Curriculum vitae: Elena Gaburro

Office Address	University of Verona, Department of Computer Science Strada le Grazie 15 (Ca Vignal 2), 37134, Verona, Italy
Tel.	+39 338 3349389
ORCID	0000-0003-0743-6926
Mail	elena.gaburro@univr.it
Web page	https://www.elenagaburro.it
Nationality	Italian
Date of birth	18/06/1990
Codice Fiscale	GBRLNE90H58C312G

Actual position

From 04/2024	**Associate Professor**, **University of Verona, Italy**
2024-2029	**Principal investigator of the ERC Starting Grant: ALcHyMiA**
Collaborators	Italy: Prof. M. Dumbser, Prof. I. Peshkov, Dr. O. Zanotti (Trento), Prof. W. Boscheri (Ferrara-Chambery), Dr. M. Bonafini (Verona) & Dr. D. Torlo (SISSA) Germany: Prof. C. Klingenberg (Würzburg), Prof. V. Springel & Dr. F. Fambri (Munich), Dr. S. Chiocchetti (Stuttgart), F. Thein (Magdeburg), P. Öffner (Mainz) Spain: Prof. M. Castro & Prof. C. Parés (Málaga), Dr. S. Busto (Vigo) France: M. Ricchiuto & R. Loubère (Bordeaux), B. Després & S. Del Pino (Paris)

Keywords - Scientific interests

- Numerical analysis, nonlinear hyperbolic partial differential equations, scientific computing.
- Arbitrary high order in space and time: ADER Finite Volume & Discontinous Galerkin methods.
- Moving nonconforming unstructured meshes, direct Arbitrary-Lagrangian-Eulerian (ALE), sliding lines, topology changing Voronoi meshes, Well Balancing & Structure Preserving schemes.
- Shallow water, Euler, Baer-Nunziato, Multiphase, Magnetohydrodynamics, General Relativity.
- Fortran MPI, OpenMP and GPU-CUDA parallel computing.

Education

11/2014– 10/2017	**PhD in Mathematics**, University of Trento and Verona, Italy
Thesis 19/06/2018	Well balanced Arbitrary-Lagrangian-Eulerian Finite Volume schemes on moving nonconforming meshes for non-conservative hyperbolic systems.
Supervisor Members of the committee	Prof. Ing. Michael Dumbser, University of Trento, Italy Prof. Christian Klingenberg, University of Würzburg, Germany Prof. Manuel J. Castro, University of Málaga, Spain Prof. Bruno Després, LJLL, UPMC, Paris, France
Final mark	**Doctor Europaeus cum Laude**

09/2012– 10/2014	**Master's Degree in Mathematics**, University of Verona, Department of Computer Science, Italy
Thesis	Domain decomposition methods and high order edge finite elements in applied computational electromagnetism.
Supervisors	Dr. Marco Caliari, University of Verona, Italy Prof. Victorita Dolean, University of Strathclyde - Glasgow, United Kingdom Prof. Francesca Rapetti, Université de Nice - Sophia Antipolis, France
Final mark	110/110 cum Laude

08/09/2009– 23/07/2012	**Bachelor's degree in Applied Mathematics**, University of Verona, Department of Computer Science, Italy
Thesis	Minimal surfaces: main properties and representation formulas.
Supervisor	Prof. Sisto Baldo, University of Verona, Italy
Final mark	110/110 cum Laude

09/2004– 07/2009	**High School Diploma 'Liceo Scientifico PNI'**, Istituto F. Gonzaga, Castiglione delle Stiviere Mantova, Italy
Thesis	Il principio di indeterminazione.
Final mark	100/100 cum Laude
Award	Premio Confindustria al merito

Professional experience in Italy

12/2017– 11/2020	**Postdoctoral researcher in Numerical Analysis**, University of Trento, Italy (Under the ERC-StG STiMulUs no. 278267)
Project	High order Arbitrary Lagrangian-Eulerian (ALE) and Well Balanced (WB) schemes for the numerical simulations of complex nonlinear hyperbolic equations.
Supervisor	Prof.-Ing. Dr. Michael Dumbser

Professional experience abroad

12/2020–04/2024	**Researcher with a permanent faculty position (ISFP)** &
06/2021–05/2023	**Principal investigator of the MSCA-IF SuPerMan project** (EU Horizon 2020), Inria center at the University of Bordeaux, France
Project	Structure Preserving schemes for Conservation Laws on dynamic Space Time Manifolds.
Notes	Staff recruited and supervised: M.G. Carlino (postdoc).

