

Curriculum Vitæ et Studiorum

[Last update: November 11th, 2020]

Prof. Alessandro Reali

Full Professor of Solid and Structural Mechanics at the University of Pavia

Dean of the Department of Civil Engineering and Architecture

Rector's Delegate for International Research

ISI Highly Cited Researcher

Commander (“Commendatore”) of the Order of Merit of the Italian Republic

Main expertise: *Solid and Structural Mechanics; Numerical Simulation; Mechanics of Materials; Fluid Mechanics; Fluid-Structure Interaction*

Contents

1	Data and contacts	2
2	Studies and career	2
2.1	Academic positions	2
2.2	Postdoc and research contracts	2
2.3	Graduate studies	2
2.4	Undergraduate studies	3
2.5	Honors and awards	3
2.6	Affiliations	4
2.7	Research project leadership	5
2.8	Research visits abroad (at least two weeks)	6
2.9	Other visits at renowned Universities or Research Centers (less than two weeks)	7
2.10	Editorial and review activities	9
2.11	Research project review activity	12
2.12	Participation in external evaluation activities (e.g., PhD, Habilitation, Faculty Search Committees, etc.)	14
2.13	Organization of congresses	15
2.14	Participation in congress scientific boards	16
2.15	Organization/chair of symposia and thematic sessions	18
2.16	Organization of international courses	21
2.17	Management of teaching programs	21
2.18	Main scientific/professional consulting activities	21
3	Research and publications	22
3.1	Main research topics	22
3.2	Research software release	22
3.3	Publications	22
3.4	Invited lectures	23
3.5	Research projects	23
4	Teaching	26
4.1	Graduate level	26
4.2	Undergraduate level	27

1 Data and contacts

- Born in Pavia (PV) on February 28th, 1977
- Marital status: married (2 children)
- Address:
Department of Civil Engineering and Architecture
University of Pavia
via Ferrata 3, 27100 Pavia (PV), Italy
- Phone: (+39)0382-985704
- E-mail: alessandro.reali@unipv.it
- Web-page: <http://www.unipv.it/alereali>

2 Studies and career

2.1 Academic positions

- *Since October 2019*: **Rector's Delegate for International Research** of the University of Pavia.
- *Since October 2018*: **Dean** of the Department of Civil Engineering and Architecture of the University of Pavia.
- *Since October 2018*: **Member of the Academic Senate** of the University of Pavia.
- *Since December 2016*: **Full Professor** of Solid and Structural Mechanics at the Department of Civil Engineering and Architecture of the University of Pavia.
- *October 2018 - September 2019*: **Member of the Academic Senate** of the University of Pavia.
- *February 2013 - November 2016*: **Tenured Associate Professor** of Solid and Structural Mechanics at the Department of Civil Engineering and Architecture of the University of Pavia.
- *November 2011*: **Special nomination ("chiamata diretta") to Associate Professor** of Solid and Structural Mechanics proposed by the University of Pavia.
- *December 2011 - January 2013*: **Tenured Assistant Professor** of Solid and Structural Mechanics at the Department of Civil Engineering and Architecture of the University of Pavia
- *December 2008 - December 2011*: **Assistant Professor** of Solid and Structural Mechanics at the Department of Structural Mechanics of the University of Pavia.

2.2 Postdoc and research contracts

- *July 2006 - December 2008*: **Postdoctoral fellow** at the Department of Structural Mechanics of the University of Pavia.
- *September 2005 - June 2006*: **Postdoctoral research assistant** at the Department of Structural Mechanics of the University of Pavia.

2.3 Graduate studies

- *September 2002 - August 2005*: PhD student in Earthquake Engineering at the European School for Advanced Studies in Reduction of Seismic Risk (ROSE School) of the University School for Advanced Studies Pavia and at the University of Pavia, with a full scholarship from the Servizio Sismico Nazionale – Protezione Civile.
December 2005: **Philosophiæ Doctor** in Earthquake Engineering, with the thesis: *Advanced Computational Techniques for the Study of Traditional and Innovative Seismic Devices*. Advisor: F. Auricchio, coadvisors: T.J.R. Hughes and L. Petrini.
- *January 2002 - June 2003*: Master student in Earthquake Engineering at the ROSE School and the University of Pavia.
October 2004: **Master of Science** in Earthquake Engineering, with the thesis: *An Isogeometric Analysis Approach for the Study of Structural Vibrations*. Advisor: T.J.R. Hughes, coadvisor: F. Auricchio.
- *January 2002*: **Italian engineering professional license**, obtained with the grade of **120/120**.

2.4 Undergraduate studies

- *October 1996 - July 2001: Laurea in Civil Engineering* (equivalent to a Master of Science degree), with a specialization in Structural Design, at the University of Pavia with the grade of **110/110 summa cum laude**.
Laurea thesis: *Soluzione Meshless di Problemi Elastici Piani mediante Sviluppo in Basi di Wavelet* (Wavelet Meshless Solution for Plane Elastic Problems). Advisor: P. Venini.
- *September 1991 - July 1996: Diploma di Maturità Scientifica* (High School Degree) at the Liceo Scientifico “N. Copernico” in Pavia with the grade of **60/60**.

2.5 Honors and awards

- *2020: Recipient of the “Euler Medal”*, awarded, on a biennial basis, by the European Community on Computational Methods in Applied Sciences (ECCOMAS) for outstanding and sustained contributions to the area of computational solid and structural mechanics; these contributions shall generally be in the form of important research results which significantly advance the understanding of mathematical theories and methods impacting the areas of mechanics.
- *2020: Best poster award* (awarded to the best 5 posters), along with the co-authors M. Carraturo, J. Jomo, S. Kollmannsberger, E. Rank, F. Auricchio, within the international congress 36th International CAE Conference and Exhibition.
- *2020: Best poster award* (awarded to the best 5 posters), along with the co-authors A. Viguerie, G. Lorenzo, F. Auricchio, D. Baroli, T.J.R. Hughes, A. Patton, T.E. Yankeelov, A. Veneziani, within the international congress 36th International CAE Conference and Exhibition.
- *2019: Appointed TUM Ambassador* by the President of the Technical University of Munich.
- *2019: Best poster award*, along with the speaker G. Lorenzo and the other co-authors T.J.R. Hughes and H. Gomez, within the international congress HOFEIM 2019 – High-Order Finite Element and Isogeometric Methods.
- *2018: Included in the 2018 list of “Highly Cited Researchers”* (<http://highlycited.com>) by Clarivate/ISI, “in recognition of ranking among the top 1% of researchers for most cited documents, in their specific fields”.
- *2018: Recipient of the “Bruno Finzi Prize”*, awarded, on a biennial basis, by Istituto Lombardo Accademia di Scienze e Lettere to recognize an Italian scholar (45 years old or younger) for outstanding research results concerning Rational Mechanics or other strictly related fields.
- *2018: Best presentation award*, along with the speaker G. Lorenzo and the other co-authors T.J.R. Hughes and H. Gomez, within the 34° National Congress of the Spanish Association of Medical Radiology.
- *2017: Included in the 2017 list of “Highly Cited Researchers”* (<http://highlycited.com>) by Clarivate/ISI, “in recognition of ranking among the top 1% of researchers for most cited documents, in their specific fields”.
- *2017: Appointed Commander (“Commendatore”) of the “Order of Merit of the Italian Republic”* by the President of the Italian Republic (*“motu proprio”*).
- *2017: Included among the “70 Young Italian Scientists per Cartaditalia”*, i.e., the list appeared on the international magazine “Cartaditalia”, reporting the 70 best young Italian researchers active in Italy or abroad, prepared starting from the selections of the European Research Council, of the World Economic Forum, and of the Issnaf, and selected by a committee constituted by I. Capua (University of Florida), R. Cingolani (Istituto Italiano di Tecnologia - IIT di Genova) and D. Pedreschi (Università di Pisa).
- *2016: Included in the 2016 list of “Highly Cited Researchers”* (<http://highlycited.com>) by Clarivate/ISI Thomson-Reuters, “in recognition of ranking among the top 1% of researchers for most cited documents, in their specific fields”.
- *2016: Recipient of the “IACM Fellows Award”*, awarded, on a biennial basis, by the International Association for Computational Mechanics (IACM) to recognize individuals with a distinguished record of research, accomplishment and publication in areas of Computational Mechanics.
- *2016: Included in the report “The World’s Most Influential Scientific Minds: 2015”*, published by Thomson-Reuters to “highlight standout researchers of the last decade”.
- *2015: Included in the 2015 list of “Highly Cited Researchers”* (<http://highlycited.com>) by ISI Thomson-Reuters, “in recognition of ranking among the top 1% of researchers for most cited documents, in their specific fields”.
- *2013-2015: Appointed (three times) University Visiting Research Affiliate* by the Institute for Computational Engineering and Sciences (ICES) of the University of Texas at Austin.

- **2015: Recipient of the “Hans Fischer” Fellowship**, awarded by the Technical University of Munich (TUM) to outstanding international scientists who intend to explore innovative, high-risk topics in their scientific research areas.
- **2015: Recipient of the “Promotionsrecht”** (i.e., of the the right to award Doctorates) at TUM.
- **2015: Invited member of “Gruppo 2003 per la Ricerca Scientifica”**, an association of Italian ISI Thomson-Reuters “Highly Cited Researchers” aiming at highlighting the value and the importance of scientific research in Italy.
- **2014: Recipient of the IACM “John Argyris” Award for Young Scientists**, awarded, on a biennial basis, by the International Association for Computational Mechanics (IACM) for outstanding accomplishments by a researcher 40 years old or younger.
- **2014: Included in the 2014 list of “Highly Cited Researchers”** (<http://highlycited.com>) by ISI Thomson-Reuters, “in recognition of ranking among the top 1% of researchers for most cited documents, in their specific fields”.
- **2014: Included in the report “The World’s Most Influential Scientific Minds: 2014”**, published by Thomson-Reuters to “highlight standout researchers of the last decade”.
- **2013: Recipient of the 2013 “AIMETA Junior” Prize for Mechanics of Solids and Structures**, awarded, on a biennial basis, by the Italian Association of Theoretical and Applied Mechanics (AIMETA) to young (i.e., under 40) Italian scientists for outstanding research results concerning one of the Association scientific areas.
- **2012: Recipient of the “O.C. Zienkiewicz” Award**, awarded, on a biennial basis, by the European Community on Computational Methods in Applied Sciences (ECCOMAS) to the best young (i.e., under 40) scientist in the field of Computational Engineering Sciences.
- **2012: Elected member of the “Young Academy of Europe”**, a pan-European association of outstanding young scientists aiming at “creating a platform for networking, scientific exchange, and science policy”, affiliated to the *Accademia Europaea* (the Academy of Europe).
- **2004–2012: Recipient (8 times) of the J. Tinsley Oden Faculty Fellowship**, awarded by the Institute for Computational Engineering and Sciences of the University of Texas at Austin to “support research visits of outstanding researchers and scholars”.
- **2011: Selected for the volume “Young Brain”**, i.e., the book of the 150 best Italian young researchers, promoted for the 150th anniversary of Italy Unification by the Ministry of Youth and published by gruppo editoriale NEDE, in collaboration with Consiglio Nazionale delle Ricerche (CNR) and Conferenza dei Rettori delle Università Italiane (CRUI).
- **2010: Recipient of the “Ideas” ERC Starting Grant**, considered one of the most prestigious research awards from the European Community. The grant is awarded on a highly competitive basis to the best European scientists and researchers with no more than a 12-year experience after obtaining their PhD, with the specific aim of supporting “pioneering frontier research in any field of science, engineering and scholarship”.

