Curriculum Vitæ

Francesco Bonaldi

Personal information

Work address	Laboratoire de Modélisation Pluridisciplinaire et Simulations (LAMPS) Université de Perpignan Via Domitia 52 Avenue Paul Alduy 66860 Perpignan, France
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Research keywords

Continuum mechanics, Computational mechanics, Numerical analysis, Partial differential equations, Contact mechanics, Biomechanics, Nonlinear elasticity, Multiphysics linear and nonlinear couplings, Mechanics of fractured porous media, High-order discretizations (HHO, DG), Polytopal meshes, Finite element exterior calculus, Advanced implementation techniques.

Contents

February 26, 2026

POSITIONS

2022–now	*Maître de Conférences* **HDR** (*Habilité à Diriger des Recherches*), equivalent to Associate Professor, in Applied Mathematics, Laboratoire de Modélisation Pluridisciplinaire et Simulations, Université de Perpignan, France. *Habilitation à Diriger des Recherches* defended in 2024.
2021–2022	**Postdoctoral researcher**, Institut Montpelliérain Alexander Grothendieck, Université de Montpellier, France. Collaboration with Daniele A. Di Pietro. Polytopal exterior calculus and Discrete De Rham (DDR) complexes. Project MUSE (Montpellier Université d'Excellence).
2019–2021	**Postdoctoral researcher**, Inria Côte d'Azur & Laboratoire J.A. Dieudonné, Université Côte d'Azur, Nice, France. Collaboration with Roland Masson, Jérôme Droniou (Monash University), Konstantin Brenner, and Laurent Trenty. Numerical simulation of two-phase flow and hydro-mechanical coupling in heterogeneous fractured porous media. Research project funded by Andra.
2017–2019	**Postdoctoral researcher**, MOX, Dipartimento di Matematica, Politecnico di Milano, Italy. Collaboration with Paola F. Antonietti. Development and analysis of a high-order discontinuous Galerkin method on polygonal and polyhedral grids for elasto-acoustic wave propagation. Project PolyPDEs, funded by the Italian Ministry of Research and Education.
2016–2017	**Postdoctoral researcher**, Institut Montpelliérain Alexander Grothendieck, Université de Montpellier, France. Collaboration with Daniele A. Di Pietro. Development and implementation of a nonconforming, hybrid high-order numerical method for Kirchhoff-Love plate bending problems (project HHOMM funded by Agence Nationale de la Recherche).

Habilitation à Diriger des Recherches

On October 18, 2024, I defended my *Habilitation à Diriger des Recherches* at the University of Perpignan. The dissertation is entitled "***Modélisation, analyse et simulation de systèmes multi-physiques et non-réguliers en mécanique des milieux continus***". Committee members:

- Mikaël Barboteu (Professeur, Université de Perpignan)
- Lourenço Beirão da Veiga (Professeur, Università di Milano Bicocca)
- Dominique Chapelle (*Rapporteur*, Directeur de Recherche, Inria Saclay–Île de France)
- Daniele Di Pietro (Professeur, Université de Montpellier)
- Céline Grandmont (*Rapporteur*, Directrice de Recherche, Inria Paris)
- François Jouve (Professeur, Université Paris Cité)
- Benoît Perthame (Professeur, Sorbonne Université)
- Yves Renard (*Rapporteur*, Professeur, INSA Lyon)

EDUCATION

- 2013–2016 – **Ph.D. in Applied Mathematics**, Institut Montpelliérain Alexander Grothendieck, Université de Montpellier, France.
  - Defense date: **July 6, 2016**

- Advisor: Françoise Krasucki. Co-advisor: Marina Vidrascu
- Dissertation title: *Mathematical and numerical modeling of structures in the presence of multiphysics linear couplings*
- Funding: 50% doctoral school of the University of Montpellier, 50% ANR project *ARAMIS* («Analysis of robust asymptotic methods in numerical simulation in mechanics»)
- **Committee members**: Virginie Bonnaillie–Noël (ENS Paris, chair), Frédéric Hecht (UPMC, referee), Annie Raoult (Paris Descartes, referee), Daniele A. Di Pietro (Montpellier, examiner), Giuseppe Geymonat (Ecole Polytechnique, examiner), Grégory Vial (EC Lyon, examiner), Françoise Krasucki (Montpellier), Marina Vidrascu (Inria Paris)