01/2020	**Invited Researcher**, University of Würzburg, Germany
Project	New Agglomerated Finite Elements basis on Voronoi meshes.
Collaborators	C. Klingenberg, V. Springel, M. Dumbser, W. Boscheri, R. Pakmor, S. Chiocchetti.

10/2019– 11/2019	**Invited Researcher**, University of Málaga, Spain
Project	Well balancing for hyperbolic equations in covariant form
Collaborators	M.J. Castro, C. Parés.

04–05/2018 & 01/2019	**Invited Researcher**, University of Würzburg, Germany
Project	Discontinuous Galerkin methods for a moving mesh code.
Collaborators	C. Klingenberg, V. Springel, M. Dumbser, W. Boscheri, R. Pakmor, S. Chiocchetti.

06/2017– 11/2017	**Marie Curie MSCA ITN-ESR Fellowship**, University of Málaga, Spain
Note	PhD contract was frozen during the MSCA
Project	Application of modern well balanced techniques to nonconservative hyperbolic PDEs for geophysical flow. (Under the project ModCompShock, Horizon 2020, n.642768).
Supervisors	M. Castro, C. Parés

01/2017– 04/2017	**Invited Researcher**, Laboratoire LJLL, UPMC, Paris, France
Project Collaborators	Angular momentum preserving schemes. B. Després, S. Del Pino
04/2016– 05/2016	**Invited Researcher**, University of Malaga, Spain
Project Supervisors	High order well balanced ALE schemes for hyperbolic PDEs on nonconforming meshes. M. Castro, C. Parés
04/2014– 07/2014	**Internship**, Laboratoire J.A Dieudonné, Université de Nice - Sophia Antipolis, Nice, France University of Strathclyde - Glasgow, United Kingdom
Project Supervisors	Developments in Matlab and FreeFem++ of high-order approximation methods for time-harmonic Maxwell's equations. Edge elements and domain decomposition strategies. V. Dolean, F. Rapetti
08/2013– 01/2014	**Erasmus: master 2 in Mathematics for Modelling**, UPMC, Paris VI and CMAP - École Polythecnique, Paris, France
Speciality Courses with	Numerical Analysis for Partial Differential Equations. F. Hecht, F. Coquel, F. Lagoutière, F.-X. Roux, Y. Maday

Teaching

Invited lecturer in master & PhD courses abroad (37h):

10/2023	University of Verona, Italy (12 hours)
01/2020	University of Würzburg, Germany (15 hours)
10/2019	University of Malaga, Spain (10 hours)

PhD: 54h **Master**: 90h **Bachelor**: 185h **Tutoring**: 150h **Lyceum**: 100h

AA 2024-2025 Verona	**Professor of *Data fitting and reconstruction*** (6 CFU) Master's degree in Mathematics (course holder, theory and laboratory, 52 hours)
AA 2024-2025 Verona	**Professor of *Programming languages for scientific computing*** (2 CFU) Bachelor's degree in Applied Mathematics (course holder, theory and laboratory, 16 hours)
AA 2024-2025 Verona	**Professor of *Calcolo Numerico 2*** (6 CFU) Bachelor's degree in Applied Mathematics (course holder, theory and laboratory, 52 hours)
AA 2023-2024 Verona	**Professor of *Numerical methods for mathematical finance*** (6 CFU) Master's degree in Applied Mathematics (course holder, seminar course)
02/2023 Bordeaux	**Professor of advanced numerical methods for the sol. of hyperbolic equations** Ecole Doctorale de Mathématiques et Informatique (EDMI) (PhD, 12 hours)
02/2022 Bordeaux	**Professor of solution of hyp. equations & elements of parallel programming** Ecole Doctorale de Mathématiques et Informatique (EDMI) (PhD, 12 hours)
03/2021 Bordeaux	**Professor of advanced numerical methods for the sol. of hyperbolic equations** Ecole Doctorale de Mathématiques et Informatique (EDMI) (PhD, 12 hours)
02/2020 Trento	**Professor for the Winter School** NUMHYP 2020 (PhD and PostDoc level) Short Course on Advanced Numerical Methods for Hyperbolic Equations (18 hours)
09/2018 12/2018	**Adjoint Professor of Numerical Methods for the Environment**, University of Trento, Engineering Dep., Italy (Master, 30 hours)