2.6 Affiliations

- *Since October 2020: Technical-Scientific Committee member* of the *Center for Global Strategic Engagement - GLOBEC* of the University of Pavia.
- *Since September 2020: Affiliated researcher* of the *International Research Center on Mathematics and Mechanics of Complex Systems (M&MOCS)* of the Università degli Studi dell’Aquila.
- *Since June 2020: Administrative Board member* of the *Lake Como School of Advanced Studies*.
- *Since October 2018: Executive Council member* of the *Engineering Faculty* of the University of Pavia.
- *Since May 2018: Executive Council member* of “Gruppo 2003 per la Ricerca Scientifica”.
- *Since December 2017: Alumnus* of the *Young Academy of Europe*.
- *Since April 2017: Member of the Advisory Board* of the *PhD Program in Design Modeling, and Simulation in Engineering* of the University of Pavia.
- *Since January 2017: Member* of the *Scientific Committee of the initiative INROAD – Institutional Horizon 2020 Committee @ UNIPV* of the University of Pavia.
- *Since December 2016: Member* of the *General Council of IACM*.

- *Since November 2015: Member of the USACM Technical Thrust Area on Isogeometric Analysis of the United States Association for Computational Mechanics (USACM).*
- *Since February 2015: Fischer Fellow at the Institute for Advanced Study (IAS) of the Technical University of Munich.*
- *Since February 2015: Member of “Gruppo 2003 per la Ricerca Scientifica”.*
- *Since October 2013: Scientific Board Member of H2CU – Honors Center of Italian Universities.*
- *Since July 2013: Member of the Committee on Fluid-Structure Interaction (CFSI) within the American Society of Mechanical Engineers (ASME) Applied Mechanics Division (AMD).*
- *Since September 2007: Member of the Teaching Board of ROSE School (Pavia).*
- *Since January 2007: Research fellow at the Istituto di Matematica Applicata e Tecnologie Informatiche (IMATI) – CNR (Pavia).*
- *Since January 2007: Member of the research group Computational Mechanics and Advanced Materials at the European Centre for Training and Research in Earthquake Engineering (EUCENTRE, Pavia).*
- *September 2013 - September 2019: Managing Board Member of Gruppo Italiano di Meccanica Computazionale (GIMC), i.e., the Computational Mechanics Section of AIMETA.*
- *April 2017 - September 2022: Coordinator of the PhD Program in Design Modeling, and Simulation in Engineering of the University of Pavia.*
- *October 2018 - September 2019: Member of the Scientific Research Committee of the Academic Senate of the University of Pavia.*
- *June 2014 - December 2018: Member of the Advisory Board of the PhD Program in Civil Engineering and Architecture of the University of Pavia, and in collaboration with the IUSS, Pavia.*
- *December 2012 - December 2017: Fellow of the Young Academy of Europe.*
- *April 2012 - March 2017: Italian representative member of the ECCOMAS Young Investigator Committee.*
- *April 2014 - June 2016: Chairman of the ECCOMAS Young Investigator Committee.*
- *December 2012 - December 2015: Member of the Advisory Board of the PhD Program in Bioengineering and Bioinformatics of the University of Pavia.*
- *January 2010 - December 2014: Member of the Advisory Board of the PhD Program in Computational Mechanics and Advanced Materials of the IUSS, Pavia, and in collaboration with the University of Pavia.*

2.7 Research project leadership

- *September 2020 - August 2023: Supervisor of the Principal Investigator G. Lorenzo for the project PICModFor-PCa – Personalised Image-based Computational Modelling Framework to Forecast Prostate Cancer, funded by the European Commission within the program H2020 Marie Skłodowska-Curie Individual Fellowships. Obtained funding: 251,002.56 Euros.*
- *September 2019 - September 2022: Principal Investigator of the project XFAST-SIMS: Extra fast and accurate simulation of complex structural systems, funded by Ministero dell’Istruzione, dell’Università e della Ricerca within the program Progetti di ricerca di Rilevante Interesse Nazionale (PRIN). Obtained funding: 877,560 Euros.*
- *February 2020 - July 2022: Unit Leader of the project CE4WE - Circular Economy for Water and Energy, funded by Regione Lombardia within the program Call Hub Innovazione e Ricerca. Obtained funding: 3,316,803.27 Euros.*
- *April 2018 - March 2021: Member of the proposing team, along with the Principal Investigator S. Trimarchi and with M. Marrocco Trischetta and F. Auricchio of the project Mapping of aortic arch hemodynamics by biomechanical analysis and modeling for planning Thoracic Endovascular Aortic Repair (TEVAR), funded by Ministero della Salute within the program Ricerca Finalizzata. Obtained funding: 407,983.50 Euros.*
- *September 2016 - August 2019: Unit Leader of the project Pancreatic ductal adenocarcinoma (PDAC): development of a new communication platform between radiologists, surgeons and pathologists based on virtual and 3D printed reconstructions of the pancreas and the tumor mass, funded by Ministero della Salute within the program Ricerca Finalizzata. Obtained funding: 380,000 Euros.*

- *October 2016 - October 2018: Principal Investigator* of the project *Verso nuovi strumenti di simulazione super veloci ed accurati basati sull'analisi isogeometrica* (Towards new super fast and accurate simulation tools based on isogeometric analysis), funded by Fondazione Cariplo - Regione Lombardia within the program **RST - rafforzamento**.
Obtained funding: **100,000 Euros**.
- *September 2017 - September 2018: Member of the proposing team*, along with B.A. Schrefler and W.A. Wall of the Focal Period *Advanced Computational Modeling for Tumor Growth Prediction*, funded by the **Institute for Advanced Study** of the Technical University of Munich.
Obtained funding: **40,000 Euros**.
- *November 2010 - October 2015: Principal Investigator* of the European project *ISOBIO – Isogeometric Methods for Biomechanics*, funded by the European Community within the program **FP7 Ideas ERC Starting Grant**.
Obtained funding: **1,195,200 Euros**.
- *December 2010 - December 2014: Unit Leader* of the project *Isogeometric Discretizations for Continuum Mechanics*, funded by Ministero dell'Istruzione, dell'Università e della Ricerca within the program **FIRB - Futuro in Ricerca**.
Obtained funding: **335,600 Euros**.
- *January 2012 - December 2013: Principal Investigator*, along with Dr. S. Kollmannsberger, of the project *Patching trimmed surfaces in Isogeometric Analysis*, funded by the German-Italian University Centre and the German Academic Exchange Service within the **Vigoni Program**.
Obtained funding: **12,850 Euros**.
- *July 2008 - June 2012: Member of the proposing team*, along with the Principal Investigator A. Buffa and with G. Sangalli, of the European project *GeoPDEs – Innovative compatible discretization techniques for Partial Differential Equations*, funded by the European Community within the program **FP7 Ideas ERC Starting Grant**.
Obtained funding: **750,000 Euros**.
- *April 2007 - December 2007: Principal Investigator* of the research project *Lavorazione laser di microdispositivi SMA* (Laser processing of SMA micro-devices), funded by Regione Lombardia within Programma INGENIO.
Obtained funding: **50,000 Euros**.

2.8 Research visits abroad (at least two weeks)

1. *February - April 2018: Visiting Professor* at the Chair of Computation in Engineering of the Technical University of Munich (sponsor E. Rank).
2. *April - May 2017: Visiting Professor* at the Chair of Computation in Engineering of the Technical University of Munich (sponsor E. Rank).
3. *September - November 2016: Visiting Professor* at the Chair of Computation in Engineering of the Technical University of Munich (sponsor E. Rank).
4. *October - November 2015: Visiting Professor* at the Chair of Computation in Engineering of the Technical University of Munich (sponsor E. Rank).
5. *March 2015: University Visiting Research Affiliate* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin (sponsor T.J.R. Hughes).
6. *January 2014: University Visiting Research Affiliate* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin (sponsor T.J.R. Hughes).
7. *February 2013: University Visiting Research Affiliate* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin (sponsor T.J.R. Hughes).
8. *March 2012 - April 2012: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
9. *January 2011: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
10. *March 2010: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
11. *July 2009: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
12. *August 2008: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).

13. *July 2007 - August 2007: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
14. *June 2006 - July 2006: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).
15. *July 2004 - November 2004: Research Scholar* at the Institute for Computational Engineering and Sciences of the University of Texas at Austin, within the *J.T. Oden Faculty Fellowship Research Program* (sponsor T.J.R. Hughes).

2.9 Other visits at renowned Universities or Research Centers (less than two weeks)

1. *November 2019:* Department of Mechanical Engineering of the National Institute of Technology Warangal.
2. *November 2019:* MathLab Group at the SISSA – International School for Advanced Studies, Trieste.
3. *October 2019:* Institute for Applied Mechanics of the Technical University of Braunschweig.
4. *July 2019:* Mathematisches Forschungsinstitut Oberwolfach (MFO, Oberwolfach Research Institute for Mathematics).
5. *May 2019:* Institute for Advanced Study of the Technical University of Munich.
6. *April 2019:* Jiangsu University of Technology.
7. *February 2019:* AICES Graduate School of the RWTH Aachen University.
8. *January 2019:* Dipartimento di Strutture per l'Ingegneria e l'Architettura of the Università degli Studi di Napoli "Federico II".
9. *September 2018:* Institute for Advanced Study of the Technical University of Munich.
10. *September 2018:* International Research Center on Mathematics and Mechanics of Complex Systems (M&MOCS) of the Università degli Studi dell'Aquila.
11. *May 2018:* Chair of Computation in Engineering of the Technical University of Munich.
12. *March 2018:* Chair of Numerical Modelling and Simulation dell'École Polytechnique Fédérale de Lausanne – EPFL.
13. *March 2018:* Chair of Numerical Structural Analysis with Application in Ship Technology of the Technical University of Hamburg.
14. *February 2018:* Department of Mechanical Engineering of the Eindhoven University of Technology.
15. *January 2018:* Istituto Nazionale di Alta Matematica "F. Severi" (Roma).
16. *November 2017:* Chair of Numerical Mathematics of the Technical University of Munich.
17. *October 2017:* Chair of Computation in Engineering of the Technical University of Munich.
18. *June 2017:* Department of Mechanical Engineering – Division PMA della Katholieke Universiteit Leuven.
19. *May 2017:* Dipartimento di Ingegneria Strutturale e Geotecnica della Sapienza – Università di Roma.
20. *May 2017:* Department of Mechanical Engineering – Division PMA della Katholieke Universiteit Leuven.
21. *March 2017:* Chair of Numerical Modelling and Simulation of the École Polytechnique Fédérale de Lausanne – EPFL.
22. *February 2017:* Chair of Computation in Engineering of the Technical University of Munich.
23. *December 2016:* Dipartimento di Ingegneria Civile e Ingegneria Informatica of the Università degli Studi di Roma Tor Vergata.
24. *November 2016:* AICES Graduate School of the RWTH Aachen University.
25. *October 2016:* Institute for Computational Engineering and Sciences of the University of Texas at Austin.
26. *September 2016:* Department of Science and High Technology of the Università degli Studi dell'Insubria.
27. *September 2016:* Chair of Numerical Mathematics and Chair of Computational Mechanics of the Technical University of Munich.
28. *May 2016:* MuSIC (Modeling and Simulation of Cancer Growth) Group of the University of A Coruña.
29. *April 2016:* Chair of Computation in Engineering e Chair of Structural Analysis of the Technical University of Munich.

