncertainties. *Journée des doctorants du GeM*, Nantes, France, May 2013.

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## Professional activities and scientific responsibilities

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### Membership of Scientific Committees or Organizing Committees of International and National Conferences (4)

- 2025** (Upcoming) Member of the Local Organization Committee, *Computational Modeling of Complex Materials across the Scales (CMCS 2025)*, Gustave Eiffel University, Champs-sur-Marne, France, May 13-16, 2025. URL: [cmcs2025.sciencesconf.org](http://cmcs2025.sciencesconf.org).
- 2024** Member of the National Scientific Committee, *16ème Colloque National en Calcul des Structures (CSMA 2024)*, Giens, France, May 13-17, 2024. URL: [csma2024.sciencesconf.org](http://csma2024.sciencesconf.org).

- 2017** Member of the Local Organization Committee, *Computational Modeling of Complex Materials across the Scales (CMCS 2017)*, Paris, France, November 7-9, 2017. URL: [cmcs2017.sciencesconf.org](http://cmcs2017.sciencesconf.org).
- 2013** Member of the Local Organization Committee, *2nd ECCOMAS Young Investigators Conference (YIC 2013)*, Bordeaux, France, September 2-6, 2013. URL: [yic2013.sciencesconf.org](http://yic2013.sciencesconf.org).

### Organization of International Conferences, Mini-Symposia (MS) in International Conferences and Workshops (6)

- 2025** (Upcoming) Co-organizer of MS 14: Uncertainty Quantification, Probabilistic and Generative Models for Nonlinear Computational Mechanics in Materials, Structures, and Coupled Systems, C. Desceliers, J-B. Chen, J-L. Le, F. Pled, C. Soize. *14th International Conference on Structural Safety & Reliability (ICOS-SAR 2025)*, Los Angeles, California, U.S., June 1-6, 2025. URL: [www.icossar2025.org/conference-sessions](http://www.icossar2025.org/conference-sessions), [drive.google.com/file/d/1zqFSS3DifgsJfE5SYwtLVLzA7pUzL6/view?usp=sharing](https://drive.google.com/file/d/1zqFSS3DifgsJfE5SYwtLVLzA7pUzL6/view?usp=sharing).
- 2024** Co-organizer of MS 079: Uncertainty Quantification in Materials Science and Computational Mechanics, F. Pled, C. Desceliers, M. Arnst, C. Soize. *9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2024)*, Lisbon, Portugal, June 3-7, 2024. URL: [eccomas2024.org/event/area/4ebb6191-5968-11ee-a4f3-000c29ddfc0c](http://eccomas2024.org/event/area/4ebb6191-5968-11ee-a4f3-000c29ddfc0c).
- 2022** Co-organizer of MS 1314: Statistical Inverse Problems and Related Stochastic Optimization Methods for Random Heterogeneous Materials, F. Pled, C. Desceliers, M. Arnst. *15th World Congress on Computational Mechanics (WCCM XV)*, Yokohama, Japan, July 31-August 5, 2022. URL: [www.wccm2022.org/minisymposia1314.html](http://www.wccm2022.org/minisymposia1314.html).
- Co-organizer of MS 42: Uncertainty Quantification in Material Sciences, F. Pled, C. Desceliers, M. Arnst, C. Soize. *8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2022)*, Oslo, Norway, June 5-9, 2022. URL: [www.eccomas2022.org/frontal/ProgMS.asp?id=71](http://www.eccomas2022.org/frontal/ProgMS.asp?id=71).
- 2021** Co-organizer of MS 309: Data-driven Science with Uncertainty Quantification, Machine Learning, and Optimization, J. Stewart, K. Garikipati, R. Ghanem, M. Bessa, C. Desceliers, A. Figueroa, M. Mignolet, F. Pled, C. Soize. *16th U.S. National Congress on Computational Mechanics (USNCCM16)*, Chicago, Illinois, U.S., July 25-29, 2021. URL: [16.usnccm.org/MS\\_309](http://16.usnccm.org/MS_309).
- Co-organizer of MS 184: Data-driven science with uncertainty quantification, machine learning, and optimization, C. Desceliers, C. Soize, J. Stewart, A.F. Alvarez, K. Garikipati, M. Bessa, M. Mignolet, F. Pled, R. Ghanem. *14th World Congress on Computational Mechanics (WCCM XIV)*, Paris, France, January 11-15, 2021. URL: [wccm-eccomas2020.org/frontal/MSList.asp](http://wccm-eccomas2020.org/frontal/MSList.asp).