- 2012 – **M.Sc. in Mathematical Engineering**, Università di Roma TorVergata, Rome (Italy). Final grade: 110 summa cum laude.
  - Advisor: Paolo Podio-Guidugli (Rome TorVergata). Co-advisor: Chandrajit Bajaj (UT Austin).
  - Disseration title: *A continuum theory for the natural vibrations of spherical virus capsids*.
- 2009 – **B.Sc. in Mathematical Engineering**, Università di Roma TorVergata, Rome (Italy). Final grade: 110 summa cum laude.
  - Advisor: Paolo Podio-Guidugli.
  - Dissertation title: *Statics of cylindrical shells in membrane regime*.

Awards and distinctions

- 2025–now – *Abilitazione Scientifica Nazionale* in **Numerical Analysis**, Italian qualification to apply for Associate Professor positions in Numerical Analysis in Italy.
- 2025–now – *Abilitazione Scientifica Nazionale* in **Structural Mechanics**, Italian qualification to apply for Associate Professor positions in Structural Mechanics in Italy.

Teaching experience

In the following, HPC stands for "High-Performance Computing".

- 2023–now – ~200 hours per year, Université de Perpignan. Instructor of the following classes:
  - *Analyse et Calcul Numérique* (L3 Maths), 62 hours
  - *Outils Mathématiques pour le Numérique* (M1 HPC), 40 hours
  - *Modélisation et Approximation* (M1 HPC), 40 hours
  - *Éléments de Mécanique des Milieux Continus* (M1 HPC), 38 hours
  - *Initiation à la Modélisation* (L3 Maths), 12 hours (only for 2023–2024)

- 2022–2023 – 160 hours, Université de Perpignan. Instructor of the following classes:
  - *Analyse et Calcul Numérique* (L3 Maths, M1 HPC), 62 hours
  - *Outils Mathématiques pour le Numérique* (M1 HPC), 40 hours
  - *Calcul Numérique* (M1 HPC), 38 hours
  - *Modélisation et Approximation* (M1 HPC), 40 hours

- 2021–2022 – 23 hours, Université de Montpellier. Exercise classes for the course *Outils Mathématiques pour les Sciences de l'Ingénieur 3* for first-year undegraduate students (L1) in Electronic and Automation Engineering, and lab sessions for the course *Algèbre Linéaire Numérique* for second-year graduate students (L2) in Mathematics

- 2019–2021 – 48 hours, Université de Nice Côte d'Azur. Tutoring classes for the course *Résolution Numérique de Systèmes d'Équations Linéaires et Non Linéaires*, Mathematics and Computer Science students, second-year undergraduate students (L2)

- 2013–2016 – 190 hours, Université de Montpellier (during my PhD program).

  ○ 2015–2016: exercise classes for the course *Calcul Différentiel et Équations Différentielles* (39 hours, L3 Mathematics); lab sessions for the course *Modélisation Mathématique en Mécanique* (24 hours, L3 Mechanics and Mechanical Engineering)

  ○ 2014–2015: exercise classes for the course *Calcul Différentiel et Équations Différentielles* (37,5 hours, L3 Mathematics); lab sessions for the course *Modélisation Mathématique en Mécanique* (24 hours, L3 Mechanics and Mechanical Engineering)

  ○ 2013–2014: exercise classes for the course *Analyse L3* (36 hours, L3 Mathematics); lab sessions for the course *Modélisation Mathématique en Mécanique* (30 hours, L3 Mathematics, Mechanics, Mechanical Engineering)

Teaching responsibilities (in French)

- 2025–présent – **Membre** du jury pour la troisième année de licence en Mathématiques, Université de Perpignan.

- 2023–présent – **Responsable** de la première année du **Master en "Calcul Haute Performance et Simulation" (CHPS)**, Université de Perpignan.

- 2022–2024 – **Responsable** de la mineure de réorientation en Mathématiques pour la formation **L1 PASS** (Parcours Accès Spécifique Santé), Université de Montpellier.

- 2023–présent – **Membre** de la commission pédagogique chargée de l'examen des dossiers des étudiants du Master CHPS, Université de Perpignan.