30. *March 2016*: Dipartimento di Ingegneria Civile e Meccanica of the Università degli Studi di Cassino e del Lazio Meridionale.
31. *March 2016*: Chair of Computation in Engineering of the Technical University of Munich.
32. *February 2016*: Mathematisches Forschungsinstitut Oberwolfach (MFO, Oberwolfach Research Institute for Mathematics).
33. *February 2016*: AICES Graduate School of the RWTH Aachen University.
34. *January 2016*: Dipartimento di Matematica of the Università degli Studi di Roma Tor Vergata.
35. *January 2016*: Chair of Aerospace Structures and Computational Mechanics of the Delft University of Technology.
36. *November 2015*: Chair of Computational Mechanics of the Bauhaus University Weimar.
37. *November 2015*: Division of Applied Mathematics and Numerical Analysis of the Department of Mathematics of the Instituto Superior Técnico at the Technical University of Lisbon.
38. *November 2015*: Numerical Methods in Plasma Physics Division of the Max Planck Institute for Plasma Physics (Munich).
39. *Novembre 2015*: Chair of Numerical Mathematics of the Technical University of Munich.
40. *October 2015*: Department of Civil, Environmental and Mechanical Engineering of the Università degli Studi di Trento.
41. *May 2015*: Chair of Computation in Engineering and Chair of Structural Analysis of the Technical University of Munich.
42. *April 2015*: Dipartimento di Matematica “F. Brioschi” of the Politecnico di Milano.
43. *April 2015*: Chair of Computation in Engineering of the Technical University of Munich.
44. *April 2015*: School of Architecture, Civil and Environmental Engineering of the École Polytechnique Fédérale de Lausanne – EPFL.
45. *February 2015*: Dipartimento di Ingegneria Civile e Ingegneria Informatica of the Università degli Studi di Roma Tor Vergata.
46. *February 2015*: Numerical Porous Media Center of the King Abdullah University of Science and Technology – KAUST.
47. *January 2015*: Laboratoire de Mécanique des Solides of the École Polytechnique.
48. *January 2015*: Department of Civil, Architectural and Environmental Engineering of the Università degli Studi di Padova.
49. *December 2014*: Department of Science and High Technology of the Università degli Studi dell’Insubria.
50. *December 2014*: Department of Civil, Environmental and Mechanical Engineering of the Università degli Studi di Trento.
51. *December 2014*: Department of Mechanical Engineering of the University of Aveiro.
52. *November 2014*: Department of Industrial Engineering of the Università degli Studi di Parma.
53. *October 2014*: Department of Mechanical and Process Engineering of the Swiss Federal Institute of Technology – ETH Zurich.
54. *October 2014*: Dipartimento di Ingegneria Strutturale e Geotecnica of Sapienza – University of Rome.
55. *May 2014*: Dipartimento di Matematica “F. Brioschi” of the Politecnico di Milano.
56. *May 2014*: Department of Science and High Technology of the Università degli Studi dell’Insubria.
57. *March 2014*: Department of Applied Mechanics of the Budapest University of Technology and Economics.
58. *February 2014*: Department of Mechanical Engineering of the Eindhoven University of Technology.
59. *December 2013*: Dipartimento di Ingegneria Civile e Architettura of the Politecnico di Milano.
60. *November 2013*: Institute for Applied Mechanics of the Technical University of Braunschweig.
61. *November 2013*: MathLab Group at the SISSA – International School for Advanced Studies, Trieste.

62. *November 2013*: Dipartimento di Ingegneria Civile e Architettura of the Politecnico di Milano.
63. *October 2013*: Dipartimento di Ingegneria Civile e Ambientale of the Università degli Studi di Perugia.
64. *October 2013*: Institute of Structural Mechanics of the University of Stuttgart.
65. *July 2013*: Chair of Structural Analysis and Chair of Computation in Engineering of the Technical University of Munich.
66. *June 2013*: MuSIC (Modeling and Simulation of Cancer Growth) Group of the University of A Coruña.
67. *May 2013*: MathLab Group at the SISSA – International School for Advanced Studies, Trieste.
68. *April 2013*: Department of Civil Engineering and Engineering Mechanics of the Columbia University.
69. *November 2012*: Dipartimento di Ingegneria Gestionale e della Produzione of the Politecnico di Torino.
70. *October 2012*: Chair of Computation in Engineering of the Technical University of Munich.
71. *February 2012*: Hausdorff Center for Mathematics, University of Bonn.
72. *September 2011*: NCRI Center for Isogeometric Optimal Design of the Seoul National University.
73. *April 2011*: Chair of Computation in Engineering of the Technical University of Munich.
74. *August 2010*: Banff International Research Station (BIRS) for Mathematical Innovation and Discovery.
75. *July 2006*: Department of Civil and Environmental Engineering of the University of California at Berkeley.
76. *July 2006*: Department of Mechanical Engineering of Stanford University.

2.10 Editorial and review activities

- **Editorial Board member** for the following international journals:

1. *Sci* (since August 2018).
2. *Computers, Materials & Continua* (since March 2018).
3. *Applied Sciences (Mechanical Engineering and Civil Engineering Sections)* (since February 2018).
4. *Journal of Healthcare Engineering* (since December 2017).
5. *Frontiers in Materials* (since June 2014).
6. *Curved and Layered Structures* (since April 2014).
7. *Mathematical Problems in Engineering* (since March 2014).
8. *Recent Patents on Mechanical Engineering* (since August 2007).
9. *Open Physics Journal* (since June 2014 to December 2018).
10. *Ultra Engineer* (since March 2017 to December 2018).
11. *American Journal of Engineering and Applied Sciences* (since October 2014 to December 2017).
12. *International Scholarly Research Notices* (from March 2014 to November 2017).
13. *The Scientific World Journal (Mathematical Analysis area)* (from April 2013 to September 2016).
14. *International Journal of Modern Mechanics* (from January 2014 to December 2014).
15. *Open Mechanics Journal* (from February 2007 to June 2014).
16. *ISRN Biomedical Engineering* (from January 2013 to February 2014).

- **Guest editor** for the following special issues of international journals:

1. *Computers and Mathematics with Applications*, special issue on “High-Order Finite Element and Isogeometric Methods, dedicated to Ernst Rank’s 65th birthday” (2020).
2. *Advanced Modeling and Simulation in Engineering Sciences*, special issue on “Unfitted techniques in Computational Mechanics” (2018).
3. *Computers and Mathematics with Applications*, special issue on “High-Order Finite Element and Isogeometric Methods” (2017).
4. *Meccanica*, special issue on “Novel computational approaches to old and new problems in Mechanics” (2017).
5. *Computers and Mathematics with Applications*, special issue on “High-Order Finite Element and Isogeometric Methods” (2015).

- Selected as **reviewer** for the following international journals:

1. *Computer Methods in Applied Mechanics and Engineering*
2. *Journal of the Mechanics and Physics of Solids*
3. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*
4. *Journal of Computational Physics*
5. *Mathematical Models and Methods in Applied Sciences*
6. *Journal of Biomechanics*
7. *Computational Mechanics*
8. *International Journal for Numerical Methods in Engineering*
9. *SIAM Journal on Numerical Analysis*
10. *PLOS ONE*
11. *SIAM Review*
12. *International Journal for Numerical Methods in Fluids*
13. *International Journal for Numerical Methods in Biomedical Engineering*
14. *Computer Methods in Biomechanics and Biomedical Engineering*
15. *Computer Aided Geometric Design*
16. *International Journal of Solids and Structures*
17. *European Journal of Mechanics – A/Solids*
18. *European Journal of Mechanics – B/Fluids*
19. *Acta Mechanica*
20. *Acta Materialia*
21. *Composites Part B: Engineering*
22. *Computers & Fluids*
23. *Applied Thermal Engineering*
24. *Smart Structures and Systems*
25. *Mechanics Research Communications*
26. *International Journal of Non-linear Mechanics*
27. *Computers & Structures*
28. *Computers and Mathematics with Applications*
29. *Journal of the Acoustical Society of America*
30. *Journal of Sound and Vibration*
31. *Computational Materials Science*
32. *Engineering Structures*
33. *Meccanica*
34. *Finite Elements in Analysis and Design*
35. *Advances in Engineering Software*
36. *3D Printing and Additive Manufacturing*
37. *Biomechanics and Modeling in Mechanobiology*
38. *ASME Journal of Biomechanical Engineering*
39. *Vascular and Endovascular Surgery*
40. *Sensors and Actuators A. Physical*
41. *Nonlinear Dynamics*
42. *Applied Numerical Mathematics*
43. *Applied Mathematics and Computation*
44. *Applied Mathematical Modelling*
45. *Journal of Scientific Computing*
46. *International Journal for Numerical and Analytical Methods in Geomechanics*
47. *Archive of Applied Mechanics*
48. *Journal of the Mechanical Behavior of Biomedical Materials*

49. *Mathematical Methods in the Applied Sciences*
50. *Thin-Walled Structures*
51. *Journal of Vibration and Control*
52. *Journal of Aerospace Engineering*
53. *Engineering Computations*
54. *International Journal of Fracture*
55. *International Journal of Fatigue*
56. *Robotica*
57. *Ultrasonics*
58. *Journal of Mechanics of Materials and Structures*
59. *Journal of Applied Mechanical Engineering*
60. *Journal of Engineering Mechanics*
61. *Journal of Computational and Applied Mathematics*
62. *Computers, Materials & Continua*
63. *International Journal of Mechanical Sciences*
64. *International Journal of Computational Fluid Dynamics*
65. *Advanced Modeling and Simulation in Engineering Sciences*
66. *Numerical Methods for Partial Differential Equations*
67. *Numerical Linear Algebra with Applications*
68. *Calcolo*
69. *Annali di Matematica Pura ed Applicata*
70. *Discrete and Continuous Dynamical Systems - Series S*
71. *Zeitschrift für Angewandte Mathematik und Mechanik*
72. *Journal of Mechanical Engineering Science*
73. *International Journal of Computational Methods*
74. *Advances in Nonlinear Analysis*
75. *Current Research in Bioinformatics*
76. *Frontiers in Materials*
77. *Frontiers in Physics*
78. *Mathematics*
79. *Applied Sciences*
80. *Materials Chemistry and Physics*
81. *Mechanics Based Design of Structures and Machines*
82. *Advanced Theory and Simulations*
83. *Engineering with Computers*
84. *Mathematics and Computers in Simulation*
85. *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*
86. *Journal of Numerical Analysis, Industrial and Applied Mathematics*
87. *The Scientific Pages of Heart*
88. *Journal of Healthcare Engineering*
89. *Mathematical Biosciences and Engineering*
90. *Open Mechanics Journal*
91. *Materials Science Forum*
92. *Strojniški Vestnik - Journal of Mechanical Engineering*
93. *International Scholarly Research Notices*
94. *Energy Research Journal*
95. *ISRN Biomedical Engineering*
96. *Abstract and Applied Analysis*
97. *Energies*
98. *Metals*