### Organization of National (French) Conferences, Minisymposia in National (French) Conferences and Workshops

- 2023** Co-organizer of the 3rd national workshop “Probabilistic approaches in mechanics” of the Fédération Francilienne de Mécanique - Matériaux, Structures, Procédés (F2M-CNRS FR 2609), F. Pled (MSME), D. Bettetghor (ONERA), at Université Gustave Eiffel, Marne-la-Vallée, France, July 3, 2023. URL: [f2m.cnrs.fr/evenements/journees-thematiques/#JT3Juillet2023](http://f2m.cnrs.fr/evenements/journees-thematiques/#JT3Juillet2023).

### Examination of PhD Thesis and HDR (Habilitation Thesis) (1)

- 2021** Member of the jury for the PhD thesis defense of H.N. Nguyen, entitled “New numerical strategies for robust, consistent, and computationally efficient model identification from full-field measurements”, under the supervision of L. Chamoin and C. Ha Minh at Laboratory of Mechanics and Technology (LMT-Cachan), Université Paris-Saclay, France, May 21, 2021. URL: [theses.fr/2021UPAST061](http://theses.fr/2021UPAST061).

### Reviewer for International Journals

- Applied Mathematical Modelling (AMMod) (1)
- Computer Methods in Applied Mechanics and Engineering (CMAME) (1)
- International Journal for Uncertainty Quantification (IJUQ) (1)
- Mathematical Problems in Engineering (MPE) (1)
- Journal of Engineering Mechanics - ASCE (J. Eng. Mech.) (1)



## Participation to Recruiting and Selection Committees for Assistant or Full Professors positions (2)

- May 2024** Assistant Professor position in Computational mechanics (MCF section CNU 60 #0113, [Galaxie 113](#)) at Université Gustave Eiffel, Champs-sur-Marne, France
- May 2019** Assistant Professor position in Computational mechanics (MCF section CNU 60 #0121, [Galaxie 4081](#)) at INSA Toulouse, France

## Participation to PhD Monitoring Committee for PhD students (9)

- 2024 - 2026** PhD student: M. Lamamra  
Topic: Optimization of biosourced epoxy resins by artificial intelligence  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisor: F. Detrez
- 2023 - 2025** PhD student: H. Boué  
Topic: Digital twin for the generation and control of acoustic and thermal fields for multi-scale and multi-physics non-destructive evaluation of materials  
Laboratory: Institut de Mécanique et d'Ingénierie de Bordeaux (I2M), Université de Bordeaux, France  
Doctoral school: SPI - Sciences Physiques et de l'Ingénieur #209  
Supervisors: A. Meziane  
Co-supervisors: A. Giremus, M-M. Groz
- 2022 - 2024** PhD student: A. Sinha  
Topic: Probabilistic learning and neural networks for statistical metamodel of liner acoustic impedance  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisor: C. Desceliers  
Defended on: Mai 21, 2024 at Université Gustave Eiffel
- 2020 - 2022** PhD student: J. Nespoulous  
Topic: Constrained optimization under uncertainty of the driver's command for energy saving of high-speed trains using computational stochastic nonlinear dynamics and statistics  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisor: C. Soize  
Defended on: November 23, 2022 at Université Gustave Eiffel
- 2018 - 2020** PhD student: J. Reyes  
Topic: Stochastic multilevel reduced-order computational model in vibroacoustics applied to automobiles  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), now Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisor: C. Soize  
Defended on: November 5, 2020 at Université Paris-Est Marne-la-Vallée
- 2018 - 2020** PhD student: V. Dangla  
Topic: Robust design of acoustic treatment for nacelle noise reduction using computational aeroacoustics and uncertainty quantification  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), now Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisors: C. Soize, C. Desceliers  
Defended on: September 11, 2020 at Université Paris-Est Marne-la-Vallée
- 2017 - 2019** PhD student: A. Picou  
Topic: Robust analysis under uncertainties of bladed disk vibration with geometrical nonlinearities and detuning  
Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), now Université Gustave Eiffel, France  
Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
Supervisor: C. Soize  
Defended on: December 16, 2019 at Université Paris-Est Marne-la-Vallée