- 2025 – **Expert** pour l'évaluation des dossiers de candidature à un poste de Maître de Conférences en Section 26 à l'Université de Perpignan, pour les candidats dispensés de qualification.

- 2025 – **Président** du comité de sélection pour un poste d'ATER (Attaché(e) Temporaire d'Enseignement et Recherche), Section 26 (Mathématiques Appliquées), Université de Perpignan.

- 2023 – **Membre** du comité de sélection pour un poste d'ATER (Attaché(e) Temporaire d'Enseignement et Recherche), Section 26 (Mathématiques Appliquées), Université de Perpignan.

Students and postdocs supervision

- Jan 2026–now – **Thuong Nguyen**, postdoc at LAMPS. Subject: *"Méthodes de décomposition de domaine et calcul parallèle : applications aux simulations numériques en biomécanique"*. Co-advised with Mikaël Barboteu and Serge Dumont.

- Jan 2025–now – **Rawane Mansour**, PhD student at LAMPS. Dissertation title: *"Modélisation mathématique, mécanique et numérique des dispositifs de stents dans les tissus biologiques mous"*. Co-advised with Mikaël Barboteu and Serge Dumont

- Oct 2024–now – **Thach-Hoang Nguyen**, PhD student at LAMPS. Dissertation title: *"Un modèle de contact avec adhésion/décollement pour des problèmes hyperélastiques en dynamique : application au déploiement d'un stent en contact avec un milieu de tissu biologique artériel mou"*. Co-advised with Mikaël Barboteu, Serge Dumont, and Franck Jourdan (University of Montpellier).

- Feb–Jul 2024 – **Samah Jabri**, second-year Master's student, intern at LAMPS. Dissertation title: *"Superélasticité avec contact et comparaison avec l'hyperélasticité : application au déploiement d'un stent par le logiciel ANSYS"*. Co-advised with Mikaël Barboteu and Serge Dumont.

- Nov 2023–Oct 2024 – **Zhizhuo Zhang**, visiting PhD student from Nanjing Southeast University (China). His PhD dissertation is entitled *A layer decomposition method for multi-layer elastic systems with interlayer Tresca friction*. Co-advised with Mikaël Barboteu and Serge Dumont.

- Feb–Jul 2023 – **Christina Mahmoud**, second-year Master's student of the University of Montpellier, intern at LAMPS. Dissertation title: *"Une formulation mathématique et numérique de problèmes hyperélastiques pour la modélisation des tissus biologiques mous"*. Co-advised with Mikaël Barboteu and Serge Dumont.

Scientific responsibilities

- 2023–now – **Member of the Scientific Board** of the University of Perpignan.

- 2024–now – **Member of the *Conseil de Laboratoire*** of LAMPS.

- Jan 2024–Aug 2026 – **Deputy Director** of the CNRS Research Federation *OcciMath*, bringing together researchers in Mathematics from Montpellier, Nîmes, Perpignan, and Toulouse. Director: Matthieu Hillairet (IMAG, Univ. Montpellier).

- 2022–now – *Correspondant AMIES* (Agence pour les Mathématiques en Interaction avec l'Entreprise et la Société) for the University of Perpignan.

Dissemination and popularization (in French)

- 2025 – Intervention dans le cadre des *Masterclasses MINT*, dans le cadre de la Fédération OcciMath, en date du 9 avril 2025, avec un exposé intitulé *Numerical simulation of elasto-acoustic wave propagation*.

- 2025 – Intervention auprès du **Lycée "Notre-Dame de Bon Secours"**, Perpignan, dans le cadre de la table ronde pour la présentation des licences scientifiques. J'ai été référent pour la licence de mathématiques. Date de l'intervention : 31 janvier.

- 2024 – Publication d'un article sur la revue "**La semaine du Roussillon**", intitulé *Les alliages intelligents au service des dispositifs médicaux*.

- 2024 – Publication d'un article pour le 3ème numéro de la revue **"Intersections"**, revue de diffusion de l'Université de Perpignan, intitulé *Superélasticité : la mécanique au service de la biomédecine*.

- 2023 – Publication d'un article pour le 2ème numéro de la revue **"Intersections"**, revue de diffusion de l'Université de Perpignan, intitulé *Modélisation et simulation d'écoulements dans les milieux poreux fracturés déformables*.