99. *Micromachines*
100. *Annals of Solid and Structural Mechanics*
101. *Advances in Civil Engineering*
102. *Open Engineering*
103. *Materials Research*
104. *International Journal of Modern Mechanics*
105. *Mathematical Problems in Engineering*
106. *Curved and Layered Structures*
107. *Frattura ed Integrità Strutturale – Fracture and Structural Integrity*
108. *SDRP Journal Of Biomedical Engineering*
109. *American Journal of Engineering and Applied Sciences*
110. *American Journal of Environmental Sciences*
111. *Journal of Nuclear Energy Science & Power Generation Technology*
112. *Alexandria Engineering Journal*
113. *Hereditary Genetics: Current Research*
114. *Mechanics & Industry*
115. *Open Physics Journal*
116. *Open Mechanical Engineering Journal*
117. *Ultra Engineer*
118. *The Scientific World Journal*
119. *Recent Patents on Mechanical Engineering*
120. *Journal of Zhejiang University-SCIENCE A (Applied Physics & Engineering)*

2.11 Research project review activity

- *2020/2021*: Selected as member of the committee for the evaluation of projects for the institutional initiative “Strengthening and attractiveness of the research system” of the **University of Pavia**.
- *2020*: Selected as technical-scientific expert for the evaluation of projects for the public call “Campania Start Up 2020” for the priority track “Regional strategy of research and innovation for smart specialization” - RIS3 Campania, promoted by **Regione Campania**.
- *2020*: Selected as international expert for the review of research projects in the panel “PE8 – Products and Process Engineering: Product design, process design and control, construction methods, civil engineering, energy processes, material engineering” within the program “Exploratory Research Projects – 2020 Call (PCE-2020)” promoted by the **Executive Agency for Higher Education, Research, Development and Innovation Funding – Romania**, to fund the best projects selected based on internationally competitive criteria.
- *2019/2020*: Selected as international expert for the review of research projects in the panel “PE8 – Products and Process Engineering: Product design, process design and control, construction methods, civil engineering, energy processes, material engineering” within the program “Research Projects for Stimulating Young Independent Teams (TE 2019)” promoted by the **Executive Agency for Higher Education, Research, Development and Innovation Funding – Romania**, to finance research projects to be carried out by young research teams.
- *2019/2020*: Selected as international expert for the review of research projects in the panel “PE8 – Products and Process Engineering: Product design, process design and control, construction methods, civil engineering, energy processes, material engineering” within the programme “Postdoctoral Research Projects (PD 2019)” promosso dalla **Executive Agency for Higher Education, Research, Development and Innovation Funding – Romania**, to finance research projects to be carried out by young research teams.
- *2018*: Selected as international expert for the review of research projects for the panel “Engineering, Metallurgy, Architecture and Transport Sciences” funded by the **National Research, Development and Innovation Office, Hungary**.
- *2018*: Selected as international expert for the review of research projects for the “Lise Meitner Program”, funded by the **Austrian Science Fund (FWF)** and designed for highly qualified post-doctoral researchers of any discipline and nation.
- *2018*: Selected as international expert for the review of research projects funded by **King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia**.

- *2018*: Selected as international expert for the review of research projects for the call “Vinci 2018” promoted by the **Italian-French University** and devoted to financial support of binational University course, cotutelle of PhD thesis, and mobility.
- *2017*: Selected as international expert for the review of research projects in the panel “PE8 – Products and Process Engineering” for the programme “*ERC Advanced Grants*”, promoted by the **European Research Council** to allow exceptional established research leaders of any nationality and any age to pursue ground-breaking, high-risk projects that open new directions in their respective research fields or other domains.
- *2017*: Selected as international expert for the review of research projects for the program “Megagrants”, funded by the **Ministry of Education and Science of the Russian Federation**, for the attraction of the leading scientists to Russian institutions of higher learning, research organizations of the governmental academies of sciences, and governmental research centers of the Russian Federation
- *2017*: Selected as international expert for the review of research projects for the **Austrian Science Fund (FWF)**.
- *2017*: Selected as international expert for the review of research projects for the initiative “Linz Institute of Technology (LIT)”, funded by the **Austrian Science Fund (FWF)** and the **Johannes Kepler University (JKU)**, to provide seed funding for outstanding, ideally interdisciplinary, high-risk/high-gain research projects, with a clear technological focus in mind.
- *2016*: Selected as international expert for the review of research projects within the program “Project 5-100”, funded by the **Ministry of Education and Science of the Russian Federation**, to maximize the competitive position of a group of leading Russian universities in the global research and education market.
- *2016*: Selected as international expert for the review of research projects within the program “IGSSE Project Teams”, funded by the **International Graduate School of Science and Engineering (IGSSE) of the Technical University of Munich**, to provide research opportunities and innovative doctoral training at the interface of science, engineering and/ or medicine, integrating approaches and methods from at least two diverse disciplines towards a common scientific goal.
- *2016*: Selected as international expert for the review of research projects within the program “Research Projects”, funded by the **Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek – Vlaanderen, FWO)**, to advance fundamental scientific research.
- *2016*: Selected as external referee for the program “Big Research Projects”, funded by **Sapienza – Università di Roma**, to promote excellence within the University.
- *2015*: Selected as international expert for the review of research projects in the panel “PE8 – Products and Process Engineering” for the programme “*ERC Advanced Grants*”, promoted by the **European Research Council** to allow exceptional established research leaders of any nationality and any age to pursue ground-breaking, high-risk projects that open new directions in their respective research fields or other domains.
- *2015*: Selected as international expert for the review of research projects within the program “Research Projects”, funded by the **Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek – Vlaanderen, FWO)**, to advance fundamental scientific research.
- *2015*: Selected as international expert for the review of research projects in the fields of “Mathematics, Physics Sciences, ICT, Engineering, Universe and Earth Sciences” within the program “Young Research Teams” promoted by the **Executive Agency for Higher Education, Research, Development and Innovation Funding – Romania**, to finance research projects to be carried out by young research teams.
- *2014*: Selected as international expert for the review of research projects in the fields of “Mathematics, Physics Sciences, ICT, Engineering, Universe and Earth Sciences” within the program “Romanian-France Scientific Collaboration Programme (Joint Research Projects type)” promoted by the **Executive Agency for Higher Education, Research, Development and Innovation Funding – Romania**, to finance joint research projects led by a Romanian and a French principal investigator.
- *2014*: Selected as international expert for the review of research projects within the program “Project Lead Agency Luxemburg”, funded by the **Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek – Vlaanderen, FWO)**, to promote international collaboration as a driving force for excellence.
- *2013*: Selected as international expert for the review of research projects within the program “Partnership Programme - Joint Applied Research Projects – PCCA 2013” within the “National Plan for Research, Development and Innovation 2007-2013”, funded by the Romanian Ministry of National Education through the **Executive Agency for Higher Education, Research, Development and Innovation Funding**, to finance joint experimental research and technological development projects.
- *2012*: Selected as international assessor for Scholarship applications by German Students, Graduates, Doctoral Students and Postdocs at the **German Academic Exchange Service (DAAD)**.

- *2012*: selected as international expert for the “PE8” Panel for the evaluation of research projects within the program “IDEAS - Exploratory Research Projects”, funded by the Romanian Government through the **Romanian National Research Council**, aiming at the support of internationally recognized senior researchers.
- *2011*: Selected as international expert for the “PE8” Panel for the evaluation of research projects within the program “Support of Postdoctoral Researchers”, funded by the **Greek Ministry of Education, Life Long Learning and Religious Affairs**, aiming at the support of high quality researchers holding a PhD by less than 7 years.
- *2011*: Selected as international expert for the review of research projects within the program “Archimedes”, funded by the **Greek Ministry of Education, Life Long Learning and Religious Affairs**, aiming at at the Enhancement of Research Groups at the Technological Educational Institutes of Greece.
- *2011*: Selected as international expert for the review of research projects within the program “Thalis”, funded by the **Greek Ministry of Education, Life Long Learning and Religious Affairs**, aiming at at the Enhancement of Interdisciplinary or/and Interdepartmental Research and Innovation with the Prospect for Recruitment of High-Level Researchers from Abroad via the Implementation of Basic and Applied High-Quality Research.
- *2010*: Selected as international expert for the review of research projects within the program “Vernieuwingsimpuls”, funded by the **Dutch Technology Foundation (STW)**, aiming at the support of innovative research carried out by young researchers.

2.12 Participation in external evaluation activities (e.g., PhD, Habilitation, Faculty Search Committees, etc.)

- *November 2020*: PhD dissertation external reviewer for the Technical University of Dresden.
- *November 2020*: Member of the evaluation committee for 2 manager positions for the Complex Managing Units in “Research design and management” and “Research training” of the University of Pavia.
- *September 2020*: President of the evaluation committee for the Habilitation à diriger des recherches at the Institut National des Sciences Appliquées (INSA) de Toulouse.
- *September 2020*: President of the final evaluation committee (nominated by the Ministry of Education, University, and Research) of the “Istituto Tecnico Superiore per l’Innovazione e la Qualità delle Abitazioni” at Fondazione “Pavia Città della Formazione”.
- *June-July 2020*: Member of the selection committee for 2 permanent positions of designers for the technical office of the University of Pavia.
- *March 2020*: President of the PhD committee for the PhD program in Design, Modeling, and Simulation in Engineering of the Università degli Studi di Pavia, in cotutelle with the Technical University of Munich.
- *September-November 2019*: Member of the selection committee for a position of Assistant Professor of Numerical Analysis at SISSA – Scuola Internazionale Superiore di Studi Avanzati.
- *September 2019*: PhD dissertation external reviewer for the National Institute of Technology Warangal.
- *May-September 2019*: Member of the selection committee for a position of tenure-track Assistant Professor of Mechanics of Solids and Structures at Università degli Studi di Trento.
- *May-July 2019*: President of the selection committee for a position of Assistant Professor of Mechanics of Solids and Structures at Università degli Studi di Pavia.
- *March 2019*: Member of the selection committee for 2 positions of tenured Associate Professors of Mechanics of Solids and Structures at Alma Mater Studiorum - Università di Bologna.
- *March 2019*: External reviewer for the promotion to Associate Professor of a tenure-track Assistant Professor of Mechanics of Solids and Structures at the Università degli Studi di Trento.
- *February 2019*: PhD committee expert member for the PhD in Scienze della Terra e dell’Ambiente of the Università degli Studi di Pavia.
- *November 2018*: PhD committee external member for the Institut National des Sciences Appliquées (INSA) de Lyon.
- *March-October 2018*: Member of the Joint Search and Evaluation Committee for the “6th call for Rudolf Mößbauer Tenure Track Professorships” (deciding on 10 “tenure-track” Professor positions) at the Technical University of Munich.
- *September 2018*: Member of the selection committee for a position of tenure-track Assistant Professor of Mechanics of Solids and Structures at Politecnico di Torino.