- 2017 - 2019** PhD student: M. Nesterova  
 Topic: Reliability of structures exposed to traffic and environmental loads  
 Laboratory: Expérimentation et Modélisation pour le Génie Civil et Urbain (EMGCU), Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux (IFSTTAR) devenu Université Gustave Eiffel, France  
 Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
 Supervisor: C. Soize  
 Defended on: October 25, 2019 at Université Paris-Est Marne-la-Vallée
- 2017 - 2019** PhD student: Q. Akkaoui  
 Topic: Dynamique numérique des structures avec non-linéarités géométriques couplées avec des fluides acoustiques en présence de ballonnement et de capillarité : quantification des incertitudes  
 Laboratory: Modélisation et Simulation Multi Echelle (MSME), Université Paris-Est Marne-la-Vallée (UPEM), now Université Gustave Eiffel, France  
 Doctoral school: SIE - Sciences, Ingénierie et Environnement #531  
 Supervisor: C. Soize  
 Defended on: October 4, 2019 at Université Paris-Est Marne-la-Vallée

### Participation to pedagogical and human projects

- 2022 - 2023** Establishment of a skills framework for the Master in Civil Engineering at the Institut Français des Sciences Appliquées (IFSA) at Université Gustave Eiffel.
- 2018 - 2020** Participation in the development of training programs using the “skills” approach aimed at formalizing technical and cross-disciplinary skills consistent with the aims of apprenticeship training Civil Engineering specialization at the Ecole Supérieure d'Ingénieurs de Paris-Est (ESIPE) at Université Paris-Est Marne-la-Vallée (UPEM), with the support of expert Jacques Tardif, Emeritus Prof. at Université de Sherbrooke, Québec, Canada.
- 2014 - 2017** Member of the project team IDEA of the program “Investing for the Future”: Pedag'Innov and Eval'Innov programs on the educational evaluation and pedagogical innovation through flipped classroom (or reverse learning) and distance learning. URL: [idea.univ-paris-est.fr/fr](http://idea.univ-paris-est.fr/fr).

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### Administrative and collective responsibilities

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- Since Sept. 2022** Coordinator of the research theme “Probabilistic approaches in mechanics” of the Fédération Francilienne de Mécanique - Matériaux, Structures, Procédés (F2M-CNRS FR 2609). URL: [f2m.cnrs.fr/la-federation/themes-de-recherche/approches-probabilistes-en-mecanique](http://f2m.cnrs.fr/la-federation/themes-de-recherche/approches-probabilistes-en-mecanique).
- Since Sept. 2020** Master coordinator in M.S. Engineering Projects in Civil Engineering at the Institut Français des Sciences Appliquées (IFSA) at Université Gustave Eiffel, France. URL: [formations.univ-gustave-eiffel.fr/master/detail/ingenierie-de-projet-en-genie-civil-ipgc-295](http://formations.univ-gustave-eiffel.fr/master/detail/ingenierie-de-projet-en-genie-civil-ipgc-295).
- Jan. 2020 - Sept. 2023** Pedagogical coordinator in Mechanics in B.S. Physics and Chemistry at the Institut Français des Sciences Appliquées (IFSA) at Université Gustave Eiffel, France. URL: [formations.univ-gustave-eiffel.fr/licence/detail/mecanique-308](http://formations.univ-gustave-eiffel.fr/licence/detail/mecanique-308).
- Jan. 2020 - Jan. 2025** Elected member of the Board of the Laboratory Modélisation et Simulation Multi Echelle (MSME) of Université Gustave Eiffel, France.
- Since Sept. 2018** Elected member of the Permanent Recruitment Committee (teachers/lecturers and researchers) of the National (French) Council of Universities in sections 60-62 at Université Gustave Eiffel (formerly Université Paris-Est Marne-la-Vallée), France.
- Jan. 2017 - Jan. 2020** Elected member of the Board of the Laboratory Modélisation et Simulation Multi Echelle (MSME) of Université Paris-Est Marne-la-Vallée (UPEM), France.
- 2011 - 2012** Pedagogic head of the bi-weekly meeting of Doctoral School of Practical Sciences (EDSP) of Cachan, France.
- 2009 - 2010** Member of the Organizing Committee for the weekly meetings of “Structures and Systems” Division at Laboratory of Mechanics and Technology (LMT-Cachan), Cachan, France.
- 2006 - 2007** Vice-President of the Sports Committee at ENS Cachan, France.