10/2014– 05/2017	**Adjoint Professor of Calcolo Numerico con Laboratorio**, Department of Computer Science, University of Verona, Italy (Bachelor, 3 years, 117 hours)
10/2014– 05/2017	**Tutor of Numerical Analysis**, Faculty of Mathematics, University of Verona, Italy (3 years, 150 hours)
11/2011– 03/2012	**Internship as educator**, AC Chievo Verona, Verona, Italy (25 hours)
06/2008– 07/2008	**Tutor activity,** Istituto Statale d'Istruzione Superiore F. Gonzaga, Castiglione d\S, Italy (75 hours)

Remark: The **low teaching activity in the period 2021-2023** is due to the **incompatibility between teaching** at the University of Bordeaux and my **Marie-Curie Individual Fellowship** European Grant (with Inria as assignee institution). Indeed, for the duration of the grant, I cannot receive any payment from entities different from Inria, and instead the teaching activities must be carried out at the University of Bordeaux. I managed to get a derogation only to be able to teach in a doctoral course per year.

Research funds obtained as PI

2023-2029 Project	**ERC Starting Grant**: ALcHyMiA, Europe (**1.500.000€**) ALcHyMiA: *Advanced structure preserving Lagrangian schemes for novel first order hyperbolic models: towards general relativistic astrophysics*
2023 Project	**ANR** Individual Project **JCJC**: ImPrEVu, France (**240.600€**) ImPrEVu: *Innovative Structure Preserving schemes on moving Voronoi meshes for the solution of Hyperbolic Equations*
2021	Marie Sklodowska-Curie Actions, MSCA-IF: SuPerMan, Europe (**184.700€**)
2020	Deutsche Forschungsgemeinschaft Fellowship, Germany (**294.500€**, frozen)
2019	UniTN Starting Grant 2019, Italy (**14.000€**)
2018	Award 'Giovani ricercatori' GNCS, INDAM, Italy (**1.200€**)

Career & Awards

09/2022	**National Scientific Habilitation** for Associate Professor, sector MATH-05/A, Italy
02/2019	**French Qualification** for the function of University Teacher and Researcher, France
04/2024	**Direct call** as **Associate Professor**, University of Verona, Italy
12/2021	**Rank 2**, RTD-B, Politecnico di Milano, Italy
07/2020	**Winner**, permanent researcher position, INRIA Bordeaux (France)
06/2020	**Rank 1** (**winner**), Maître de conférence, Université de Compiègne (UTC) (France)
07/2024	**Peter Lax Award** attributed by the Scientific Committee of the HYP Intern. Conference
03/2022	Finalist of the **ERCIM Cor Baayen Young Researcher Award**, ***European Award*** *for promising young researcher in applied mathematics*
02/2020	**Seal of Excellence**: MSCA-IF High Quality Project, awarded by European Commission
03/2019	Finalist of the **ECCOMAS PhD Award 2018**, ***Best PhD thesis*** *on comp. methods in applied sciences and engineering* ***in Europe***
03/2019	**GIMC-AIMETA 2018 Award** ***Best PhD thesis*** *in Computational Fluid Mechanics* ***in Italy***
03/2019	**Seal of Excellence**: MSCA-IF High Quality Project, awarded by European Commission
07/2009	**Award** 'Confindustria al merito', Italy (**700€**)