- *July 2018*: President of the final evaluation committee (nominated by the Ministry of Education, University, and Research) of the “Istituto Tecnico Superiore per l’Innovazione e la Qualità delle Abitazioni” at Fondazione “Pavia Città della Formazione”.
- *June 2018*: Habilitation external committee member at the Technical University of Munich.
- *February 2018*: PhD committee external member for the Eindhoven University of Technology.
- *November–December 2017*: Member of the selection committee for a position of tenured Associate Professor of Mechanics of Solids and Structures at Politecnico di Torino.
- *November 2017*: PhD committee external member for the Technical University of Munich.
- *September 2017*: PhD dissertation external reviewer for the Università del Salento.
- *June 2017*: PhD committee external member for the Katholieke Universiteit Leuven.
- *February 2017*: PhD committee external member for the Technical University of Munich.
- *December 2016*: PhD committee external member for the Università degli Studi di Roma Tor Vergata.
- *November 2016*: Habilitation external committee member at the RWTH Aachen University.
- *July 2016*: President of the final evaluation committee (nominated by the Ministry of Education, University, and Research) of the “Istituto Tecnico Superiore per l’Innovazione e la Qualità delle Abitazioni” at Fondazione “Pavia Città della Formazione”.
- *June 2016*: Referee of research outputs for the evaluation campaign of Italian research institution: Valutazione della Qualità della Ricerca “VQR 2011–2014”, carried out by the Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca (ANVUR).
- *May 2016*: PhD committee external member for the University of A Coruña.
- *March 2016*: PhD committee external member for the Università degli Studi di Cassino e del Lazio Meridionale.
- *January 2016*: PhD committee external member for the Delft University of Technology.
- *November 2015*: PhD committee external member for the Bauhaus University Weimar.
- *February 2015*: PhD committee external member for the Università degli Studi di Roma Tor Vergata.
- *January 2015*: PhD committee external member for the École Polytechnique.
- *December 2014*: PhD committee external member for the University of Aveiro.
- *February 2014*: PhD committee external member for the Eindhoven University of Technology.
- *February 2014*: PhD report external reviewer for the University of Aveiro.
- *November 2013*: External reviewer for a position of Assistant Professor of Mechanics of Solids and Structures at the Università degli Studi di Trento.
- *July 2013*: PhD committee external member for the Technical University of Munich.

2.13 Organization of congresses

1. *November 2022*: **Member of the Steering Committee** for the international congress IGA 2022: Isogeometric Methods – Integrating Design and Analysis (Banff).
2. *August 2021*: **Organizing committee member** for the international congress ICTAM 2020+1 – 25th International Congress of Theoretical and Applied Mechanics (Milano).
3. *August 2020*: **Member of the Steering Committee** for the international congress VIGA 2020: Virtual IsoGeometric Analysis (online).
4. *September 2019*: **Member of the Steering Committee** for the international congress VII International Conference on Isogeometric Analysis – IGA 2019 (Munich).
5. *May 2019*: **Chairman and organizing committee member** for the international congress HOFEIM 2019 – High-Order Finite Element and Isogeometric Methods (Pavia).
6. *Maggio 2019*: **Co-chairman and organizing committee member** for the international congress Phase2019 – Recent advances in Phase-Field modeling: from Engineering to Biology (Pavia).

7. *October 2018*: **Member of the Steering Committee** for the international congress IGA 2018: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
8. *September 2018*: **Organizing committee member** of the workshop “Advanced Computational Modeling for Tumor Growth Prediction” (Munich).
9. *September 2018*: **Organizing committee member** of the 2° Congresso Nazionale IDBN & III Thematic Conference ESB-ITA “3D Printing and Biomechanics” (Pavia).
10. *August 2018*: **Co-chairman** of the international congress ICCM2018 – 9th International Conference for Computation Methods (Roma).
11. *July 2018*: **Member of the International Scientific Organizing Committee** for the international congress WCCM XIII-PANACM II – 13th World Congress on Computational Mechanics and 2nd Pan American Congress on Computational Mechanics (New York, NY).
12. *February-March 2018*: **Co-chairman** of the 1st GACM-GIMC workshop on “Common Research Interests in Computational Mechanics” (Udine).
13. *November 2017*: **Co-chairman** of the international workshop Embedded & Unfitted methods (Barcelona).
14. *September 2017*: **Chairman and organizing committee member** for the V International Conference on Isogeometric Analysis – IGA 2017 (Pavia).
15. *April 2017*: **Organizing committee member** for the international congress FEF2017 – The 19th International Conference on Finite Elements in Flow Problems (Roma).
16. *October 2016*: **Steering committee member** for the international congress USACM Conference on Isogeometric and Meshfree Methods (La Jolla, CA).
17. *May-June 2016*: **Co-chairman and organizing committee member** for the international congress HOFEIM 2016 – High-Order Finite Element and Isogeometric Methods (Jerusalem).
18. *June 2015*: **Steering committee member** for the international congress III International Conference on Isogeometric Analysis – IGA 2015 (Trondheim).
19. *July 2014*: **Co-chairman and organizing committee member** for the international congress HOFEIM 2014 – High-Order Finite Element and Isogeometric Methods (Munich).
20. *January 2014*: **Co-chairman and organizing committee member** for the international congress IGA 2014: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
21. *September 2009*: **Organizing committee member** for the international congress *Numerical Methods for Multi-material Fluids and Structures* (Pavia).

2.14 Participation in congress scientific boards

1. *November 2022*: IGA 2022: Isogeometric Methods – Integrating Design and Analysis (Banff).
2. *September 2021*: COMPLAS 2021 – XVI International Conference on Computational Plasticity. Fundamentals and Applications (Barcelona).
3. *July 2021*: USNCCM16 – 16th US National Congress on Computational Mechanics (Chicago).
4. *July 2021*: YIC2021 – ECCOMAS Young Investigators Conference (Valencia).
5. *June 2021*: COUPLED 2021 – IX International Conference on Coupled Problems in Science and Engineering (Chia).
6. *June 2021*: 7th International Conference on Computational and Mathematical Biomedical Engineering (Milano).
7. *August 2020*: VIGA 2020: Virtual IsoGeometric Analysis (online).
8. *July 2020*: ICCM2020 – 11th International Conference on Computational Methods (Ho Chi Minh).
9. *September 2019*: VII International Conference on Isogeometric Analysis – IGA 2019 (Munich).
10. *September 2019*: Sim-AM – 2nd ECCOMAS Thematic Conference on Simulation for Additive Manufacturing (Pavia).
11. *September 2019*: COMPLAS XV – XV International Conference on Computational Plasticity. Fundamentals and Applications (Barcelona).
12. *September 2019*: XXIV Congresso AIMETA (Roma).
13. *July 2019*: ICCM2019 – 10th International Conference on Computational Methods (Singapore).

14. *June 2019*: 6th International Conference on Computational and Mathematical Biomedical Engineering (Sendai).
15. *June 2019*: International Conference on Nonlinear Solid Mechanics - ICoNSoM 2019 (Roma).
16. *May 2019*: HOFEIM 2019 – High-Order Finite Element and Isogeometric Methods (Pavia).
17. *March-April 2019*: FEF2019 – The 20th International Conference on Finite Elements in Flow Problems (Chicago, IL).
18. *October 2018*: IGA 2018: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
19. *September 2018*: GIMC-GMA 2018 – XXII Italian National Conference of Computational Mechanics and IX Italian Meeting on Advances in Mechanics of Materials (Ferrara).
20. *August 2018*: International Symposium on Isogeometric Analysis and Mesh Generation (Dalian).
21. *August 2018*: ICCM2018 – 9th International Conference on Computational Methods (Roma).
22. *July 2018*: WCCM XIII-PANACM II – 13th World Congress on Computational Mechanics and 2nd Pan American Congress on Computational Mechanics (New York, NY).
23. *June 2018*: ECCM6-ECFD7 – 6th European Conference on Computational Mechanics and 7th European Conference on Computational Fluid Dynamics (Glasgow).
24. *Aprile 2018*: 12th International Conference on Geometric Modeling and Processing – GMP 2018 (Aachen).
25. *April 2018*: IGAA 2018 – Isogeometric Analysis and Applications (Delft).
26. *November 2017*: ICBT 2017 – Third International Conference on Biomedical Technology (Hannover).
27. *October 2017*: Sim-AM – 1st ECCOMAS Thematic Conference on Simulation for Additive Manufacturing (Munich).
28. *September 2017*: V International Conference on Isogeometric Analysis – IGA 2017 (Pavia).
29. *September 2017*: COMPLAS XIV – XIV International Conference on Computational Plasticity. Fundamentals and Applications (Barcelona).
30. *September 2017*: YIC2017 – ECCOMAS Young Investigators Conference (Milano).
31. *July 2017*: ICCM2017 – 8th International Conference on Computational Methods (Guilin, Guangxi).
32. *April 2017*: 5th International Conference on Computational and Mathematical Biomedical Engineering (Pittsburgh).
33. *April 2017*: 11th International Conference on Geometric Modeling and Processing – GMP 2017 (Xiamen).
34. *March 2017*: FEF2017 – The 19th International Conference on Finite Elements in Flow Problems (Roma).
35. *October 2016*: USACM Conference on Isogeometric and Meshfree Methods (San Diego, CA).
36. *August 2016*: ICCM2016 – 7th International Conference on Computational Methods (Berkeley, CA).
37. *June 2016*: GIMC-GMA 2016 – XXI Italian National Conference of Computational Mechanics and VIII Italian Meeting on Advances in Mechanics of Materials (Lucca).
38. *June 2016*: 7th European Congress on Computational Methods in Applied Sciences and Engineering (Crete).
39. *May-June 2016*: HOFEIM 2016 – High-Order Finite Element and Isogeometric Methods (Jerusalem).
40. *Aprile 2016*: 10th International Conference on Geometric Modeling and Processing – GMP 2016 (San Antonio, TX).
41. *October 2015*: ICBT 2015 – Second International Conference on Biomedical Technology (Hannover).
42. *September 2015*: COMPLAS XIII – XIII International Conference on Computational Plasticity. Fundamentals and Applications (Barcelona).
43. *September 2015*: International Conference on Shells, Plates and Beams (Bologna).
44. *July 2015*: USNCCM13 – 13th US National Congress on Computational Mechanics (San Diego).
45. *July 2015*: ICCM2015 – 6th International Conference on Computational Methods (Auckland).
46. *June 2015*: III International Conference on Isogeometric Analysis – IGA 2015 (Trondheim).
47. *June 2015*: 9th International Conference on Geometric Modeling and Processing – GMP 2015 (Lugano).
48. *July 2014*: ICCM2014 – 5th International Conference on Computational Methods (Cambridge).

49. *July 2014*: WCCM-ECCM-ECFD2014 – 11th World Congress on Computational Mechanics, 5th European Conference on Computational Methods, and 6th European Conference on Computational Fluid Dynamics (Barcelona).
50. *July 2014*: HOFEIM 2014 – High-Order Finite Element and Isogeometric Methods (Munich).
51. *June 2014*: GNB 2014 – IV Conference of the Italian National Bioengineering Group (Pavia).
52. *June 2014*: GIMC-GMA 2014 – XX Italian National Conference of Computational Mechanics and VII Italian Meeting on Advances in Mechanics of Materials (Cassino).
53. *January 2014*: IGA 2014: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
54. *November 2013*: ICBT 2013 – International Conference on Biomedical Technology (Hannover).
55. *September 2013*: YIC2013 – ECCOMAS Young Investigators Conference (Bordeaux).
56. *April 2012*: YIC2012 – ECCOMAS Young Investigators Conference (Aveiro).
57. *June 2011*: HOFEIM 2011 – Higher Order Finite Element and Isogeometric Methods (Krakow).
58. *April 2010*: S(3)T 2010 – School and Symposium on Smart Structural Systems Technologies (Porto).
59. *September 2009*: MULTIMAT 2009 – Numerical Methods for Multi-material Fluids and Structures (Pavia).