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### Advising and supervising activities

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## Doctoral students (5)

- 2023 - 2026** PhD student: G.K. Hoang  
Title: Optimization of self-healing materials through advanced computational modeling and machine learning techniques  
Financial support: Université Gustave Eiffel  
Laboratory: MSME, Université Gustave Eiffel, France  
Supervisors: C. Desceliers (90%), F. Pled (10%)
- 2021 - 2024** PhD student: M. Noel  
Title: Deterministic and probabilistic phase-field fracture modeling and experimental identification for cracking of wooden structures in furniture  
Financial support: Université Gustave Eiffel  
Laboratory: MSME, Université Gustave Eiffel, France  
Supervisors: L. Chevalier (25%), F. Pled (75%)  
Defended on: December 9, 2024 at Université Gustave Eiffel
- 2020 - 2022** PhD student: I. Satgun  
Title: Stochastic modeling and identification of random material and geometrical properties using machine learning methods for crack propagation in random heterogeneous elastic media  
Financial support: Université Gustave Eiffel  
Laboratory: MSME, Université Gustave Eiffel, France  
Supervisors: C. Desceliers (50%), F. Pled (50%)  
Stopped on: August 31, 2022 at Université Gustave Eiffel
- 2016 - 2019** PhD student: T. Zhang  
Title: Multiscale statistical inverse problem for the identification of random fields of elastic properties  
Financial support: UPEM  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Supervisors: C. Desceliers (70%), F. Pled (30%)  
Defended on: December 11, 2019 at Université Paris-Est Marne-la-Vallée
- 2015 - 2018** PhD student: Z. Chen  
Title: Virtual simulation and validation tests for furniture - plates based furniture  
Financial support: CIFRE joint with FCBA (the French Institute of Technology for Forest-based and Furniture Sectors)  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Supervisors: L. Chevalier (40%), F. Pled (60%)  
Defended on: January 28, 2019 at Université Paris-Est Marne-la-Vallée

## Students in University Diploma Training through research (4)

- Oct. 2020 - Apr. 2021** Student: L. Winkler  
Topic: A multi model approach for spruce wooden bed validation failure under mechanical load  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Oct. 2019 - Mar. 2020** Student: M. Mikouendanandi  
Topic: Mechanical strength of connection elements for furniture  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Oct. 2019 - Mar. 2020** Student: X. Paux Debray  
Topic: Analysis of mechanical stresses within connections in wooden structures  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Nov. 2017 - Mar. 2018** Student: M. Cabocel  
Topic: Identification of a homogenized rheological constitutive model for reinforced concrete structures under cyclic or seismic solicitations  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: F. Pled (50%), C. Combescure (50%)