Organization of scientific meetings

- **Chair** of the **organizing committee** of HONOM 2024, 8–13 September 2024, Crete, Greece. Participants: **83**. Conference budget: **50.000€**.
- **Co-chair** of the **organizing committee** of the **international conference** MultiMat 2022, 10^{th} Int. Conf. on Numerical Methods for Multi-Material Fluid Flow, 22–26 August 2022, Zurich, Switzerland. Participants: **110**. Conference budget: **60.000€**.
- **Member of the organizing committee for the regional workshop** Journées Calcul & Simulation en Nouvelle-Aquitaine, 6–7 December 2021, Arcachon, France, with **45 participants**. Conference budget: **10.000€**.
- **Organization** and **teaching** (**18 hours** on 36) for the **Winter School** NUMHYP 2020, Short Course on Advanced Numerical Methods for Hyperbolic Equations, level **PhD** et **PostDoc**, 10-14 February 2020, Trento, Italy, with **35 participants**. Inscription fee collected: **10.000€**.
- **Member of the organizing committee for the international conference** MultiMat 2019, 9^{th} Int. Conf. on Numerical Methods for Multi-Material Fluid Flow, 9–13 September 2019, Trento, Italy, with **110 participants**. Conference budget: **60.000€**.

Member of Scientific Committees

- CEDYA 2024: it includes the 18^{th} Spanish congress of differential equations and applications & the 17^{th} Spanish congress of Applied Mathematics, 24–28 June 2024, Bilbao, Spain.
- MultiMat 2024: 11^{th} International Conference on Numerical Methods for Multi-Material Fluid Flow, 26–30 August 2024, Colorado, USA.
- MultiMat 2022: 10^{th} International Conference on Numerical Methods for Multi-Material Fluid Flow, 22–26 August 2022, Zurich, Switzerland.

Editorial work & Commision of trust

2023-2025	**Guest Editor** for the HONOM 2024 Special Issue on *Computer & Fluids*, Elsevier journal
From 2022	**Associate Editor** for *Applied Mathematics and Computation*, Elsevier journal
2019-2021	**Guest Editor** for MultiMat 2022 Special Issue on *Computer & Fluids*, Elsevier journal
From 2021	**Reviewer** for the French Research Agency (ANR)
From 2020	**Reviewer** for the Israel Science foundation (ISF)
From 2018	**Reviewer** for a total of **9** international peer-reviewed ISI journals: *Journal of Computational Physics*, *Computer and Fluids*, *Journal of Scientific Computing*, *International Journal for Numerical Methods in Fluids*, *Applied Mathematics and Computation*, *Journal of Computational and Applied Mathematics*, *SIAM Journal on Scientific Computing*, *Communications on Applied Mathematics and Computation*, *Numerical Mathematics* (**2-3 reviews per month**)

Institutional responsibilities

2024	**Member** of the **PhD selection commission**, Dept. of Computer Science, Verona, Italy
2024	**Member** of the **PhD committee** of C. Brutto (Trento, Italy)
2021-2022	**Member** of the **PhD committee** of E. Pigmentel & E. Guerrero (Malaga, Spain), and A. Haidar (Montpellier, France)
2020	**Co-organizer** of the **blended teaching activities** at the University of Trento, Italy

Publications

All preprints are freely available in the international preprint server **arXiv** and on my **web page**: http://www.elenagaburro.it/publications.html

Peer reviewed international journals (19)

1. **E. Gaburro**, W. Boscheri, S. Chiocchetti, M. Ricchiuto. Discontinuous Galerkin schemes for hyperbolic systems in non-conservative variables: quasi-conservative formulation with subcell finite volume corrections, *Computer Methods in Applied Mechanics and Engineering*, 431, 117311, 2024.
   Preprint: link. DOI: 10.1016/j.cma.2024.117311.

2. M. Ciallella, S. Clain, **E. Gaburro**, M. Ricchiuto. Very high order treatment of embedded curved boundaries in compressible flows: ADER discontinuous Galerkin with a space-time Reconstruction for Off-site data, *Computers and Mathematics with Applications*, 175, pp. 1-118, 2024.
   Preprint: link. DOI: 10.1016/j.camwa.2024.08.028.

