

Short curriculum vitae

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Annalisa BUFFA, born in Milano, February 14th, 1973. Living in Lausanne.

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Google Scholar <https://scholar.google.it/citations?user=KhEJO-YAAAAJ&hl=en>

► Education

12/2000 Ph.D. in Mathematics, Università di Milano. Thesis: *Some numerical and theoretical problems in computational electromagnetism*. Advisor: Prof. Franco Brezzi

07/1996 Laurea (equivalent M.Sc. level) in Computer Science Engineering (Ingegneria Informatica) in 1996. Mark: 110/110 *cum laude and honors*.

► Employment history

2016- Full Professor at EPFL, Chair of Numerical Modelling and Simulation, Institute of Mathematics

2004- Dirigente di ricerca (on leave) at CNR-IMATI, Pavia, Italy

2013-2016 Director of CNR-IMATI, Pavia

2004 Invited professor. Laboratoire J.L. Lions, UPMC France. Total stay: 6 months

2002-2003 Invited researcher, CMAP, École Polytechnique, Palaiseau, France. Total stay: 10 months

2002 CNRS Invited researcher. Laboratoire d'Analyse Numérique, UPMC, France, Total stay: 6 months

2001-2004 Researcher at CNR-IMATI, Pavia, Italy

2000-2001 Post-doctoral fellow, ETH, Zürich, Switzerland

► Active memberships in scientific societies

2022- Associé étranger, **Académie des Sciences**, Sciences mécaniques et informatiques, Institut de France

2020- Member of **European Academy of Sciences** <https://www.eurasc.org>

2020- Member of the Gruppo 2003, <https://www.gruppo2003.org>

2018- Corresponding member of the **Accademia dei Lincei**

2016- Member of the **Academia Europaea**

► Prizes, awards, fellowships, special lectures

2019 **Highly Cited Researcher** 2019, Cross-field, Web of Science

11/2018 **Jacques Louis Lions Lectures**, Université Pierre et Marie Curie, Paris

08/2015 **Collatz prize** by ICIAM, http://www.iciam.org/council/node7_ct.html

11/2014 The **Aziz Lecture**, Department of Mathematics, University of Maryland, USA

5/2014 **Premio Sgarlata**, nomination of the president of CNR, Luigi Nicolais

10/2013 **Premio Ghislieri** for mathematical sciences

09/2007 **Bartolozzi Prize**, *Unione Matematica Italiana*

02/2007 **John Todd Fellowship Prize**, Mathematisches Forschungsinstitut, Oberwolfach, Germany

2004-2005 Invited researcher (J. Tinsley Oden Faculty Fellowship Research Program). *ICES*, University of Texas at Austin, USA. Total stay: 6 months

► Plenary contributions to international conferences - most relevant

2023 *Panorama of Mathematics*, Hausdorff Center, Bonn, Germany, October (rescheduled due to Covid)

2022 The European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), plenary speaker, Oslo, June

2021 *Mathematics without borders: the centennial of the IMU*. Strasbourg, France, September