- 2023–présent – Participation à la **"Journée Portes Ouvertes"** de l'Université de Perpignan, en tant que référent pour la Licence de Mathématiques et pour le Master CHPS (Calcul Haute Performance et Simulation).

- 2023–présent – Participation à la **"Journée d'Accueil post-bac"** de l'Université de Perpignan, référent pour la Licence de Mathématiques.

Organization activities

- 2026 – Minisymposium **"Recent advances in non-linear and non-smooth computational mechanics"**, ETAMM 2026, Lodz (Poland).

- 2025 – **51st congress of the French Society of Biomechanics**, to be held in Montpellier in October 2026.

- 2024 – **30th French-Polish Seminar of Mechanics**, May 30 and 31, University of Perpignan. French-Polish seminars of Mechanics are long-tradition conferences aiming to keep and reinforce collaborations between French and Polish researchers in Mechanics. The preceding edition took place in Gdańsk (Poland) in September 2023. As a membre of the organizing committee, along with Mircea Sofonea and Serge Dumont, I proposed and invited Roger Sauer as a plenary speaker.

- 2024 – **Journées de Lancement d'OcciMath**, April 4 and 5, University of Perpignan. This was the launch conference of the new Occitan mathematical research federation, bringing together teams and laboratories from Montpellier, Nîmes, Perpignan, and Toulouse.

- 2023 – **Journées d'Occitanie en Mathématiques Appliquées (JOMA)**, June 8 and 9, University of Perpignan. This was the pre-launch conference of the OcciMath federation.

- 2022 – Minisymposium **"Advances in structure-preserving methods and applications"**, ECCOMAS 2022, Oslo (Norway).

Referee activity

I was appointed as a referee for the following journals:

- *Computer Methods in Applied Mechanics and Engineering*
- *Mathematics of Computation*
- *Journal of Computational Physics*
- *ESAIM: Mathematical Modelling and Numerical Analysis*
- *International Journal for Numerical Methods in Engineering*
- *SIAM Journal on Scientific Computing*
- *Mathematical Methods in the Applied Sciences*
- *Communications in Nonlinear Science and Numerical Simulation*
- *Numerical Algorithms*
- *Calcolo*
- *Bollettino dell'Unione Matematica Italiana*
- *Nonlinear Analysis: Real World Applications*
- *Journal of Elasticity*
- *Applied Numerical Mathematics*
- *Applied Mathematics and Computation*
- *Mathematics in Engineering*
- *Mathematics and Mechanics of Solids*
- *Advances in Computational Mathematics*

Research interests

From a general viewpoint, I am interested in

- Numerical and theoretical aspects of PDEs
- Multiphysics problems
- Applications in Continuum (Solid or Fluid) Mechanics

Current and recent research topics include:

- Non-linear and non-smooth computational mechanics: large deformations, contact, plasticity, adhesion
- Polytopal exterior calculus and discrete De Rham complexes
- Poroelasticity with fractures in the presence of multi-phase flows
- Gradient Discretization Method
- Discretization methods on polytopal grids (Discontinuous Galerkin, Hybrid High-Order)

Research grants

- Jan 2025–Jan 2029 – **MaNStarT** : "**Mathematical, Mechanical, and Numerical Modeling of Stents in Arterial Tissues**", four-year project funded by *Agence Nationale de la Recherche*. Funding: $244\,300 \, €$. The grant funds a three-year doctorate and a 18-month postdoctoral fellowship. The goal of the project is to develop a "digital twin" of the "stent-artery" system based on a mechanical model that takes into account several nonlinearities (large deformations, contact, friction, adhesion/decohesion, plasticity), approximated using energy-consistent numerical methods.

Participation to research projects

- 2024–now – **MAPHAS** : "*Un modèle de contact avec adhésion/décollement pour des problèmes hyperélastiques en dynamique : application au déploiement d'un stent en contact avec un milieu de tissu biologique artériel mou*". PI: Mikaël Barboteu. Project funded by the Occitania Region.

- 2023–2024 – **CONMECH** : "Nonsmooth Contact Dynamics". Project funded by the European Union, to which the University of Perpignan contributes together with Jagiellonian University (Poland), Universitatea din Craiova (Romania), and Universidade da Coruna (Spain).