3. M. Dumbser, O. Zanotti, **E. Gaburro**, I. Peshkov. A well-balanced Discontinuous Galerkin method for the first order Z4 formulation of the Einstein-Euler system, *Journal of Computational Physics*, 504, 112875, 2024.
   Preprint: link. DOI: 10.1016/j.jcp.2024.112875

4. **E. Gaburro**, P. Öffner, M. Ricchiuto, D. Torlo. High order entropy preserving ADER scheme, *Applied Mathematics and Computation*, 440, 12644, 2023.
   Preprint: link. DOI: 10.1016/j.amc.2022.127644

5. M.G. Carlino, **E. Gaburro**. Well balanced finite volume schemes for shallow water equations on manifolds, *Applied Mathematics and Computation*, 441, 127676, 2023.
   Preprint: link. DOI: 10.1016/j.amc.2022.127676

6. M. Ciallella, **E. Gaburro**, M. Lorini, M. Ricchiuto. High-order shifted boundary polynomial corrections for compressible flows: high order on curved domains using linear meshes, *Applied Mathematics and Computation*, vol. 441, 127698, 2023.
   Preprint. DOI: 10.1016/j.amc.2022.127698.

7. W. Boscheri, M. Dumbser, **E. Gaburro**. Continuous Finite Element Subgrid Basis Functions for Discontinuous Galerkin Schemes on Unstructured Polygonal Voronoi Meshes, Communications in Computational Physics, 32, 259–298, (2022).
   Preprint. DOI: 10.4208/cicp.OA-2021-0235.

8. **E. Gaburro**, M.J. Castro, M. Dumbser. A well balanced finite volume scheme for general relativity, SIAM Journal on Scientific Computing (SISC), 43(6), B1226–B1251, (2021).
   Preprint. DOI: 10.1137/21M1399154.

9. **E. Gaburro**, M. Dumbser. *A posteriori* subcell finite volume limiter for general $P_N P_M$ schemes: applications from gasdynamics to relativistic magnetohydrodynamics, Journal of Scientific Computing, vol. 86, 37 (2021).
   Preprint. DOI: 10.1007/s10915-020-01405-8.

10. S. Busto, M. Dumbser, **E. Gaburro**. A Simple but Efficient Concept of Blended Teaching of Mathematics for Engineering Students during the COVID-19 Pandemic, Education Sciences, vol. 11(2), 56 (2021).
    Preprint. DOI: 10.3390/educsci11020056.

11. **E. Gaburro**. A unified framework for the solution of hyperbolic PDE systems using high order direct Arbitrary-Lagrangian-Eulerian schemes on moving unstructured meshes with topology change, Archives of Computational Methods in Engineering, vol. 28, 1249–1321 (2021).
    Preprint. DOI: 10.1007/s11831-020-09411-7.

12. F. Kemm, **E. Gaburro**, F. Thein, M. Dumbser. A simple diffuse interphase approach for compressible flows around moving solids of arbitrary shape based on a reduced Baer-Nunziato model, Computer & Fluids, vol. 204, 104536, 2020.
Preprint. DOI: j.compfluid.2020.104536.

13. **E. Gaburro**, W. Boscheri, M. Dumbser, C. Klingenberg, V. Springel. High order direct Arbitrary-Lagrangian-Eulerian schemes on moving Voronoi meshes with topology changes, Journal of Computational Physics, vol. 407, 2020.
Preprint. DOI: 10.1016/j.jcp.2019.109167.

14. S. Busto, S. Chiocchetti, M. Dumbser, **E. Gaburro**, I. Peshkov. High order ADER schemes for continuum mechanics, Frontiers in Physics, vol. 8, 2020.
Preprint. DOI: 10.3389/fphy.2020.00032.

15. M. Dumbser, F. Fambri, **E. Gaburro**, A. Reinarz. On GLM curl cleaning for a first order reduction of the CCZ4 formulation of the Einstein field equations, Journal of Computational Physics, vol. 404, 2020.
Preprint. DOI: 10.1016/j.jcp.2019.109088.

16. **E. Gaburro**, M.J. Castro, M. Dumbser. A well balanced diffuse interface method for complex nonhydrostatic free surface flows. Computers & Fluids, vol. 175, p. 180-198, 2018.
Preprint. DOI: 10.1016/j.compfluid.2018.08.013.

17. **E. Gaburro**, M. Dumbser, M.J. Castro. Reprint of: Direct Arbitrary-Lagrangian-Eulerian finite volume schemes on moving nonconforming unstructured meshes. Computers & Fluids, vol. 169, p. 263-284, 2018.
Preprint. DOI : 10.1016/j.compfluid.2018.03.051.