2.15 Organization/chair of symposia and thematic sessions

1. *September 2021*: **Chairman and organizer of the invited session** *Isogeometric Methods*, within the 16th International Conference on Computational Plasticity. Fundamentals and Applications - COMPLAS 2021 (Barcelona).
2. *October 2020*: **Organizer of the invited session** *IGA for Solids and Structures* di IGA 2020: Isogeometric Methods – Integrating Design and Analysis (Banff).
3. *September 2019*: **Chairman of a plenary session** at the VII International Conference on Isogeometric Analysis – IGA 2019 (Munich).
4. *September 2019*: **Chairman and organizer of the invited session** *Isogeometric collocation*, within the VII International Conference on Isogeometric Analysis – IGA 2019 (Munich).
5. *September 2019*: **Chairman and organizer of the invited session** *Isogeometric Methods*, within the 15th International Conference on Computational Plasticity. Fundamentals and Applications - COMPLAS XV (Barcelona).
6. *July-August 2019*: **Chairman and organizer of the symposium** *Isogeometric Methods*, within the 15th US National Congress on Computational Mechanics (Austin, TX).
7. *June 2019*: **Organizer of the invited session** *Model Reduction in Computational Mechanics*, within the VIII International Conference on Coupled Problems in Science and Engineering - COUPLED 2019 (Sitges).
8. *May 2019*: **Session chairman** at HOFEIM 2019 – High-Order Finite Element and Isogeometric Methods (Pavia).
9. *May 2019*: **Session chairman** at Phase2019 – Recent advances in Phase-Field modeling: from Engineering to Biology (Pavia).
10. *March-April 2019*: **Organizer of the invited session** *Computational Hemodynamics, from Scientific Computing to Clinics: Emerging Challenges in Finite Elements (and beyond)*, within the 20th International Conference on Fluid Flow Problems - FEF2019 (Chicago, IL).
11. *Ottobre 2018*: **Chairman and organizer of the invited session** on *Collocation* di IGA 2018: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
12. *September 2018*: **Session chairman** at GIMC-GMA 2018 – XXII Convegno Nazionale di Meccanica Computazionale and IX Riunione del Gruppo Materiali AIMETA (Ferrara).
13. *July 2018*: **Chairman and organizer of the symposium** *Symposium to Honor Professor Thomas J.R. Hughes on his 75th Birthday*, within WCCM XIII-PANACM II – 13th World Congress on Computational Mechanics and 2nd Pan American Congress on Computational Mechanics (New York, NY).
14. *July 2018*: **Chairman and organizer of the symposium** *Isogeometric Methods - A symposium in honor of Tom Hughes*, within WCCM XIII-PANACM II – 13th World Congress on Computational Mechanics and 2nd Pan American Congress on Computational Mechanics (New York, NY).
15. *July 2018*: **Chairman and organizer of the invited session** *Geometry and Discretization*, within ESMC 2018 – 10th European Solids Mechanics Conference (Bologna).

16. *July 2018: Chairman and organizer of the symposium *Isogeometric Methods**, within ECCM6-ECFD7 – 6th European Conference on Computational Mechanics and 7th European Conference on Computational Fluid Dynamics (Glasgow).
17. *February-March 2018: Session chairman* at the 1st GACM-GIMC workshop on “Common Research Interests in Computational Mechanics” (Udine).
18. *September 2017: Chairman of the opening plenary session* at the V International Conference on Isogeometric Analysis – IGA 2017 (Pavia).
19. *September 2017: Chairman of the invited session* on *Industrial applications of IGA*, within the V International Conference on Isogeometric Analysis – IGA 2017 (Pavia).
20. *September 2017: Chairman of the contributed session* on *IGA Applications*, within the V International Conference on Isogeometric Analysis – IGA 2017 (Pavia).
21. *September 2017: Chairman and organizer of the invited session *Isogeometric Methods**, within the 14th International Conference on Computational Plasticity. Fundamentals and Applications - COMPLAS XIV (Barcelona).
22. *September 2017: Chairman and organizer of the symposium *Novel Approaches in Computational Mechanics**, within the XXIII Congresso AIMETA (Salerno).
23. *July 2017: Chairman and organizer of the symposium *Isogeometric Methods**, within the 14th US National Congress on Computational Mechanics (Montreal).
24. *October 2016: Organizer of the thematic session* on *Quadrature and stability issues in IGA and Meshfree methods*, within the USACM Conference on Isogeometric and Meshfree Methods (La Jolla, CA).
25. *October 2016: Chairman and organizer of the thematic session* on *Galerkin and collocation methods*, within the USACM Conference on Isogeometric and Meshfree Methods (La Jolla, CA).
26. *July 2016: Chairman and organizer of the symposium *Isogeometric Methods**, within the 12th World Congress on Computational Mechanics (Seoul).
27. *June 2016: Chairman and organizer of the symposium *Simulation of Cardiovascular Procedures and Devices**, within the 7th European Congress on Computational Methods in Applied Sciences and Engineering (Crete).
28. *June 2016: Chairman and organizer of the symposium *Isogeometric Methods**, within the 7th European Congress on Computational Methods in Applied Sciences and Engineering (Crete).
29. *June 2016: Session chairman* at HOFEIM 2016 – Higher Order Finite Element and Isogeometric Methods (Jerusalem).
30. *June 2016: Session chairman* at GIMC-GMA 2016 – XXI Convegno Nazionale di Meccanica Computazionale and VIII Riunione del Gruppo Materiali AIMETA (Lucca).
31. *September 2015: Chairman and organizer of the invited session *Isogeometric Analysis in Forming Processes**, within the 13th International Conference on Computational Plasticity. Fundamentals and Applications - COMPLAS XIII (Barcelona).
32. *September 2015: Chairman and organizer of the symposium *GIMC - Advances in Computational Mechanics**, within the XXII Congresso AIMETA (Genova).
33. *July 2015: Chairman and organizer of the symposium *Isogeometric Methods**, within the 13th US National Congress on Computational Mechanics (San Diego, CA).
34. *July 2015: Chairman and organizer of the invited session *Geometry and Discretization**, within ESMC 2015 – 9th European Solids Mechanics Conference (Madrid).
35. *June 2015: Organizer of the symposium *Simulation of Cardiovascular Procedures and Devices**, within the 4th International Conference on Computational & Mathematical Biomedical Engineering (Cachan).
36. *June 2015: Chairman of the session* on *Collocation* of the III International Conference on Isogeometric Analysis – IGA 2015 (Trondheim).
37. *April 2015: Organizer of the symposium *Isogeometric Methods**, within the 1st Pan-American Congress on Computational Mechanics – PANACM 2015 (Buenos Aires).
38. *March 2015: Chairman of the symposium *Fluid-Structure Interaction**, within the 18th International Conference on Finite Elements in Flow Problems – FEF 2015 (Taipei).
39. *July 2014: Chairman and organizer of the symposium *Isogeometric Methods**, within WCCM-ECCM2014 – 11th World Congress on Computational Mechanics and 5th European Conference on Computational Methods (Barcelona).

40. *July 2014: Session chairman* at HOFEIM 2014 Higher Order Finite Element and Isogeometric Methods (Munich)
41. *June 2014: Chairman of the session* on *Biomechanics and Biorobotics* of GNB 2014 – IV Conference of the Italian National Bioengineering Group (Pavia). (Pavia).
42. *June 2014: Session chairman* at GIMC-GMA 2014 – XX Italian National Conference of Computational Mechanics and VII Italian Meeting on Advances in Mechanics of Materials (Cassino).
43. *April 2014: Session chairman* at IGAA 2014 – Isogeometric Analysis and Applications (Annweiler am Trifels).
44. *January 2014: Chairman of the session* on *Spectrum Analysis* of IGA 2014: Isogeometric Methods – Integrating Design and Analysis (Austin, TX).
45. *December 2013: Organizer of the symposium* *Numerical Simulation of Cardiovascular Devices & Procedures*, within the 3rd International Conference on Computational & Mathematical Biomedical Engineering (Hong Kong).
46. *December 2013: Chairman and organizer of the symposium* *Isogeometric Methods*, within APCOM2013 – 5th Asia Pacific Congress on Computational Mechanics & ISCM 2013 – 4th International Symposium on Computational Mechanics (Singapore).
47. *Novembre 2013: Chiarman and organizer of the symposium* *Numerical simulation of cardiovascular problems, with a special focus on devices and procedures*, within ICBT 2013 – International Conference on Biomedical Technology (Hannover).
48. *September 2013: Chairman and organizer of the symposium* *Advanced Methods for Computational Mechanics: Beyond Classical Finite Elements*, within the XXI AIMETA Congress (Torino).
49. *September 2013: Chairman and organizer of the symposium* *Computational Biomechanics: Applications to Cardiovascular Problems*, within the XXI AIMETA Congress (Torino).
50. *July 2013: Chairman and organizer of the symposium* *Isogeometric Methods: A Symposium Celebrating the 70th Birthday of Prof. T.J.R. Hughes*, within the 12th US National Congress on Computational Mechanics (Raleigh, NC).
51. *June 2013: Chairman and organizer of the symposium* *Isogeometric Methods*, within SEECM III – South-East Conference on Computational Mechanics & COMPDYN 2013 – Computational Methods in Structural Dynamics and Earthquake Engineering (Kos).
52. *February 2013: Chairman and organizer of the symposium* *Isogeometric Methods*, within Advances in Computational Mechanics – A Conference Celebrating the 70th Birthday of Thomas J.R. Hughes (San Diego, CA).
53. *September 2012: Organizer and chairman of the symposium* *Isogeometric Methods*, within the 6th European Congress on Computational Methods in Applied Sciences and Engineering (Vienna).
54. *September 2012: Organizer of the symposium* *New Applications of Isogeometric Methods to Structural Analysis*, within CST2012: The Eleventh International Conference on Computational Structures Technology (Dubrovnik).
55. *July 2012: Organizer and chairman of the symposium* *Recent Developments in Isogeometric Analysis*, within the 10th World Congress on Computational Mechanics (São Paulo).
56. *Aprile 2012: Chairman of the session* on *Computational Biomechanics* of YIC2012 – ECCOMAS Young Investigators Conference (Aveiro).
57. *July 2011: Organizer and chairman for the symposium* *Isogeometric Methods*, within the 11th US National Congress on Computational Mechanics (Minneapolis, MN).
58. *May 2011: Organizer of the symposium* *Meshless Methods*, within COMPDYN 2011 – Computational Methods in Structural Dynamics and Earthquake Engineering (Corfu).
59. *July 2010: Organizer and chairman for the symposium* *Isogeometric Methods*, within the 9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics (Sydney).
60. *May 2010: Chairman for the symposium* *Isogeometric Methods*, organized by T. Kvamsdal and T. Dokken within the IV European Conference on Computational Mechanics (Paris).
61. *November 2009: Chairman for the symposium* *Isogeometric Methods*, organized by Y. Bazilevs and D.J. Benson within the ASME International Mechanical Engineering Congress & Exposition (Lake Buena Vista, FL).
62. *July 2009: Organizer and chairman for the symposium* *Synergies in Computational Mechanics and Geometry: A Symposium in Honor of Prof. T.J.R. Hughes*, within the 10th US National Congress on Computational Mechanics (Columbus, OH).
63. *July 2006: Chairman for the symposium* *Computational Geometry and Analysis*, organized by T.J.R. Hughes within the 7th World Congress on Computational Mechanics (Los Angeles).