- 2018 – *Metodi numerici avanzati per lo studio di problemi differenziali multifisica/multiscala alle derivate parziali* (Advanced numerical methods for multiphysics/multiscale partial differential problems), GNCS (National Group of Scientific Computing), INdAM, PI: Ilario Mazzieri. Funding: 4 k€.

Publications

Refereed journal papers

15. M. Barboteu, F. Bonaldi, S. Dumont, and R. Mansour. An energy-consistent model of persistent adhesive contact for hyperelastic materials: Theory, discretization, and applications. *Commun. Nonlinear Sci. Numer. Simul.* 155, 2026. DOI: 10.1016/j.cnsns.2025.109604.

14. F. Bonaldi, D. A. Di Pietro, J. Droniou, and K. Hu. An exterior calculus framework for polytopal methods. *J. Eur. Math. Soc.*, 2025. DOI: 10.4171/JEMS/1602. Preprint hal-04037653, arXiv:2303.11093.

13. M. Barboteu, F. Bonaldi, S. Dumont, and C. Mahmoud. An energy-consistent discretization of hyper-viscoelastic contact models for soft tissues. *Comput. Methods Appl. Mech. Engrg.* 421, 2024. DOI: 10.1016/j.cma.2024.116785.

12. F. Bonaldi, J. Droniou, and R. Masson. Numerical analysis of a mixed-dimensional poromechanical model with frictionless contact at matrix–fracture interfaces. *Math. Comp.* 93, 2024. DOI: 10.1090/mcom/3949.

11. M. Barboteu, F. Bonaldi, D. Danan, and S. El-Hadri. An improved normal compliance method for dynamic hyperelastic problems with energy conservation property. *Commun. Nonlinear Sci. Numer. Simul.*, 2023. DOI: 10.1016/j.cnsns.2023.107296.

10. F. Bonaldi, J. Droniou, R. Masson, and A. Pasteau. Energy-stable discretization of two-phase flows in deformable porous media with frictional contact at matrix–fracture interfaces. *J. Comput. Phys.*, page 110984, 2022. DOI: 10.1016/j.jcp.2022.110984.

9. F. Bonaldi, K. Brenner, J. Droniou, R. Masson, A. Pasteau, and L. Trenty. Gradient discretization of two-phase poro-mechanical models with discontinuous pressures at matrix fracture interfaces. *ESAIM Math. Model. Numer. Anal.*, 55:1741–1777, 2021. Preprint hal-02997396v2, arXiv:2011.05576. DOI: 10.1051/m2an/2021036

8. F. Bonaldi, K. Brenner, J. Droniou, and R. Masson. Gradient discretization of two-phase flows coupled with mechanical deformation in fractured porous media. *Comput. Math. with Appl.*, 98:40–68, 2021. Preprint hal-02454360, arXiv:2004.09860.

7. P.F. Antonietti, F. Bonaldi, and I. Mazzieri. Simulation of 3D elasto-acoustic wave propagation based on a Discontinuous Galerkin Spectral Element method. *Internat. J. Numer. Methods Engrg.*, 2020. DOI: 10.1002/nme.6305.

6. P.F. Antonietti, F. Bonaldi, and I. Mazzieri. A high-order discontinuous Galerkin approach to the elasto-acoustic problem. *Comput. Methods Appl. Mech. Engrg.* 358, 2020. DOI: 10.1016/j.cma.2019.112634.

5. F. Bonaldi, D.A. Di Pietro, G. Geymonat, and F. Krasucki. A Hybrid High-Order method for Kirchhoff–Love plate bending problems. *ESAIM Math. Model. Numer. Anal.*, 52:393–421, 2018. Preprint arXiv:1706.06781.

4. F. Bonaldi, G. Geymonat, F. Krasucki, and M. Vidrascu. Mathematical and numerical modeling of plate dynamics with rotational inertia. ***J. Numer. Math.***, 26:21–33, 2017.

3. F. Bonaldi, G. Geymonat, F. Krasucki, and M. Serpilli. An asymptotic plate model for magneto-electro-thermo-elastic sensors and actuators. ***Math. Mech. Solids***, 22:798–822, 2017.