2020 DMV Jahrestagung 2020, Chemnitz, Germany, September (online)

2020 VIGA - Virtual isogeometric conference, August (online)

2019 Symposium on Solid and Physical Modeling, Vancouver, Canada, June

- 2018 The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan
- 2016 Bi-annual congress of the Italian Society of Industrial and Applied Mathematics (SIMAI) Milano, September
- 2016 The European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Semi-plenary speaker, Crete, Greece, June
- 2015 8th International Congress on Industrial and Applied Mathematics (ICIAM 2015) Beijing, China, August
- 2014 Foundations of Computational Mathematics conference (FoCM), Montevideo, Uruguay, December
- 2014 International Congress of Mathematicians (ICM), 45 minutes lecture, Section 15, Seoul, South Korea, August
- 2014 GAMM Annual Meeting, Erlangen-Nuremberg, Germany, March
- 2013 The Mathematics of Finite Elements and Applications (MAFELAP), Brunel University, London, UK, June
- 2013 14th International Conference on Approximation Theory, San Antonio, Texas, April
- 2012 The European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Semi-plenary speaker, Vienna, Austria, September
- 2010 Curves and Surfaces, Avignon, France, June
- 2010 Third Chilean Workshop on Numerical Analysis of Partial Differential Equation, Concepcion, Chile, January
- 2009 23rd Biennial Numerical Analysis Conference, Glasgow, UK, July
- 2008 Fifth European Congress of Mathematics, “Invited parallel lecture” (45 minutes), Amsterdam, The Netherlands, June
- 2007 XVIII Congress of Unione Matematica Italiana Bari, Italy, September
- 2007 8th International Conference on Mathematical and Numerical Aspects of Waves (WAVES) Reading, UK, July
- 2007 International Conference on Scientific Computation And Differential Equations (SciCADE), Saint-Malo, France, June
- 2005 The European Conference on Numerical Mathematics and Advanced Applications (ENUMATH), Santiago de Compostela, Spain, July

I have been invited to deliver seminars in several workshops and at several institutions along the years.

► Main research and innovation projects

- 2021-2023 Innosuisse project n. 20119. Role: EPFL partner
- 2020-2023 BRIDGE project n. 40B2-0_187094. Role: Principal Investigator
- 2020-2023 EU FET-Open n. 862025, project ADAM². Role: EPFL group leader
- 2016-2021 **ERC Advanced grant** n. 694515, Project CHANGE. Principal Investigator.
- 2012-2018 Research contract A10-5164 (2015-2018) and A10-4087 (2012-2015) with Michelin, Centre Technologique Ladoux, France. Role: Principal Investigator.
- 2012-2017 Research contract DS-2753 with TOTAL Scientific division, and Hutchinson RD, France. Role: Principal Investigator (with G. Sangalli).
- 2008-2013 **ERC Starting Independent Grant** n. 205004, Project GEOPDES. Role: Principal Investigator.

► Supervision and mentoring

Ph.D. students under my supervision Yannis Voet (PhD, 2021-), Alessandra Arrigoni (PhD, 2020-), Ondine Chanon (PhD, 2017-), Riccardo Puppi (PhD, 2016-2022, now job hunting), Luca Coradello (PhD, 2017-2021, now software engineer at Siemens), Ericka Brivadis (PhD, 2012-2016), Andrea Bressan (PhD, 2009-2013, now researcher at IMATI-CNR), Paola Antonietti (PhD 2003-2009, now full professor at Politecnico of Milano)

Post-Doctoral fellows under my supervision Espen Sande (2021-), Margarita Chasapi (2021-), Jochen Hinz (2020-), Emiliano Cirillo (2020-), Thibault Hirschler (2020-), Xiaodong Wei (2018-2021), Mathieu Fabre (2016-2018), Pablo Antolin (2014-2016), Eduardo Garau (2014-2015), Carlotta Giannelli (2014), Sebastian Pauletti (2012-2013), Massimiliano Martinelli (2010-2014), Rafael Vázquez (2008-2011), Durkin Cho (2008-2010), Carlo de Falco (2008-2009), Mukesh Kumar (2009-2010).

► Teaching activities

Teaching at graduate level I taught numerous courses in various PhD programs and schools. E.g., CEA-EDF-INRIA School (INRIA 2015), Isogeometric analysis (CIME School, 2013), mixed finite elements (Pavia, 2012), discrete exterior calculus (Pavia 2011).

Teaching at M.Sc. level I teach every year one M.Sc to students in Math, CSE and mechanical engineering, on numerical methods for fluids and solids.

Teaching at bachelor level during the last 6 years, I have been teaching Calculus, Numerical analysis, and Numerical approximation of PDEs, within various EPFL bachelor programs.