18. **E. Gaburro**, M.J. Castro, M. Dumbser. Well balanced Arbitrary-Lagrangian-Eulerian finite volume schemes on moving nonconforming meshes for the Euler equations of gasdynamics with gravity, Monthly Notices of the Royal Astronomical Society, vol. 477(2), p. 2251-2275, 2018.
Preprint. DOI: 10.1093/mnras/sty542.

19. **E. Gaburro**, M. Dumbser, M.J. Castro. Direct Arbitrary-Lagrangian-Eulerian finite volume schemes on moving nonconforming unstructured meshes. Computers & Fluids, vol. 159, p. 254-275, 2017.
Preprint. DOI: 10.1016/j.compfluid.2017.09.022.

Book chapter (1)

20. **E. Gaburro**, S. Chiocchetti.
High-order Arbitrary-Lagrangian-Eulerian schemes on crazy moving Voronoi meshes, *Numerical aspects of hyperbolic balance laws and related problems*, Sema Simai, Springer, vol. 32, 2023.
Preprint. DOI: 10.1007/978-3-031-29875-2_5

Conference paper with peer review (2)

21. M.G. Carlino, **E. Gaburro**.
Second order finite volume scheme for shallow water equations on manifolds. *Accepted for publication on American Institute of Physics (AIP) Conference Proceedings, 2024*.
Preprint. DOI: 10.1063/5.0210596.

22. M. Bonazzoli, V. Dolean, **E. Gaburro**, F.Rapetti, High order edge finite elements approximations for the time-harmonic Maxwell's equations, 2014 IEEE Conference on Antenna Measurements and Applications (CAMA), p. 1-4, 2014.
Preprint. DOI: 10.1109/CAMA.2014.7003328.

Submitted (1)

23. **E. Gaburro**.
High order Well-Balanced Arbitrary-Lagrangian-Eulerian ADER discontinuous Galerkin schemes on general polygonal moving meshes, submitted to *Computer and Fluids*, 2024.
Preprint.

In preparation (3)

24. **E. Gaburro**, S. Chiocchetti.
High order Direct Arbitrary-Lagrangian-Eulerian ADER Discontinuous Galerkin schemes on Voronoi grids with deferred mesh optimization, expected submission in Summer 2025.

25. **E. Gaburro**, M. Ricchiuto, M. Dumbser.
Multi-dimensional manifold based Riemann solver on general polygonal meshes, expected submission in December 2024.

26. M. Bonafini, **E. Gaburro**, D. Torlo.
Stability analysis of explicit and implicit Arbitrary-Lagrangian-Eulerian ADER-DG methods with degenerate geometries, expected submission in December 2024.

Talks in international conferences

International conferences: 36. **Invited talks**: 19. **Invited speaker**: 8.

- *Invited plenary speaker* NumHyp 2025, June 2025, Germany.
- *Invited plenary speaker* *Efficient high order time discretization methods for nonlinear PDEs*, May 2025, Capri, Italy.
- HONOM 2024, September 2024, Chania, Crete, Greece.
- MultiMat 2024, August 2024, Colorado, USA.
- European Congress on Mathematics ECM 2024, July 2024, Seville, Spain.
- *Invited plenary speaker (prize)* HYP 2024, July 2024, Shanghai, China.
- CEDYA 2024, June 2024, Bilbao, Spain.
- *Invited talk* ENUMATH 2023, September 2023, Lisbon, Portugal.
- *Invited talk* ICIAM 2023, August 2023, Tokyo, Japan.
- NumHyp 2023, June 2023, Bordeaux, France.
- CFC 2023, April 2023, Cannes, France.
- SIAM CSE 2023, February 2023, Amsterdam, Netherlands.
- *Invited* Essentially hyperbolic problems, a conference in honour of R. Abgrall, October 2022, Switzerland.
- MultiMat 2022, August 2022, Zurich, Switzerland.
- HYP 2022, June 2022, Malaga (in presence), Spain.
- SHARK-FV 2022, May 2022, Porto (in presence), Portugal.
- CIRM International Workshop 2021, March 2022, Marseille (in presence), France.
- *Invited speaker*, Oberwolfach (in presence), April 2022, Oberwolfach, Germany.
- *Invited speaker* (in presence!), NumAsp 2021, December 2021, Verona, Italy.
- Hirshegg International Workshop 2021, September 2022, Hirshegg (in presence), Austria.
- *Invited talk and to participate in presence!*, NUMHYP 2021, July 2021, Trento, Italy.
- *Invited talk*, SMAI 2021 (in presence!), June 2021, La Grande Motte, France.