2. F. Bonaldi, G. Geymonat, and F. Krasucki. Modeling of smart materials with thermal effects: dynamic and quasi-static evolution. ***Math. Models Methods Appl. Sci.***, 25:2633–2667, 2015.

1. F. Bonaldi and M. Frémond. Collision, damage, smooth evolution of an articulation. The "tennis elbow". ***Meccanica***, 48:1117–1126, 2013.

Book chapters

1. <u>F. Bonaldi</u>, K. Brenner, J. Droniou, and R. Masson. The gradient discretisation method for two-phase discrete fracture matrix models in deformable porous media. In Robert Klöfkorn, Eirik Keilegavlen, Florin A. Radu, and Jürgen Fuhrmann, editors, ***Finite Volumes for Complex Applications IX - Methods, Theoretical Aspects, Examples***, pages 295–303, Cham, 2020. Springer International Publishing.

Conference proceedings

2. F. Bonaldi, K. Brenner, J. Droniou, R. Masson. Two-Phase Darcy Flows in Fractured and Deformable Porous Media, Convergence Analysis and Iterative Coupling. ***Conference Proceedings, ECMOR XVII, Volume 2020***, 1–20, DOI: 10.3997/2214-4609.202035013.

1. F. Bonaldi, G. Geymonat, F. Krasucki, and M. Serpilli. Temperature influence on smart structures: a first approach. In A. Huerta, E. Onate, and X. Oliver, editors, ***11th World Congress on Computational Mechanics, WCCM 2014***, 3357–3368. International Center for Numerical Methods in Engineering, 2014.

TALKS AND CONFERENCES

- Journées annuelles de la Fédération OcciMath (**plenary speaker**), Montpellier (France), May 2026.

- Numerical Analysis Seminar, Dipartimento di Matematica "Guido Castelnuovo", University of Rome La Sapienza, Rome (Italy), March 2026.

- A French-Italian Workshop on Nonlinear Analysis: Theory, Methods and Applications, Messina (Italy), March 2026

- Séminaire de Modélisation et Calcul Scientifique, Laboratoire LAGA, Université Sorbonne Paris Nord, Paris (France), February 2026.

- A two-day seminar on Nonsmooth Analysis and its Applications, Palermo (Italy), October 2025.

- A French-Italian Day on Nonsmooth Analysis and Applications, Messina (Italy), October 2025.

- CIMNE Seminar, Barcelona (Spain), October 2025.

- COMPLAS (International Conference on Computational Plasticity), Barcelona (Spain), September 2025.

- DD29 (29th International Conference on Domain Decomposition Methods), Milan (Italy), June 2025.

- M2P (Math2Product), Valencia (Spain), June 2025.

- 31th French-Polish Seminar of Mechanics, Czestochowa (Poland), May 2025.

- Workshop LAMPS–IHPE, Perpignan (France), April 2025.

- International conference on applied mathematics and numerical methods, Craiova (Romania), October 2024.

- World Congress on Computational Mechanics, Vancouver (Canada), July 2024.

- 30th French-Polish Seminar of Mechanics (**plenary speaker**), Perpignan (France), May 2024.

- ETAMM 2024 (Emerging Trends in Applied Mathematics and Mechanics), La Coruña (Spain), May 2024.