▷ **Institutional Responsibilities (within my own institutions)**

- 2021- Chair of the Academic Promotion Committee for the Basic Sciences at EPFL
- 2019- Member of the Career Extension (65+) Committee for EPFL
- 2016-2020 Member of the Scientific committee of the Doctoral School in Mathematics (EDMA)
- 2017-2021 Member of the Academic Promotion Committee for the Basic Sciences at EPFL
- 2013-2016 Director of the Institute of Applied Mathematics and Information Technologies of the CNR - Pavia, Milano and Genova sections, about 70 permanent employees

▷ **Professional Activities**

Editorial activity

- 2022- Computer Methods in Applied Mechanics and Engineering, Associate Editor.
- 2021- Engineering with computers, Associate Editor
- 2016-2022 SIAM Journal Numerical Analysis, Associate Editor.
- 2014-2018 JEMS Journal of the European Mathematical Society, Editor.
- 2014- Book series: EMS Series in Industrial and Applied Mathematics, Editor.
- 2013-2018 ESAIM: Mathematical Modelling and Numerical Analysis, CUP, **Editor In-Chief**.
- 2008- Bollettino dell'Unione Matematica Italiana, Associate Editor.
- 2007- IMA Journal of Numerical Analysis, Associate Editor.

Panels and Boards since 2018 - most relevant

- 2021- Member of the Steering Committee of the Advanced computing HUB for fusion energy, EUROfusion, EPFL. Chair: P. Ricci
- 2019- Member of the scientific board for the Department of Engineering (DIITET) of the CNR, Italy. Board members: A. Buffa, A. Sangiovanni Vincentelli, F. Testa
- 2018- Member of the ICM Structure Committee. Chair: T. Tao

I served and serve in the scientific committee for a few series of conferences, including ICOSAHOM, WAVES, ENUMATH, Curves and Surfaces, etc.

Commission of trust - most relevant

- 2021- Member of the National Research Council - Programmes Division, Swiss National Science foundation
- 2021 Member of the Scientific committee GPR - Grand programmes de recherche, University of Bordeaux
- 2018-2019 Member of the scientific committee for the Shaw Prize <http://www.shawprize.org/en/>
- 2017-2022 Member of the ERC AdG evaluation panel PE1
- 2015-2018 Member of the scientific board for Fondation Sciences Mathématiques de Paris (FSMP)
- 2013 Evaluator of the INRIA Theme: Computational Models and Simulation, 13 research teams

▷ **Organisation of conferences - most relevant**

- 2023 Workshop *Foundations of Numerical PDEs*, within FoCM Conference, Vancouver (posponed from 2020)
- 2019 Co-organizer of the Oberwolfach workshop 1929b. Co-organizers: C. Manni, A. Kunoth, T. J.R. Hughes
- 2018 Co-organizer of the Oberwolfach workshop 1843. Co-organizers: O. Allix, C. Carstensen, J. Schroeder
- 2018 ESI Thematic programme on Numerical analysis of complex PDE models in the sciences, Vienna, June 11-August 17
- 2017 **Co-chair** of the *V International Conference on Isogeometric Analysis, IGA 2017*, Pavia, September 11-13..
- 2017 Workshop *Foundations of Numerical PDEs*, FoCM Conference, Barcelona, July
- 2014 Workshop *Multiresolution and adaptivity in numerical PDEs*, FoCM Conference, Montevideo, December
- 2012 CIME Summer School: *Isogeometric Analysis: a new paradigm in the numerical approximation of PDEs*, Cetraro (CS), Italy. Co-organizer: G. Sangalli
- 2010 INDAM "Trimestre Intensivo": *Innovative Numerical Methods for PDE's*. Co-organizers: D. Boffi, I. Perugia, G. Sangalli

- ▷ **Career breaks** Two (compulsory) maternity leaves: 12/12/2007 – 12/04/2008, 1/10/2010 – 03/02/2011; and part-time activity (maternity follow-up) from 13/04/2009 to 07/06/2009, from 03/02/2011 to 26/04/2011.