2.16 Organization of international courses

1. *May 2018: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, technology and computations*, taught by F. Auricchio, M. Bischoff, A. Reali, G. Sangalli e R.L. Taylor, at the University of Pavia (Pavia).
2. *June 2016: Organizing committee member of the course Isogeometric Analysis: Fundamentals and Applications*, taught by T.J.R. Hughes, T. Kvamsdal, A. Reali, G. Sangalli, M.A. Scott, C. Verhoosel, promoted by the ECCOMAS Committee on Computational and Applied Mathematics (Crete).
3. *May 2016: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, technology and computations*, taught by F. Auricchio, M. Bischoff, A. Reali, G. Sangalli e R.L. Taylor, at the University of Pavia (Pavia).
4. *July 2014: Organizing committee member of the course Isogeometric Analysis: Fundamentals and Applications*, taught by T.J.R. Hughes, T. Kvamsdal, A. Reali, G. Sangalli, M.A. Scott, C. Verhoosel, promoted by the ECCOMAS Committee on Computational and Applied Mathematics (Barcelona).
5. *May 2014: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, technology and computations*, taught by F. Auricchio, M. Bischoff, A. Reali, G. Sangalli e R.L. Taylor, at the IMATI-CNR (Pavia).
6. *September 2012: Organizing committee member of the course Isogeometric Analysis: Fundamentals and Applications*, taught by T.J.R. Hughes, A. Reali, T. Dokken, T. Kvamsdal, C. Verhoosel, K. van der Zee, promoted by the ECCOMAS Committee on Computational and Applied Mathematics (Vienna).
7. *April 2012: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, technology and computations*, taught by F. Auricchio, M. Bischoff, A. Reali, G. Sangalli e R.L. Taylor, at the IMATI-CNR (Pavia).
8. *April 2010: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, technology and computations*, taught by F. Auricchio, M. Bischoff, A. Reali, G. Sangalli e R.L. Taylor, at the IMATI-CNR (Pavia).
9. *May 2007: Organizing committee member for the course Nonlinear Computational Solid & Structural Mechanics. Theoretical formulation, FEM technology and computations*, taught by F. Brezzi, A. Ibrahimbegovic, R.L. Taylor and F. Auricchio, at the IMATI-CNR (Pavia).

2.17 Management of teaching programs

- *April 2017 - September 2023: Coordinator of the PhD Program in Design Modeling, and Simulation in Engineering* of the University of Pavia.
- *February 2013 - September 2018: Coordinator of the Master Program in Civil Engineering* at the University of Pavia.
- *February 2013 - September 2018: Coordinator of the Evaluation Committee of the Master Program in Civil Engineering* at the University of Pavia.
- *November 2013 - October 2016: Member of the Professor-Student Committee for Teaching Evaluation* at the Engineering Faculty of the University of Pavia.
- *Luglio 2011 - January 2016: Coordinator of the graduation committees for the Bachelor and the Master degrees in Civil Engineering* at the University of Pavia.

2.18 Main scientific/professional consulting activities

- *September 2019 - Ottobre 2020: Analysis and development of reliable and optimized numerical methods to model CO₂ injection and migration in deep geological structures for ENI* (San Donato Milanese).
- *July 2020 - September 2020: Support for the development of a simulation software for stress analysis of a rotor blade for Julight s.r.l.* (Pavia).
- *January 2020 - June 2020: Support for the development of a simulation software for building nonlinear analysis for Rebel Dynamics s.r.l.* (Lecco).
- *Ottobre 2011 - September 2016: Isogeometric Analysis for large deformation incompressible problems for Hutchinson - Total* (France).
- *December 2007 - December 2014: SMAs: constitutive modeling, simulation and device design for SAES Getters Group* (Lainate, MI).

- *November 2006 - December 2006: Finite element modeling consulting* for the simulation of shape memory alloy devices for *Nokia Corporate* (Finland).
- *May 2005 - October 2005: Finite element modeling consulting* for the simulation of shape memory alloy devices for the *Istituto per l'Energetica e le Interfasi (IENI) – CNR* (Lecco).
- *May 2003 - February 2004: Finite element implementation consulting* for the development of the assisted design software *ProSA* for *EUCENTRE* (Pavia).
- *September 2001 - July 2002: Mechanical design consulting* for *Bright Solutions - Soluzioni Laser Innovative s.r.l.* (Cura Carpignano, PV).

3 Research and publications

3.1 Main research topics

- a. Development and analysis of “isogeometric methods”.
- b. Development of constitutive models, modeling, and simulation of advanced materials.
- c. Development and analysis of primal, mixed, and mixed-enhanced finite element or isogeometric methods for nearly incompressible and incompressible materials.
- d. Development and analysis of numerical methods for thin structures (beams, plates, shells).
- e. Development and analysis of strong-form methods, based on meshless or collocation techniques.
- f. Development and analysis of “immersed” or “fictitious domain” methods.
- g. Development and analysis of “phase-field” methods.
- h. Development and use of computational methods for the simulation of fluid-mechanics and fluid-structure interaction problems.
- i. Development and use of computational methods for the simulation of biomechanical problems.
- j. Development and use of computational methods for the simulation of 3D printing problems.
- k. Development and use of computational methods for the simulation of crowd dynamics problems.
- l. Development and use of computational methods for the simulation of geomechanical problems.
- m. Development and use of computational methods for the simulation of disease spread problems

3.2 Research software release

- *October 2010: GeoPDEs: a research tool for IsoGeometric Analysis of PDEs* (<http://geopdes.sourceforge.net>); in collaboration with C. de Falco and R. Vázquez. Free software released under the terms of the GNU GPL license (v3). **More than 5,000** downloads.

3.3 Publications

130 papers in peer-reviewed international journals

3 papers submitted to peer-reviewed international journals

2 invited papers on international scientific magazines

14 book chapters

32 papers in international conference proceedings

2 papers in national conference proceedings

3 theses

1 research report (unpublished elsewhere)

Number of total citations:

- **10,106** (according to the *Google Scholar* database)

- **6,556** (according to the *Scopus* database)
- **5,882** (according to the *ISI Web of Knowledge* database)

Number of citations for the 5 most cited papers:

- **1,088, 982, 717, 558, 418** (according to the *Google Scholar* database)
- **712, 609, 480, 352, 259** (according to the *Scopus* database)
- **651, 545, 436, 318, 237** (according to the *ISI Web of Knowledge* database)

h-index:

- **44** (according to the *Google Scholar* database)
- **38** (according to the *Scopus* database)
- **36** (according to the *ISI Web of Knowledge* database)

3.4 Invited lectures

- **Presenting author** of **74 invited seminars or lectures** at internationally renowned institutions; **25 plenary or keynote**, and other **33 invited lectures** at international conferences.
- **Co-author** of **11 invited seminars or lectures** at internationally renowned institutions; **29 plenary or keynote**, and other **120 invited lectures** at international conferences.
- **Author/co-author** of a total of **398 contributions (304 invited)** at conferences, workshops, seminars.

3.5 Research projects

European projects:

1. *September 2020 - August 2023: H2020 Marie Skłodowska-Curie Individual Fellowships*
PICModForPCa – Personalised Image-based Computational Modelling Framework to Forecast Prostate Cancer
Role: **supervisor of the principal investigator** (principal investigator: G. Lorenzo)
2. *March 2018 - February 2022: H2020 Marie Skłodowska-Curie Innovative Training Networks*
ProTechTion – Industrial decision-making on complex production technologies supported by simulation-based engineering
Role: **unit member** (coordinator: E. Oñate)
3. *October 2012 - September 2016: FP7 Erasmus Mundus*
SEED – Simulation in Engineering and Entrepreneurship Development
Role: **unit member** (coordinator: P. Diez)
4. *November 2010 - October 2015: FP7 Ideas ERC Starting Grant*
ISOBIO – Isogeometric Methods for Biomechanics
Role: **principal investigator**
5. *September 2011 - August 2014: FP7 Factories of the Future*
Towards Enhanced Integration of Design and Production in the Factory of the Future through Isogeometric Technologies
Role: **unit member** (coordinator: T. Dokken)
6. *September 2008 - October 2013: FP7 Ideas ERC Starting Grant*
BioSMA – Mathematics for Shape Memory Technologies in Biomechanics
Role: **research team member** (principal investigator: U. Stefanelli)
7. *July 2008 - June 2012: FP7 Ideas ERC Starting Grant*
GeoPDEs – Innovative compatible discretization techniques for Partial Differential Equations
Role: **proposing team member** (principal investigator: A. Buffa)
8. *December 2006 - December 2009: FP6 ESF Eurocores Programme*
SMARTeR: Shape Memory Alloys to Regulate Transient Responses in civil engineering
Role: **unit member** (coordinator: M. Frémond)
9. *November 2002 - October 2006: FP5 Research Training Network*
SMART-SYSTEMS. New Materials, Adaptive Systems and their Nonlinearities. Modelling, Control and Numerical Simulation
Role: **unit member** (coordinator: B. Miara)

Other international projects:

10. *September 2017 - September 2018: Focal Period program of the Institute for Advanced Study – Technical University of Munich*
Advanced Computational Modeling for Tumor Growth Prediction
Role: **proposing team member** (along with B.A. Schrefler and W.A. Wall)
11. *June 2014 - May 2017: National Program for Research, Development and Innovation Oriented to the Challenges of Society – Spain* (Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad)
Computational modeling of cancer microvasculature: unraveling the topology and transport functionality of tumor-induced capillary networks
Role: **research team member** (principal investigator: H. Gomez)
12. *June 2013 - May 2015: National Science and Technology Foundation – Portugal* (Fundação para a Ciência e a Tecnologia)
Development of isogeometric (IGA) formulations for the numerical simulation of plastic forming processes
Role: **research team member** (principal investigator: R. Valente)
13. *January 2012 - December 2013: Ateneo Italo-Tedesco & German Academic Exchange Service, Vigoni Programme*
Patching trimmed surfaces in Isogeometric Analysis
Role: **principal investigator** (along with S. Kollmansberger)
14. *January 2006 - December 2009: Office of Naval Research (USA)*
Isogeometric Analysis for Naval Ship Structures
Role: **research team member** (principal investigator: T.J.R. Hughes)
15. *December 2002 - December 2005: Office of Naval Research (USA)*
Geometrically Exact Structural Analysis and Determination of Hydrodynamic Noise Sources
Role: **research team member** (principal investigator: T.J.R. Hughes)

Italian projects:

16. *September 2019 - September 2022: Progetti di ricerca di Rilevante Interesse Nazionale (PRIN) of Ministero dell'Istruzione, dell'Università e della Ricerca*
XFAST-SIMS: Extra fast and accurate simulation of complex structural systems
Role: **principal investigator**
17. *February 2020 - July 2022: Call Hub Innovazione e Ricerca of Regione Lombardia*
CE4WE - Circular Economy for Water and Energy
Role: **unit leader** (coordinator: A. Di Giulio)
18. *April 2018 - March 2021: Bando Ricerca Finalizzata of Ministero della Salute*
Mapping of aortic arch hemodynamics by biomechanical analysis and modeling for planning Thoracic Endovascular Aortic Repair (TEVAR)
Role: **proposing team member** (coordinator: S. Trimarchi)
19. *January 2020 - December 2020: GNCS Research Project - Istituto Nazionale di Alta Matematica*
Tecniche Numeriche Avanzate per Applicazioni Industriali (Advanced Numerical Techniques for Industrial Applications)
Role: **research team member** (coordinator: S. Perotto)
20. *January 2019 - December 2019: GNCS Research Project - Istituto Nazionale di Alta Matematica*
Advanced intrusive and non-intrusive model order reduction techniques and applications
Role: **research team member** (coordinator: G. Rozza)
21. *March 2017 - October 2019: Bando Smart Living - Regione Lombardia*
TPro.SL - Tech Profiles for Smart Living
Role: **research team member** (coordinator: P. Colombo)
22. *September 2016 - August 2019: Bando Ricerca Finalizzata of Ministero della Salute*
Pancreatic ductal adenocarcinoma (PDAC): development of a new communication platform between radiologists, surgeons and pathologists based on virtual and 3D printed reconstructions of the pancreas and the tumor mass
Role: **unit leader** (coordinator: A. Pietrabissa)
23. *January 2018 - December 2018: GNCS Research Project - Istituto Nazionale di Alta Matematica*
Tecniche di riduzione di modello per le applicazioni mediche (Model reduction techniques for medical applications)
Role: **research team member** (coordinator: S. Perotto)

24. *October 2016 - October 2018: **Fondazione Cariplo - Regione Lombardia, RST - rafforzamento** (Towards new super fast and accurate simulation tools based on isogeometric analysis)
Verso nuovi strumenti di simulazione super veloci ed accurati basati sull'analisi isogeometrica
Role: **principal investigator***
25. *January 2017 - December 2017: **GNCS Research Project - Istituto Nazionale di Alta Matematica**
Metodi numerici avanzati combinati con tecniche di riduzione computazionale per PDEs parametrizzate e applicazioni
(Advanced numerical methods combined with computational reduction techniques for parameterized PDEs and applications)
Role: **research team member** (coordinator: G. Rozza)*
26. *January 2016 - December 2016: **GNCS Research Project - Istituto Nazionale di Alta Matematica**
Tecniche di riduzione della complessità computazionale per le scienze applicate (Computational complexity reduction techniques for applied sciences)
Role: **research team member** (coordinator: G. Rozza)*
27. *January 2014 - December 2016: **Lombardia Region - Cariplo Foundation Project**
iCardioCloud: Bringing cardiovascular virtual reality to clinical bedside practice through cloud platform: implementation of a US excellence paradigm into Lombardia SSR
Role: **unit member** (coordinator: F. Auricchio)*
28. *February 2013 - January 2016: **PRIN-MIUR 2010-2011**
Modellazione meccanica avanzata di nuovi materiali e nuove tecnologie per la soluzione delle sfide Europee del 2020
(Advanced mechanical modeling of new materials and technologies for the solution of 2020 European challenges)
Role: **unit member** (coordinator: F. Auricchio)*
29. *March 2015 - September 2015: **CINECA, Project ISCRA C**
HYPE: implementation of HYbrid Parallel finite elements with application to computational hEmodynamics
Role: **unit member** (coordinator: F. Auricchio)*
30. *November 2013 - October 2014: **Cariplo Foundation Project**
SICURA - Strategie Innovative per la sicurezza, l'Utilizzo e la valorizzazione del patrimonio Architettonico (Innovative strategies for safety, use and valorization of architectural heritage)
Ruolo: **unit member** (coordinator: A. Penna)*
31. *December 2010 - December 2014: **FIRB-MIUR Futuro in Ricerca**
Discretizzazioni Isogeometriche per la Meccanica del Continuo (Isogeometric Discretizations for Continuum Mechanics)
Role: **unit leader** (coordinator: G. Sangalli)*
32. *July 2010 - June 2012: **CILEA L.I.S.A. grant**
BIO-FSI: Simulazione interazione fluido-struttura per la valutazione dell'impatto della compliance aortica sulla fisiologia valvolare (BIO-FSI: Fluid-structure interaction simulations for the assessment of the aortic compliance impact on valve physiology)
Role: **unit member** (coordinator: F. Auricchio)*
33. *March 2010 - February 2012: **PRIN-MIUR 2008**
Modellazione avanzata di leghe a memoria di forma per applicazioni ingegneristiche in ambito civile, industriale e biomedico (Shape memory alloy advanced modeling for civil, industrial, and biomedical engineering applications)
Role: **unit member** (coordinator: F. Auricchio)*
34. *June 2009 - May 2011: **Cariplo Foundation Project**
Aortic Valve Sparing: toward an innovative Prosthesis design— (through the exploitation of advanced materials and computational mechanics)
Role: **unit member** (coordinator: F. Auricchio)*
35. *January 2007 - December 2008: **PRIN-MIUR 2006**
Microattuatori attivi e dispositivi in lega a memoria di forma per applicazioni biomedicali: modellazione costitutiva, analisi strutturale, progettazione, utilizzo di tecniche laser per la realizzazione di prototipi e verifica sperimentale (Active microactuators and shape memory alloy devices for biomedical applications: constitutive modeling, structural analysis, design, use of laser techniques for the realization of prototypes, and experimental testing)
Role: **unit member** (coordinator: F. Auricchio)*
36. *April 2007 - December 2007: **Regione Lombardia, INGENIO Programme**
Lavorazione laser di microdispositivi SMA (Laser processing of SMA micro-devices)
Role: **principal investigator***
37. *January 2005 - December 2006: **PRIN-MIUR 2004**
Leghe a memoria di forma: modellazione costitutiva, analisi strutturale, validazione sperimentale e progettazione di dispositivi innovativi biomedici (Shape memory alloys: constitutive modeling, structural analysis, experimental*

testing, and design of innovative biomedical devices)
Role: **unit member** (coordinator: F. Auricchio)

38. *January 2003 - December 2004: PRIN-MIUR 2002*

Leghe a memoria di forma: modellazione costitutiva, analisi strutturale, validazione sperimentale e applicazione a dispositivi innovativi biomedici (Shape memory alloys: constitutive modeling, structural analysis, experimental testing, and applications within innovative biomedical devices)
Role: **unit member** (coordinator: F. Auricchio)

4 Teaching

4.1 Graduate level

- 2019: Isogeometric Analysis (IGA): Basic and Advanced Applications (National Institute of Technology Warangal, Warangal) [*Main lecturer*], in English.
- 2019: Isogeometric Analysis: A practical introduction with applications (University of Pavia, Pavia) [*Main lecturer*], in English.
- 2018: Advanced Numerical Methods (University of Pavia, Pavia) [*Main lecturer*], in English.
- 2010&2012&2014&2016&2018: Nonlinear Computational Solid and Structural Mechanics (IMATI-CNR and University of Pavia, Pavia) [*Main lecturer*], in English.
- 2017: Computational mechanics for scientific problems (University of Pavia, Pavia) [*Main lecturer*], in English.
- 2012&2014&2016: Isogeometric Analysis: Fundamentals and Applications (ECCOMAS Advanced School, University of Vienna [2012] & Technical University of Barcelona [2014]) [*Main lecturer*], in English.
- 2016: Workshop on Isogeometric Finite Element Data Structures based on Bézier Extraction (Technical University of Munich) [*Main Lecturer*], in English.
- 2015: Autumn School on Data Driven Computations in the Life Sciences (UT Austin/Portugal CoLab - Advanced Computing, Lisbon) [*Main lecturer*], in English.
- 2015: MuMoLaDe Winter School (Università degli Studi di Padova) [*Main lecturer*], in English.
- 2013: An Introduction to Isogeometric Analysis (Scuola di Dottorato in Ingegneria dell'Università degli Studi di Perugia) [*Main lecturer*], in English.
- 2013: COMMAS Summer School 2013 (Master Programme in “Computational Mechanics of Materials and Structures”, University of Stuttgart) [*Main lecturer*], in English.
- 2013: Nonlinear Mechanics of Structures: Methods, Models, and Applications (EUCENTRE Short Course, Pavia) [*Main lecturer*], in Italian.
- 2013: Iso-geometric methods for numerical simulation (CISM – International Centre for Mechanical Sciences, Udine) [*Main lecturer*], in English.
- 2013: Isogeometric Analysis: A practical introduction (PhD Program in Computational Mechanics and Advanced Materials, Pavia) [*Main lecturer*], in English.
- 2007–2013: Mechanics of Solids (ROSE School, Pavia) [*Main lecturer*], in English.
- 2012: From CAD-CAE integration to Isogeometric Analysis (Scuola di Dottorato di Ricerca in Sistemi di Produzione & Design Industriale, Politecnico di Torino) [*Main lecturer*], in English.
- 2008: Models and Computational Methods for Shape Memory Alloys (Università degli Studi di Napoli “Federico II”) [*Main lecturer*], in Italian.
- 2002,2005&2010: Numerical Methods in Structural Analysis (ROSE School, Pavia), in English.
- 2003,2004&2007: Nonlinear Finite Element Analysis (ROSE School, Pavia), in English.
- 2008: Plasticity/Constitutive Material Relationships (ROSE School, Pavia), in English.

4.2 Undergraduate level

- 2020–2021: Advanced Structural Mechanics (University of Pavia) [*Main lecturer*], in Italian.
- 2017–2021: Computational Mechanics (University of Pavia) [*Main lecturer*], in English.
- 2017–2021: Structural Dynamics and Basics of Computational Mechanics (University of Pavia) [*Main lecturer*], in Italian.
- 2013–2014&2015–2019: Nonlinear Computational Mechanics (University of Pavia) [*Main lecturer*], in English.
- 2010–2014&2015–2017: Structural Mechanics (University of Pavia) [*Main lecturer*], in Italian.
- 2011–2014&2015–2016: Mechanics of Solids module within Structural Engineering (University of Pavia) [*Main Lecturer*], in English.
- 2010–2011: Structural instability (Università degli Studi di Trento) [*Main lecturer*], in Italian.
- 2009–2010: Advanced Mechanics of Solids (University of Pavia) [*Main lecturer*], in Italian.
- 2005–2009: Numerical Methods for Structural Analysis (University of Pavia), in Italian.
- 2004–2005: Computational Mechanics (University of Pavia), in Italian.
- 2003–2010: Mechanics of Bio-materials (University of Pavia), in Italian.
- 2003–2009: Biomechanics (University of Pavia), in Italian.
- 2001–2002: Calculus (University of Pavia), in Italian.
- 2001–2002: Mathematics (Università degli Studi di Milano – Bicocca), in Italian.
- 2001–2002: Applied Mechanics (Politecnico di Milano), in Italian.