- SISSA mathLab Seminar, Trieste (Italy), November 2023.
- 29th French-Polish Seminar of Mechanics, Gdansk (Poland), September 2023.
- ENUMATH 2023, Lisbon (Portugal), September 2023.
- Nonsmooth Problems with Applications in Mechanics, Bedlewo (Poland), June 2023.
- JOMA (Journées d'Occitanie en Mathématiques Appliquées), Perpignan (France), June 2023.
- CFC (Computational Fluids Conference), Cannes (France), April 2023.
- ECCOMAS 2022, Oslo (Norway), June 2022.
- FRAME2020+2 (Fractured media: numerical methods for fluid flow and mechanics), Politecnico di Torino, May 2022.
- Séminaire de l'équipe Inria M3DISIM, Inria Saclay, December 2021.
- Séminaire du LAMPS, Université de Perpignan Via Domitia, December 2021.
- Séminaire ACSIOM, IMAG, Université de Montpellier, October 2021.
- Mathias Days 2021, Minisymposium "Reservoir simulation", October 2021.
- SIMAI 2020+1, Minisymposium "Advances in polygonal and polyhedral methods", August 2021.
- SIAM GS 2021, Minisymposium "Mathematical and numerical methods for coupled interface-driven mixed-dimensional problems", June 2021.
- Interpore 2021, Minisymposium "Flow, transport and mechanics in fractured porous media", June 2021.
- Séminaire EDP & Analyse Numérique, LJAD, Université Côte d'Azur, February 2021.
- Séminaire Mécanique des Solides, Institut Jean Le Rond ∂'Alembert, February 2021.
- Algoritmy 2020, online conference, September 2020.
- Finite Volumes for Complex Applications IX, online conference, June 2020.
- Séminaire EDP & Analyse Numérique, LJAD, Université Côte d'Azur, December 2019.
- 5th ECCOMAS Young Investigators Conference, Krakow, September 2019.
- MAFELAP 2019 Conference, June 2019.
- Séminaire de Mécanique, Laboratoire de Mathématiques Nicolas Oresme, Université de Caen, March 2019.
- Séminaire d'Analyse Numérique et Calcul Scientifique, Laboratoire de Mathématiques de Besançon, March 2019.
- Seminar at DISMA (Excellence Project), Politecnico di Torino, March 2019.
- Séminaire Mécanique des Fluides, Institut Jean Le Rond d'Alembert, Sorbonne Université, February 2019.
- Séminaire Equations aux dérivées partielles, IRMA de Strasbourg, January 2019.
- SIMAI Conference, Rome (Italy), July 2018.
- CANUM 2018, Cap d'Agde (France), May 2018.
- Journées Jeunes EDPistes 2018, Nancy, March 2018.
- MOX NuMeth Seminar, Politecnico di Milano, November 2017.
- Séminaire de Mathématiques Appliquées, Laboratoire de Mathématiques Jean Leray, Université de Nantes (France), October 2017.
- POEMS 2017 Workshop, Milan (Italy), July 2017.
- ARAMIS Workshop, Pau (France), June 2017.
- Journées FreeFEM++, Paris (France), December 2015.
- Journées ARAMIS, Compiègne (France), September 2014.
- World Congress on Computational Mechanics, Barcelona (Spain), July 2014.

- Ph.D. students seminar, Montpellier (France), April 2014.
- Computational Visualization Center seminars, UT Austin (United States), March 2012.
- Computational Visualization Center seminars, UT Austin (United States), January 2012.

Research visits

- 2025 – Laboratori de Càlcul Numèric (LaCàN), Universitat Politècnica de Catalunya, Barcelona (Spain), invited by Miquel Aguirre Font, Oct 9–10.
- 2023 – Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy), invited by Andrea Cangiani, Nov 15–17.
- 2019 – Laboratoire J.A. Dieudonné, Université Côte d'Azur, Nice, invited by Roland Masson, June 13–14.
- 2016 – Erwin Schrödinger International Institute for Mathematics and Physics (ESI), Vienna (Austria), thematic program *Nonlinear Flows*, invited by Ulisse Stefanelli, May 31–June 8 and July 10–July 15.
- 2014 – Laboratoire de Mathématiques et de leurs Applications, Université de Pau et des Pays de l'Adour, Pau (France), invited by Marc Dambrine and Victor Péron, June 1–June 8.
- 2012 – Institute for Computational Engineering and Sciences, The University of Texas at Austin, Austin, TX (United States), invited by Chandrajit Bajaj, Jan–Mar (three months).

Other experiences

- 2019 – ENUMATH Conference (participation as an attendee), Egmond Aan Zee (Netherlands), Sep. 30–Oct. 4.
- 2016 – Workshop: Industry and mathematics (participation as an attendee), Institut Henri Poincaré, Paris, Nov. 21–23.
- 2015 – CEA-EDF-Inria summer school *New Trends in Compatible Discretizations* (participation as an attendee), Inria Paris–Rocquencourt, Rocquencourt (France), June 29–July 2.
- 2014 – Semaine d'Étude Maths-Entreprises, Centre International de Rencontres Mathématiques, Marseille (France), Apr. 14–18. Exchanges between industrial and academic environments through a week of work on problems posed by industrialists and requiring innovative mathematical and computational approaches.

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