## Master students in Master's Year 2 (10)

- Mar. - June** Student: B.T. Lai

- 2022** Topic: Analysis and modeling of shock tests on furniture  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (75%), F. Pled (25%)
- Mar. - June 2021** Student: T.T. Mai  
Topic: Analysis and modeling of shock tests on furniture  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Mar. - June 2020** Student: M.Q. Doan  
Topic: Analysis and modeling of shock tests on furniture  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Mar. - June 2020** Student: I. Satgun  
Topic: Identification of phase field fracture model using artificial neural networks  
Laboratory: MSME, Université Gustave Eiffel, France  
Advisors: C. Desceliers (50%), F. Pled (50%)
- Mar. - June 2019** Student: Q.D. Ha  
Topic: Analysis and modeling of shock tests on furniture  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Mar. - June 2018** Student: F. Zambou  
Topic: Identification of the behavior of wood under cyclic solicitations in the directions orthogonal to the fibers orientation  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: L. Chevalier (50%), F. Pled (50%)
- Mar. - June 2017** Student: A.D. Le  
Topic: Stochastic identification of the anisotropic and heterogeneous behaviour of wood by image analysis  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: L. Chevalier (50%), F. Pled (25%), C. Desceliers (25%)
- Mar. - June 2016** Student: T.S. Nguyen  
Topic: Stochastic identification of the anisotropic and heterogeneous behaviour of wood by image analysis  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: L. Chevalier (50%), F. Pled (25%), C. Desceliers (25%)
- Mar. - June 2015** Student: H.T. Nguyen  
Topic: Multiscale method with patches for the non-intrusive coupling of models  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisor: F. Pled (100%)
- Mar. - Aug. 2012** Student: K. Kergrene  
Topic: New verification tools for the control of reduced models through Proper Generalized Decomposition  
Laboratory: LMT-Cachan, ENS Cachan, France  
Advisors: L. Chamoin (50%), F. Pled (50%)

### Master students in Master's Year 1 (3)

- Apr. - May 2019** Student: N. Pauly  
Topic: Multiscale method for the propagation of localized cracks  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: F. Pled (100%)
- Apr. - May 2017** Student: P. Lacorre  
Topic: Multiscale method for the solution of hyperbolic equations with localized uncertainties  
Laboratory: GeM, Université de Nantes, France  
Advisors: M. Chevreuil (50%), F. Pled (50%)
- Apr. - May 2015** Student: Y. Yu  
Topic: Stochastic multiscale modeling of cortical bone elasticity based on high-resolution imaging  
Laboratory: MSME, Université Paris-Est Marne-la-Vallée, France  
Advisors: C. Desceliers (50%), F. Pled (50%)

## Undergraduate students (41)

**Since 2014** Adviser of 41 undergraduate students at ESIEE-Paris (formerly Ecole Supérieure d'Ingénieurs de Paris-Est - ESIPÉ) with a major in Mechanical or Civil Engineering, Université Gustave Eiffel (formerly Université Paris-Est Marne-la-Vallée), France.

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## Research Contracts and Grants (funded)

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- 2021 - 2024** Support contract funded by FCBA (the French Institute of Technology for Forest-based and Furniture Sectors) for the PhD thesis of M. Noel under the supervision of L. Chevalier and F. Pled, amount:  $3 \times 15 \text{ k€} = 45 \text{ k€}$ .
- Oct. 2019 - Mar. 2020** Collaborative research contract funded by FCBA (the French Institute of Technology for Forest-based and Furniture Sectors) for the Master thesis of M. Mikouendanandi under the supervision of L. Chevalier and F. Pled, amount: 4 k€.
- 2016 - 2018** CIFRE contract joint with FCBA (the French Institute of Technology for Forest-based and Furniture Sectors) for the PhD thesis of Z. Chen under the supervision of L. Chevalier and F. Pled, amount:  $3 \times 12 \text{ k€} = 36 \text{ k€}$ .
- 2017** Financial support of the French Association of Mechanics (Association Française de Mécanique - AFM) and the French National Committee of Mechanics (Comité National Français de Mécanique - CNFM) for the participation to an international conference (UNCECOMP 2017) as a young researcher, amount: 500 €.

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## Personal skills and competences

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- Language skills** French: native  
English: advanced, read, written and spoken, TOEIC 940 points (obtained in 2008)  
German: basic, read, written and spoken  
Latin and Ancient Greek: basic, read
- Computer skills and competences** Scientific softwares: MATLAB, Maple, Gmsh, ParaView, Cast3m, ABAQUS, RDM6, Graitec  
Advance Structure, Robot Structural Analysis, CATIA  
Programming languages: C/C++, Python, Metil  
Operating systems: Linux, Mac & Windows, associated office automation tools  
Other softwares: L<sup>A</sup>T<sub>E</sub>X, Beamer
- Mobility** Fully mobile, International car driving licence

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## Personal interests

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- Sports** Soccer (Member of the University Soccer Team), Skiing
- Leisure - Hobbies** Music (Trumpet), Board and card games, Video games, Cooking, Traveling and Experiencing different cultures