- *Invited*, Oberwolfach Workshop, September 2020, Oberwolfach, Germany.
- *Invited talk*, WCCM-ECCOMAS 2020, July 2020 (postponed), Paris, France.
- *Invited speaker*, CEA-SMAI/GAMNI 2020, February 2020, Paris, France.
- *Invited talk*, AIMETA 2019, September 2019, Rome, Italy.
- MULTIMAT 2019, September 2019, Trento, Italy.
- *Invited speaker* (prize), ECCOMAS YIC 2019, September 2019, Krakow, Poland.
- *2 Invited talks*, ICIAM 2019, July 2019, Valencia, Spain.
- ASTRONUM 2019, July 2019, Paris, France.
- NUMHYP 2019, June 2019, Malaga, Spain.
- *Invited talk*, SIAM CSE 2019, February 2019, Spokane, Washington, USA.
- *Invited talk*, ASTRONUM 2018, June 2018, Panama City Beach, FL, USA.
- MULTIMAT 2017, September 2017, Santa Fe, NM, USA.
- CoCoNuT Meeting 2016, December 2016, Valencia, Spain.
- ECCOMAS Congress 2016, June 2016, Crete, Greece.

Selected seminars and workshops

Total seminaries: 27. **Total workshops**: 7.

- Séminaires du laboratoire, Universitè de Perpignan, May 2024, Perpignan, France.
- Seminario di Dipartimento, SISSA Trieste, January 2024, Italy.
- Laboratory seminar, University of Stuttgart, November 2023, Germany.
- Séminaires du laboratoire, École Polytechnique, November 2023, Paris-Saclay, France.
- Seminario di Dipartimento, Politecnico di Milano, Luglio 2023, Italia (invited, in presence).
- Séminaires du laboratoire, CEA Bruyeres Le Chatel, November 2022, France (invited, in presence).
- Séminaires du laboratoire, LJLL Sorbonne Université, November 2022, France (invited, in presence).
- Séminaires du laboratoire, Université de Rennes, March 2022, France (invited, in presence).
- Séminaires du laboratoire IMB, Université de Bordeaux, Juin 2021, France (invited).
- Oberseminar Mathematische Strömungsmechanik, January 2020, Wuerzburg, Germany (invited).
- SPPEXA Final Symposium 2019, EXAMAG talk, October 2019, Dresden, Germany (invited).
- Seminar of the University of Technology, May 2019, Compiegne, France (invited).
- Oberseminar Mathematische Strömungsmechanik, January 2019, Wuerzburg, Germany (invited).
- Séminaires du laboratoire IMB, Université de Bordeaux, November 2018, France (invited).
- Séminaires du lab. LJAD, Université de Nice Sophia Antipolis, November 2018, France (invited).
- Heidelberg Institutes for theoretical studies, April 2018, Germany (invited).
- 'Donna scienza e lavoro', Women, Science and Work, January 2018, Mantova, Italy (invited).
- Mid term meeting of the ModCompSchock project, October 2017, Zurich, Switzerland.
- University of Málaga, November 2017, Spain (invited).
- Séminaires du laboratoire LJLL, February 2017, Paris, France (invited).
- La mécanique des fluides numériques, CEA-SMAI/GAMNI, February 2018, Paris, France (poster).
- Workshop: an overview on free surface flows, November 2017, Paris, France (poster).

Languages

Italian	Mother tongue
English	Full professional knowledge (C1)
French	Full professional knowledge (C1)
Spanish	Full professional knowledge (C1)

Computer skills

Prog. language	Fortran MPI & OpenMP, C++, CUDA, FreeFem++, Matlab, Scilab
Software	Maple, Gmsh, Tecplot, Gambit, PLUTO
Other	GIT, Latex, Microsoft Office, GeoGebra, Asymptote